Responses Received for Request for Information 87 FR 492: Strengthening Community Health Through Technology

January 5, 2022 – February 28, 2022
Federal Register Notice:

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Response to White House Office of Science and Technology Policy Request for Information on Strengthening Community Health Through Technology

Franklin called the 211 Colorado contact center at Mile High United Way. At the time, he was experiencing several stressors. First, his psychiatric medication had run out that day, and his next appointment at which he could get a renewal was two weeks away. Franklin had also just found out that his apartment building was being sold and that he and his wife would have to move out. Finally, Franklin's truck had been stolen the night before.

Because of a joint effort between 211 Colorado and the State of Colorado Department of Human Services Office of Behavioral Health (OBH), and utilizing the expansive 211 Colorado resource database of 8,000+ community services, Franklin's 211 resource navigator was able to help address each challenge.

For the medication renewal, Franklin was referred to Denver Springs Hospital, which has a walk-in crisis program. For housing, he was connected with B-Konnected, Colorado Connects, and Arapahoe Community Resources, all of which could work with Franklin on a housing search. On the stolen truck, the resource navigator learned that a police report had already been filed, and that Franklin's spouse could provide him with transportation until he replaced his vehicle.

As part of the partnership with OBH, soon Franklin's resource navigator will follow-up with him to see how he is coming along, and will provide any additional resources as needed.

Dear Friends at the White House Office of Science and Technology Policy,

Thank you to the White House Office of Science and Technology Policy (OSTP) for, as is stated in its Request for Information, initiating "an effort that will explore and act upon how innovation in science and technology can lower the barriers for all Americans to accessing quality healthcare and lead healthier lives by meeting people where they are in their communities." As you know, better addressing social determinants of health (SDoH) is the best and perhaps only way to ultimately help all Americans lead healthier and more meaningful lives.

For certain, one of the emerging ways for SDoH to be improved is to connect community members in need with available resources that can help them address their challenges in a timely fashion. Internet-based technologies can be of great assistance in making this connection.

At the same time, as the above real-life story from Denver implies, technology in the form of web-based searches will not completely meet the need for better addressing people's SDoH. For those facing more complicated challenges, a personal relationship is required. Thousands of stories like Franklin's could be told everyday by 211 resource navigators throughout the United States. Utilizing expansive databases of

resources, 211 employees make personal contact with clients via phone, internet chat, and mobile phone text to help them connect with local resources to meet their immediate and longer-term needs, each of which addresses a SDoH. Technology serves this interaction, but it is not determinative. What determines the success of the encounter is person-to-person relationship.

If it is not yet clear, the perspective presented in this letter is one of a local United Way that is connected with the 211 national network. United Way of Weld County is part of the 211 Colorado Collaborative, representing 211 Colorado in eight northeastern Colorado counties and connecting service providers and citizens to the help that 211 can bring. United Way of Weld County has been part of the 211 Colorado Collaborative since its founding in 2002.

211s in Colorado and throughout the United States are the best at combining technology with person-to-person interaction for helping people address SDoH. While there are other organizations such as FindHelp.org and Unite Us that do connect people to resources, they do not have an extensive, nationwide network of contact centers that help people navigate their local landscape of SDoH resources. By comparison, organizations like FindHelp.org deliver their resources with a web-based search, while Unite Us and similar rely on local community-based organizations to make the referrals themselves, which means that the help provided is only as informed as that of case managers at numerous organizations. Neither of these models has a role like the 211 resource navigators, who are locally informed neighbors and employees that can expertly connect those in challenging circumstances to needed resources.

Another significant difference between 211 and other SDoH models is what happens during disasters. Any time that a tornado, wildfire, hurricane, or other natural disaster occurs, 211s are activated to reduce strain on the local 911 system and to connect those impacted by the event to resources. In Colorado, for instance, this activation is at the ready every time there is a wildfire near a populated area. Disaster response is an essential resource that cannot be provided without a locally-based contact center. It is not part of the business model of organizations like FindHelp.org and Unite Us to provide this service.

Finally, while the number of contacts made each year by technology-only based SDoH resource connection providers may seem impressive—for instance, during 2020, according to its impact report, 3.4 million people accessed Aunt Bertha's FindHelp.org website—they are dwarfed in scale by 211. According to the United Way Worldwide website, in 2020, "The 211 network made 27.8 million connections to critical services and help last year, up nearly 100% from 2019." This included phone calls, website hits, and other contacts. The 211 total was nearly 10-times that of FindHelp.org. Only a large, federally-funded information and referral network would be able to duplicate these 211 numbers.

That put, the most significant downside of 211 is its local nature. While 211 is available in all 50 states, often it is offered by numerous providers at different organizations. This leads to inconsistency in resource navigator performance, database thoroughness quality, and website functionality. Because 211s are too often not connected on a statewide level and are only slowly moving towards national integration, they are not as helpful as they otherwise could be.

There are bright spots in the network, however, which show what a better resourced 211 could become. 211 San Diego and its light touch case management style comes to mind. As does the North Carolina NCCARE 360 innovation, which is a joint effort between United Way of North Carolina and Unite Us, as funded by the North Carolina Department of Health and Human Services. These and similar 211 examples can serve as a path forward if 211 nationwide were to become better resourced.

In short, as it deliberates possibilities for a far-reaching network that connects people to SDoH, it is important for OSTP to keep the national 211 network in mind, and to invite it to the conversation table as the future of resourcing SDoH needs is discussed. Every day in communities throughout the United States, 211 connects people with SDoH resources, and has been doing so for many years.

To further discuss this point of view, please contact Lyle SmithGraybeal at ███████████████████ or ████████████. Thank you for your work on this important project.

Sincerely,

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Lyle SmithGraybeal
Vice President of Community Development

March 2022

NJ 2-1-1 Partnership Response to the White House OSTPI
Request for Information on "Strengthening Community Health through Technology"

Forward progress on community health outcomes and improving health equity demands community-oriented solutions. Technology is a vehicle to achieve this, but it is not the sole solution. The future of this work should be a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange.

211 Strengths and Assets to Support Health Outcomes and Health Equity
211 currently provides four unique assets, which cannot be replicated at scale across the country by any individual technology vendor:

1) 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. This is essential to individuals who can't self-serve information due to access, ability or preference. It's also essential that a human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2) 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3) 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s share their community needs data on public dashboards such as NC 211 Counts

4) The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

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NJ 211 Helps Residents, Collaborates with Community-Based Organizations and Serves the State to Assist the Most Vulnerable

NJ 211 is a nationally accredited and statewide, nonprofit organization that connects people in need of health and human services with community resources that can help. As the state's portal for information and referral, 2-1-1 is a powerful tool that individuals, families and professionals can depend on when they don't know where to turn in times of crisis and confusion. Live assistance from expertly trained specialists, who respond with urgency, is available 24/7 via phone, text, chat and email. Services are free, confidential, multilingual and accessible to people of all abilities. An online search of over 7,600 community resources is also available at www.nj211.org. All combined with outbound text messaging and social media, 2-1-1 is able to ensure that more people than ever get the help they need when they need it most.

NJ 211 is funded by United Way, state and county government, and handles over 1 million contacts annually. Our 211 has been serving the state of New Jersey since 2005 with the 211 service and several other vital hotlines. These include the Home Energy Assistance Hotline since 2011, the State Homeless Hotline since 2020 and most recently the new Low Income Household Water Assistance Program. In addition, we assist with over 14 special initiatives that help people with kinship services, disaster preparedness, special needs registry, transportation, free income tax preparation, diabetes programs and adult protective services. Our relationships with community based organizations, including faith-based, nonprofits and government agencies is reflected in the our rich resource database and our involvement in collaboratives and committees.

NJ 211 and the NJ Integrated Care for Kids Project

For over 17 years, NJ 211 has been providing life-saving resources for New Jerseyeans statewide. Individuals and families in need of food, shelter, housing, utilities, safety, and more put their trust in our services. We have been addressing the "social determinants of health (SDoH)" years before it became a buzzword. It is the foundation of our mission and what drives us each day!

We are so pleased to say that NJ 211 was asked to participate in an emerging healthcare model designed to improve health outcomes for children under 21. The model, NJ Integrated Care for Kids (NJ InCK), is supported by the Centers for Medicare & Medicaid Services (CMS).

New Jersey is one of seven states selected by CMS to develop and implement the NJ InCK model. It is a seven year project, being led by Hackensack Meridian Health, Visiting Nurses Association of Central Jersey (VNA), and New Jersey Health Care Quality Institute (NJHCQI). NJ InCK is described as a multi-sector collaborative child-centered local service delivery model aimed at reducing out-of-home placement, as well as, health care expenditures for children covered by NJ FamilyCare. It operates through prevention, early identification, and treatment of priority health concerns like behavioral health challenges, physical health needs, and social challenges. For those with the highest need, cutting-edge information systems and advanced case management programs will ensure the integration of clinical care and a wide variety of social services. The project currently focuses on Ocean and Monmouth counties, hoping to be a statewide model in the future.

NJ 211 was asked to provide our nationally accredited, community resource database and a technology solution for closed-loop referrals. This is currently being implemented as we work closely the VNA and their care navigators to ensure their patient's social service needs are addressed. It is a privilege to be a part of this project. Our expertise is being leveraged, along with the expertise of private, nonprofit and government entities. Together, we can improve healthcare outcomes for many families in New Jersey.

211 During Disasters

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

NJ 211 responded to the call to be the COVID-19 general information hotline beginning March 2020 through December 2021. Over 90,000 contacts were handled and over 5.4 million texts sent to kept residents informed. Our resource database assisted public health officers and contact tracers with individuals who were in isolation or quarantine. Through the Ride United Lyft program, we coordinated 1,200 rides for vaccines. Currently, we are providing outreach health workers to assist individuals in high COVID transmission areas with both vaccine/testing resources, as well as social service resources.

Important Considerations for Success

When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources, which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward, and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and childcare deserts.

To facilitate successful data sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors.

Submitted by Melissa Acree, NJ 211 Executive Director, ██████████████

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211 Northeast Michigan
2007 Austin St. Suite U
Midland, MI 48642

March 30, 2022

White House
Office of Science and Technology Policy

RE: Connected Health RFI

To Whom It May Concern:

211 Northeast Michigan is pleased to send this letter responding to the request for information on strengthening community through technology. During the hardest times in people's lives they have 2-1-1, a simple number that connects them to agencies that can help. We rely on technology for our trained resource advocates to have the most up to date information for those in need. But, we do so much more.

In 2020 we connected our 211 technology with our local hospital, allowing for providers to make direct referrals to people within their electronic records management system – that referral shows up in our system so that when we can reach out and help with the financial and social pressures that may be getting in the way of a person's health.

One thing to remember about technology is that, at least in Michigan, up to 10% of households do not have reliable internet or computing devices. During the pandemic, when many vaccines were only available by registration online, 211 stepped up. No matter where technology goes, having a human touch is essential; 211 has both.

If you require additional information, please contact me.

Sincerely,

Sarah M. Kile
Executive Director
P: (

March 2, 2022

The White House
Office of Science and Technology Policy
725 17th Street NW,
Washington, D.C. 20500

Dear Office of Science and Technology Policy,

This letter is in regards to the Request for Information (RFI) on Strengthening Community Health Through Technology. Thank you for creating the opportunity for community and government-based agencies to participate in this critical discussion and share our work with you.

211 Tampa Bay Cares (211 TBC) is a multi-accredited community based organization providing information and referral and crisis intervention services primarily for Pinellas and Hernando Counties in Florida. We are accredited by the Alliance of Information and Referral Systems (AIRS) and the American Association of Suicidology (AAS) showing our excellence in meeting national standards. Our mission is "improving lives through the power of information and hope". We started as a volunteer-only crisis hotline in 1971, added information and referral services in the 1980s, and grew our organization into a 211 center by 2001. Later this year, our crisis services will add Florida 988 services.

We are the most prominent financial assistance provider in Pinellas County providing upwards of $1.4 million of assistance annually. During the COVID pandemic, Pinellas County Human Services chose 211 TBC to facilitate the distribution of CARES direct client funds for rent and utility assistance. We developed a simple process for our clients. We set up a text message-triage system that provided initial CARES information to consumers, mimicking the media language, and website information. 211 TBC distributed $24.3 million in assistance to more than 8,600 households. Of that, $9.8 million went to 3,100 households with minor children. We made over 21,000 payments to vendors ensuring rent, electric, water, and internet services remained connected to the more than 8,600 households. During this time, our inbound volume (calls, emails, and text messages) into our 211 center grew by 327%.

We have a long history of involvement in data-sharing partnerships. We have been participating in referral exchange through data integration efforts with our Pinellas County Mental Health providers since 2009. Our system sends electronic referrals to local provider data systems to engage clients for services. For twelve years, 211 TBC was the Homeless Management Information System (HMIS) lead for Pinellas County. We collaboratively worked with the Homeless Leadership Alliance (HLA) and homeless service providers to establish and grow the software-only system.

While we welcome the development of new technology that can make service delivery more effective and result in more favorable outcomes, we have learned that no software vendor alone can solve community problems. Technology can only supplement community-driven approaches and not lead them. Community problems require human interventions and solutions as the core catalyst for addressing community needs. Software systems can not solve poverty.

Our experience with for-profit vendors has been frustrating. 211 TBC stresses our desire to work with technology vendors, but vendors insist 211 centers provide them with free Resource Directory data. The vendor, in turn, leverages our 211 data to increase its profits. Once they have the data, there are no other partnership opportunities available to us. The increased duplication in resource directories and database maintenance activities occurring in communities between for-profit providers and comprehensive and specialized information and referral providers is dividing communities. As providers, we are not being engaged as partners and paid for partnership. These activities are not improving resource directories or community collaboration.

Many for-profit software companies claim to be a Community Information Exchange (CIE) which is inaccurate. CIE was trademarked and developed by 211 San Diego as a community-based collaborative collective impact model. You can learn more at www.211sandiego.org. CIE is a human-centered design approach to developing community solutions. While technology drives client communication and outcomes, CIE needs people to enable communities to shift from reactive to proactive, holistic, person-centered care.

We would offer the following considerations to the Office of Science and Technology Policy.

- To lower the barrier for all Americans means acknowledging the limitations of the most vulnerable clients (seniors, homeless, victims of violence, etc.) Our vulnerable clients often have marginal access to technology or the internet as they are the first bills to cancel when household income is limited or depleted. Another barrier is technology literacy. Bridging the digital divide is more critical to sustain communities and shift to a technology-based community health model.

- Software-only driven approaches strain communities. Many client-serving agencies are already documenting client transactions in multiple systems due to funder requirements. These increased technology requirements derail and delay the client-serving process. Communities often have data systems in place. There is a need for more data integration solutions and fewer software-only solutions. An investment in data integration could make community collaboration more successful.

- Data governance should be driven by local communities and not by software companies. The current data governance model seems limited to only include shareholders, company board members, angel funders, and large health insurance providers. In our experience, many vendors do not have public data governance models and do not include or represent the communities they serve. Clients agree to participate in software-only solutions because participation is required in order to receive services - that is the reality. They are rarely engaged in community voice discussions to elicit their feedback about data governance, data use, reporting accuracy, data insights, or community program solutions due to the lack of community voice dedicated staff. Vendors do not elicit information from the clients whose outcomes they are profiting.

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- There is a danger in establishing private oligopolies that control the big human service community data. There are no national standards or laws that govern for-profit software companies. Diverting funding from the community and government-based agencies dealing directly with clients to venture capital-funded software providers is concerning. The data monetization that will occur on the backs of those in trauma, the most vulnerable, and unhealthy is of grave concern.

Thank you again for creating the opportunity for community and government-based agencies to participate in this critical discussion. If you have any questions or want to talk further, you can contact me by phone at (727) 403 - 4062 or email me at █████████████

Sincerely,

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Micki Thompson
President/CEO

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211 Wisconsin contact centers made more than 450,000 referrals to health and human service providers last year. We curate Wisconsin's largest community resource directory. In additional we operate the Wisconsin Addiction Recovery Helpline and partner with multiple state agencies including Department of Workforce Development, Department of Children and Families and several programs at Department of health Services.

Forward progress on community health outcomes and improving health equity demands community-oriented solutions. Technology is a vehicle to achieve this, but it is not the sole solution. The future of this work should be a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange.

211 Strengths and Assets to Support Health Outcomes and Health Equity

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2. 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.
3. 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s share their community needs data on public dashboards such as NC 211 Counts
4. The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

For example, in Wisconsin 211 Wisconsin is a trusted partner in several Regional SDOH efforts. We partner with Findhelp.org, Unite Us, State Lifeline provider (988), 4 health systems directly through Epic EHR among others. We are in the process of building a statewide Community Information Exchange modeled after San Diego CIE to address several challenges and roadblocks that community organizations and the individuals they serve are experiencing. We are partnering with several networks including Wisconsin Public Health Association, Wisconsin Primary Healthcare Association,

Wisconsin Hospital Association, Wisconsin Association of Cap Agencies (WisCAP) so that the CIE is human-centered and designed to meet the needs of local and regional SDOH partnerships. The solution we are building will connect critical systems together; not segregate SDOH networks based on technology vendors that promise results but do not address workflows tailored to community needs.

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

In states impacted by natural disasters such as hurricanes, wildfires, or tornadoes, state and local leaders have come to rely on 211 as an important partner in emergency preparedness and response planning. Many statewide 211 systems in areas prone to natural disasters maintain Memorandum's of Agreement with 211 partners in other parts of the country to ensure readiness and plans for support when disasters occur. For example in Wisconsin we activated our 24/7 contact centers within 24 hours to respond to the COVID 19 public health emergency. We have maintained 24/7 activation scaling and contracting efficiently and effectively over the past 2 years. During this same period we responding to local natural disaster and participated in Radioactive Preparation Exercises. Technology solutions need to be nimble and easily meet rapid changes in community needs.

It is common for 211 to provide guidance to citizens seeking pre-event shelter refuge, aid help seekers during the actual storm event (211 coordinate accordingly with local 911 officials) and to provide navigating support to impacted individual and families suffering losses as a result of a disaster event. Often 211 provides critical information to FEMA teams as they seek to understand the needs facing specific communities post disaster; however, no systematic agreement is in place nationally between FEMA and the US 211 network.

Important Considerations for Success
When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward, and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and child care deserts.

To facilitate successful data-sharing, we need a data nomenclature that can be used across

government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors.

211 Background
In 1996, the FCC designated 2-1-1 as a simple 3-digit dialing code for the public to access health and human services resources. Today, 211 information and referral systems maintain a community-based presence in 96% of the United States. The majority of 211's provide 24/7/365 accessibility to information and resources available through a free and confidential contact from an individual to a 211 Community Resource Specialist. Nationally, 211 systems provide the service in more than 150 languages and meet the needs of deaf and hard of hearing individuals. Leadership and staff of 211 systems are members of the communities they serve.

Each hour of the day, Americans turn to 211 to locate available help in their local communities to meet critical needs, including social determinate related to health needs, pandemic economic recovery needs and recovery solutions after a natural disaster impact. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. The promise is to answer the call for help and to provide equitable access to all. The 211 backstage preparations to deliver on this promise are largely rooted in systematic technology tools and grassroots community collaborations.

The US 211 Network reports that more than 41,425,273 Americans leveraged 211 to secure help and information in 2020 and 2021. The top five nationwide needs presented to 211 over the last two years were consistently related to Housing, Food, Health Care, Utilities, and COVID-19. As a result of these personal interactions with help seekers, it is estimated that 51,000,000 connections were made to needed help and information during this time period.

Sincerely,

Charlene Mouille
Executive Director
United Way of Wisconsin
211 Wisconsin

Sent from Mail for Windows

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From: Karis Grounds, MPH
Vice President of Health and Community Impact

To: White House Office of Science and Technology Policy (OSTP)

RE: Request for Information on Strengthening Community Health Through Technology

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On behalf of 211/CIE San Diego, I am pleased to share our journey and experiences designing and leveraging a community-led data ecosystem to support community health in response to the White House Office of Science and Technology Policy's request for information on strengthening community health through technology.

211 San Diego's serves as a community connector to help people efficiently access appropriate services, and provide vital data and trend information for proactive community planning. As a local non-profit, we are the region's trusted source for access to community, health, social and disaster services. Over the past decade, 211 San Diego, in partnership with local community-based organizations, has established and stewarded the Community Information Exchange (CIE)® to achieve cross-sector coordination and client-informed information exchange to promote proactive, holistic, person-centered care.

A CIE® is a community-led eco-system comprised of multidisciplinary network partners using a shared language, a resource database, and integrated technology platforms to deliver enhanced community care planning. The CIE model applies an anti-racist and health equity lens to support person-centered wellness using shared governance, data integration, and customized technology as tools to identify and address community needs. Initiated in San Diego, the CIE model is currently being adopted and adapted in communities across the nation.

Successful Model: San Diego's CIE began as a patient-centered care coordination pilot, with the aim of facilitating care across health, social services and human services sectors for people experiencing homelessness. Initially funded by a local foundation in conjunction with local community health clinics, the local Continuum of Care (CoC), and San Diego's nonprofit 2-1-1 system, the CIE was originally designed to meet immediate needs as articulated by frontline providers. Over the past decade, the CIE model has evolved to become an extensive case coordination and collaboration system that facilitates streamlined information sharing among providers, bi-directional referrals, and informed care. Currently, the CIE Partner Network represents 115+ providers across various sectors, including senior services, veterans organizations, health care organizations including health plans, hospitals, and Federally Qualified Health Centers (FQHCs) and other social service organizations and faith-based organizations that focus on issues ranging from food insecurity to transportation needs. 211/CIE San Diego has been most successful due to our shared governance infrastructure, the inclusion of community members in our community advisory board that guides decision-making and ongoing system enhancements, the establishment of multiple workgroups that

analyze all aspects of the CIE, from onboarding of new partners, to policy and protocols, and data collection and use. In addition, the CIE model has allowed us to engage every community partner regardless of the maturity of their current system.

Barriers: As a [mentor and consultant to 30+ communities across the country](#) that are exploring the planning and design of their own CIE, we are aware that the **use of multiple and disparate technologies across partners** is a pervasive issue. In San Diego, we overcame this challenge by building a customized platform that enables data integration from every community-based organization, healthcare system, and human services organization. From our insights and experience there is also a significant **lack of investment in local community capacity to design, support, or enable a technology solution, leading to underutilization**. In cases where large investors or technology vendors are leading without community input, the **selected technology solution is often non-interoperable and does not leverage existing local technical infrastructure**. Lastly, **data standards are often solely focused on healthcare standards.** Although we see valuable movement from the [Gravity Project](#), historically the focus has been on healthcare versus community-based organization needs.

Trends from the pandemic: The COVID-19 pandemic affected the most vulnerable populations and the vaccine rollout demonstrated the [systemic inequities in our communities](#). The [CIE was used in San Diego](#) to bridge the gap between the available resources and the individuals most in need, and to coordinate direct financial resources to clients. The CIE cultivated a close network of providers who are now able to rapidly provide direct financial assistance using a shared framework that allows for coordinated screening, referrals, and documentation, focusing on target populations most in-need of financial support. The COVID-19 pandemic caused the resource landscape to change daily. In response, CIE San Diego created a space that enabled updated resources and information related to COVID-19 to be shared in real time with the community. The shared communication across the CIE Partner Network included information such as hotels for people without housing who had COVID-19 symptoms, legal agencies available to provide counsel on eviction moratoriums, and other communication. Specifically, for older adults and others most vulnerable to COVID-19, the CIE was used as a coordination tool to provide home delivery for groceries and food boxes. These features built in because of the pandemic will continue to be used to address community needs and streamline care.

User Experience: Technology is a key component of the CIE, but it is not the primary solution to health and social issues. Though an electronic referral can be an effective tool for community providers to address individuals' articulated needs, it is not designed to analyze and address the root causes of the problems that drive the needs and disparities within those communities.

Based on our [recent assessment](#) of innovative community approaches to engaging community in planning, design, and implementation, some of the top benefits to engaging patient and client experience at the outset included: (1) increases confidence that the planning team is working towards designing a culturally competent system; (2) elicits different and the most important perspectives that are vital to the success of the CIE; and (3) clarifies that the role and vision to determine what is feasible and realistic to meet the needs of those most vulnerable.

Tool and training needs: Although we have strong infrastructure to support the CIE, the lack of incentives to shift existing models is a well-documented challenge. Additionally, CIE Network

Partners, including health plans, hospitals and FQHCs (Federally Qualified Health Centers), have different interests and values for success. Assessing each organization's definition of return on investment requires knowledge and understanding of their existing funding mechanisms, as well as quality standards and organizational missions. Furthermore, each sector manages distinct types of contracts, expectations, and targets within their work. Although there are many lessons learned and best practices to be shared across the CIE Partner Network, targeted affinity groups, custom workflows and onsite support are needed for adoption. This includes dedicated funding to increase capacity among CBOs and allow for them to participate in the vision, design, planning of the CIE. We have experienced the merits of re-designing workflows for onboarded partners. Lastly, a CIE accreditation process is needed to ensure there are ethical equitable information exchanges governed locally.

Proposed government actions: We have identified multiple opportunities for the Federal government support of CIE-like infrastructure to increase community health and well-being: (1) **Invest in local communities** to drive digital health and care coordination intervention efforts. (2) Work with community-based organizations to **develop a comprehensive set of standards around data integration and technology requirements**. (3) **Support local initiatives to align new data integration efforts** with existing networks that exchange data and have established community governance. One example of this can is the recent resolution passed by the Board of Supervisors in San Diego County who called for health plans to participate in the local CIE to receive a Letter of Support as part of the procurement process for Medi-Cal providers. (4) **Invest in the analysis of longitudinal shared data records available within CIEs** to deepen understanding of macro level impact on health equity. (5) **Build incentives in policy or funding for community member engagement**, particularly around planning, governance, and technology design. (6) Value local, community capacity and shared governance by **requiring funded initiatives to engage community-based organizations (including BIPOC organizations) as leads**. Champion the use of convenors or network lead entities, as well as BIPOC organizations both publicly and financially. (7) Develop **'meaningful use incentive' payment structures for social care models** for communities based upon lessons learned from EHR roll outs and related HRSA funding mechanisms. (8) **Require cross-sector funding partnerships** across federal agencies (HUD/SAMHSA/HRSA, etc.) that require data share at the local community level.

Health Equity: Communities have advanced innovative approaches to care coordination, but these systems are at risk of perpetuating inequitable practices unless institutions are willing to do the work to collaboratively design data systems that prioritize equity, inclusion, and person-centered care. In collaboration with Health Leads and with support from the Robert Wood Johnson Foundation, 211/CIE San Diego recently published an issue brief that presents a Data Equity Framework designed to server as a strategic visioning tool for institutions and initiatives that are undertaking the critical work of creating more equitable, inclusive systems that support health outcomes. The issue brief explores the role digital health technologies play in this space, and how they can be designed in concert with community members to ensure they are not doing harm, they are impacting the community in a positive way, and cultivating investment in the community.

March 31, 2022

The Honorable Alondra Nelson
Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, D.C. 20504

Re: Strengthening Community Health Through Technology

Dear Director Nelson:

AARP, on behalf of our nearly 38 million members and all older Americans nationwide, appreciates the opportunity to respond to the request for information on connected health. Digital health technologies are extending health care delivery into communities and into the home. Examples range from web pages and apps that support healthy behaviors such as tracking daily activity, sleep, medicine adherence, diet, and social connection – all the way to healthcare monitoring platforms that enable advanced care at home. These advancements must work for all Americans – across all generational, geographic, cultural, and economic divides – so as not to exasperate health disparities accelerated by the COVID-19 pandemic.

Addressing disparities for older Americans, in particular, starts with overcoming basic tech adoption barriers. AARP has identified five barriers to tech adoption by older adults: access and cost; knowledge, training, and support; awareness and interest; design and user experience; and trust, privacy, and security. Below, we concisely respond to the topics requested by the RFI, but we urge you to review the accompanying attachments as well. The attachments include recent AARP data, reports, and supporting documents on these topics for your reference.

Successful Models
Access to digital health tools often requires basic digital skills. Older Adults Technology Services (OATS), a technology service organization affiliated with AARP, has learned from years of experience that successful digital literacy models require three components: a catalyst partner providing funding and guidance, an intermediate partner with programmatic experience and a solid curriculum, and a network of community partners to support local delivery. Successfully empowering participants in communities with digital skills requires a programmatic framework that is appealing to the unique needs of that community and highly engaging, without feeling like tech is a handout being pushed on them, or a low-quality social service. New programs that provide access to the internet to underserved populations are providing opportunities to engage locally, increase tech confidence and build a foundation of digital equity that supports health equity.

Barriers
In addition to the five barriers to personal adoption of technology note above, older Americans also face institutional and policy barriers. For starters, the limited Medicare coverage for telehealth services is a significant barrier to older Americans using digital health technologies. The current restrictions on geography, originating site, and modality deny otherwise accessible care to millions of Medicare beneficiaries. The restrictions also prevent providers from investing in and utilizing technology to improve patient access and care. We must learn from the successes of the public health emergency

Medicare waivers and continue policies that meet consumers' needs, such as allowing remote care at home.

However, even with insurance coverage for digital health technologies and telehealth, many Americans still lack the ability to connect. We need continued investment in affordable and reliable high-speed internet infrastructure to ensure everyone can engage regardless of location or income. This includes access to affordable devices in addition to broadband and telecommunications utilities. This investment will have a significant impact on disparities as Black people were 2.6 times more likely, and Latinos were 3.4 times more likely, to be offline than White people, according to an OATS study.

Trends from the Pandemic
The public health emergency caused a substantial spike in telehealth utilization, and while those numbers have dropped as people return to in-person health care visits, they remain significantly higher than pre-pandemic. One McKinsey & Company study from July 2021 estimated that telehealth use is still 38 times higher than it was in February of 2020, prior to the beginning of the pandemic. The technology gains are not limited to health care – overall technology usage is up over the past two years. According to AARP research, over 85% of Americans 50-plus now own a smartphone, up from 77% prior to the pandemic. Broadband subsidies and rural infrastructure improvements are adding to the number of people with high-speed internet access. With the increases in device ownership, online access and digital skills, more Americans can access the expanse of digital health solutions being offered to consumers. But these improvements are not reaching everyone, particularly older Americans. Nearly 22 million Americans age 65-plus lack in-home wireline broadband and 56% of Americans age 50-plus say that the cost of monthly high-speed internet is a problem.

User Experience
The AARP research found that two in five (42%) adults age 50-plus do not feel technology is designed for all ages. Even with that sense of distrust, 35% of adults 50-plus say they would use technology more if they knew how and 16% say they would use digital healthcare services more if they knew how. Developers and retailers of technology offerings erroneously view older adults as less tech-savvy, influential, and economically powerful, and therefore are less likely to design digital health technologies with older adults in mind. AARP is helping influence the technology industry to provide user-friendly products and services for all ages, and promoting implementable age-inclusive design practices, in order to drive usage and open doors to healthier lifestyles. The federal government should do more to align stakeholders around a common definition of access and inclusion.

Tools and Training Needs
The benefits of telehealth cannot be realized without an increase in digital literacy and comfort with technology. In conjunction with the development of more user-friendly technology, training and education can help bridge the utilization gap for older adults who would be open to using digital technology if they knew how. For example, some states are exploring navigation programs that would direct community health workers, medical assistants, and other healthcare professionals to assist patients with accessing telehealth services. Investing in culturally and linguistically appropriate support programs can be a first step to alleviating user concerns about technology and improving access to digital health care services.

Relatedly, education programs should also be designed for and made available to interested family caregivers. Just as telehealth can improve access to care for patients, it can also provide significant benefits for family caregivers, many of whom are balancing caregiving responsibilities with work and

other responsibilities in their personal lives. Telehealth can enhance the ability of family caregivers to participate in important health care decisions and discussions and be "in the room" for a loved one's health care visit when they may otherwise face time or distance constraints. By ensuring the needs of family caregivers are considered when developing or expanding digital education resources and support programs, we can help even more patients to realize the full benefits telehealth has to offer.

Proposed Government Actions

First and foremost, the federal government should be instrumental in establishing standards and assessments for types of digital health products and supporting an independent open-source assessment framework. Reliable standards that address efficacy, usability, privacy and integration will instill trust and confidence among consumers, particularly those in underserved or marginalized groups. To this end, we urge the Administration to not only continue engaging with consumer groups, but to facilitate engagement between consumers and technology developers through roundtables and forums, as well as initiate and support the development of standards and assessments.

Second, the Administration should continue to promote funding for programs and on-the-ground community organizations that provide outreach, education, training, and support for people who want to use technology but may have limited means or ability, as well as their family caregivers. These federal grants and programs span the various Departments and should be better coordinated to address unmet needs, particularly for older adults and underserved communities. Promotion of affordable technology devices within communities will help chip away at foundational barriers.

Third, federal policymakers need to review and update the Health Insurance Portability and Accountability Act (HIPAA) to bring it inline with current technologies. As it stands currently, most health apps and tech services available to consumers are not covered entities and subject to HIPAA regulations, despite their collection or tracking of sensitive personal health information. Stronger consumer protections will ensure trust and encourage adoption.

Conclusion

Thank you for the opportunity to provide information on digital health equity. We look forward to working with you to address this important issue. If you have any questions, please feel free to contact me or have your staff contact Andrew Scholnick of our Government Affairs team at ██████████████ or ████████████

Sincerely,

██████████████████

David Certner
Legislative Counsel & Legislative Policy Director
Government Affairs

March 31, 2022

Via Electronic Submission

Dr. Alondra Nelson
Acting Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:

Abbott welcomes the opportunity to comment on the Office of Science and Technology Policy's request for information on strengthening community health through technology.

Abbott is committed to helping people live their best possible life through the power of health. For more than 130 years, we've brought new products and technologies to the world – in diagnostics, medical devices, nutrition, and branded generic pharmaceuticals – that create more possibilities for more people at all stages of life. In the United States, Abbott provides a broad portfolio of advanced cardiovascular and neuromodulation technologies, diabetes care products, nutritional products, and diagnostic tests.

Abbott believes that the best healthcare solution is the one that can reach the most people who need it. We are focused on designing access and affordability into our technologies and products, working across our businesses and in partnership with others to break down barriers and bring our health innovations to an increasing number of people. Our 2030 Sustainability Plan outlines how we're making access and affordability core to new product innovation; transforming care for chronic disease, malnutrition, and infectious diseases; and advancing health equity through partnership, with the goal of improving the lives of 1 in every 3 people on the planet by 2030.

Digital Health Technologies at Abbott

Technology gives us the power to digitize, decentralize, and democratize healthcare. Abbott's connected technologies are helping people and their doctors make better, faster, and more complete decisions about managing chronic conditions like cardiovascular disease, diabetes, chronic pain, and movement disorders. Millions of patients use our remote monitoring technologies to help them and their physicians manage complex medical conditions. These technologies are built on a strong foundation of cybersecurity, with a commitment to secure, responsible data collection for customers and patients. To give just a few examples:

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- Abbott's *FreeStyle Libre* system is our continuous glucose monitor, designed for affordability and ease of use so it's accessible to people with diabetes. The system includes smartphone applications and secure cloud-based data platforms to power the user's diabetes management and remote monitoring by healthcare teams and caregivers. At this time, nearly 4 million people with diabetes worldwide depend on FreeStyle Libre for healthy diabetes management.

- Abbott's *Confirm Rx* insertable cardiac monitor is designed to detect arrhythmias and wirelessly transmit data to patients' smartphones and the Merlin.net Patient Care Network. Doctors have real-time, remote access around the world to a patient's heart health data. With access to real-time data, patients can be more informed about their condition and engaged in their care.

- Abbott's *Neurosphere Virtual Clinic* is a first-of-its-kind technology that enables clinicians to prescribe new treatment settings remotely to a patient's neurostimulation device. This has the potential to increase access to optimal treatment for patients suffering from movement disorders who don't live close to a care provider, have difficulty accessing care, or are unable to go to the doctor because of circumstances like COVID-19.

- During the COVID-19 pandemic, we paired our *BinaxNOW* rapid COVID-19 test with a mobile app called *Navica*, allowing people who test negative to display their result on a mobile device and help facilitate easier access to organizations and other locations where people gather.

Barriers to Broader Adoption of Digital Health Tools and Government Opportunities

The COVID-19 pandemic has shown the broader potential of digital health tools and how they can be used to strengthen community and individual health. At the same time, the pandemic has also shown the limitations of the current regulatory and reimbursement structure in the United States.

Barriers to adoption and opportunities for government involvement broadly fall into two categories – access and affordability – with significant health equity aspects to each. More specifically, there are four primary areas where opportunities exist to reduce barriers, potentially leading to greater community uptake of digital health tools:

- Telehealth: During the COVID-19 pandemic, the Centers for Medicare & Medicaid Services (CMS) implemented temporary changes to telehealth visit reimbursement to increase access for patients. Of note, CMS waived statutory geographic and site-of-origin restrictions and allowed audio-only and other audio-visual tools for provider-patient telehealth visits. CMS also set payments for telehealth to be equivalent to in-person rates and designated additional services as having telehealth payment status for the duration of the PHE. Permanent extension of these changes, or a comprehensive extension past the public health emergency to gather any remaining data, would continue the accessibility of telehealth at the conclusion of the public health emergency.

- Reimbursement: Reimbursement is central to affordability. While CMS has made strides in recent years in reimbursement for new technology access, like remote monitoring, it has struggled to keep pace with innovation in the digital health domain. For example, durable medical equipment (DME) regulations to support Medicare coverage require medical device hardware for reimbursement, rather than allowing for remote monitoring reimbursement in conjunction with a digital application. Additionally, reimbursement that better matches the

amount of time clinicians spend managing patients, including reviewing the data from connected devices, could increase uptake of digital health tools.

- Regulatory: FDA has also made strides in advancing approval of digital health technologies. Traditional models of FDA regulation may need to be further reviewed when considering the interaction between technology and medical devices. Innovative solutions for developing, reviewing, and approving medical devices with a software component or that are software and biosensor general health and wellness technology could increase access to these tools.

- Clinical Trials and Research: Clinical trials are the most effective way to understand how new medical advances impact the health of human patients. Yet people of diverse ethnic and cultural backgrounds, as well as women, continue to remain under-represented in clinical trials. Abbott recently launched a new initiative to help create a more inclusive clinical trial ecosystem.

Underpinning all of these areas are further issues including access to reliable internet and technology, patient and provider education, workforce demand, and more.

Community and International Health Equity Efforts

In decades of supporting community health programs, we've found that the most effective initiatives leverage innovative tools to support broader services. Abbott programs in the U.S. and abroad provide examples of this. Abbott and the Abbott Fund created the Future Well Communities program to tackle chronic disease by addressing the social and economic barriers that prevent good health – also known as the social determinants of health. Launched in Stockton, California, this program focuses on the diabetes epidemic by making healthcare more accessible, reducing barriers to health through targeted social services, and linking services together and building systems – for maximum input.

Abbott is also working with the American Diabetes Association on a community pilot project in conjunction with the National Center for Urban Solutions. This initiative seeks to better understand and address healthcare inequities for people of color living with diabetes, while fostering accessibility to diabetes care technology. This pilot is ongoing, and we are happy to keep you informed on progress.

Our work to advance community health continues overseas. For example, to help meet Rwanda's mission of providing access to care within a 30-minute walk for all citizens, Abbott launched a collaboration with the Rwandan Ministry of Health and the Society for Family Health Rwanda to create a new model for sustainable rural healthcare. Plans are underway to expand the program for even greater impact in the future.

Thank you for your attention to these important issues. Abbott would welcome the opportunity to provide more information on any or all of the items in this letter.

Sincerely,

Austin Burries
Divisional Vice President, Federal Government Affairs

From:	Abby ███████████████████
Sent:	Sunday, February 27, 2022 11:12 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] digital health technology feedback

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Blue Category |

Dear Team,

Thank you for the opportunity to provide input on these challenges. One area of significant opportunity is telehealth. In the beginning of the pandemic, the emergency licensing for providers removed many telehealth barriers which have now been reinstated. Please consider removing barriers to telehealth across state lines.

It will be a process to make this permanent, but increasing access to telehealth opened up access to care & was proven to be feasible. Perhaps a limited license for telehealth could be an interim step?

Thank you for your consideration,

Abby Hess, APRN, DNP

————————————————-

[White House Seeks Examples of How Digital Health Tech Is Improving Community Health | HealthTech Magazine](#)

Comments are due by 5 p.m. Eastern time on Monday, Feb. 28, 2022. Comments can be submitted via email to ███████████████████ with "Connected Health RFI" in the subject line of the email.

Response to Request for Information (RFI)
on Strengthening Community Health Through Technology
February 28, 2022

Submitted by:
ABOUT Healthcare, Inc. (Technology Developer)
Bill Gilroy, VP Government Solutions, ███████████████████ ████████████

Successful models within the U.S.

During the COVID-19 pandemic, many U.S. hospitals lacked the capacity or resources to adequately care for infected individuals. Meanwhile, other hospitals in the same region — often in the same community — had available beds and resources that stood idle. Consequently, overwhelmed hospitals were forced to ration care or delay treatment for seriously ill individuals. The populations most affected by this inequity included historically marginalized racial and ethnic groups, as well as rural and low-income communities.

A notable exception to the imbalance of COVID-19 care occurred in Arizona. During the spring of 2020, the Arizona Department of Health Services (ADHS) and the state's health system leaders, came together in a historic collaboration to address the coming surge of COVID-19 patients. The result was the Arizona Surge Line. With one call to a centralized statewide access center, staff at any hospital in the state could efficiently arrange the transfer of a COVID-19 patient to a facility possessing the capacity and capabilities to provide the required level of care. More than 130 healthcare providers of all types, from private for-profit hospitals, to Indian Health Service and Veterans Affairs Medical Centers, participated in the Surge Line initiative. Since its April 2020 deployment, the Arizona Surge Line has expedited the transfer of more than 8,000 COVID-19 patients from all areas of the state to higher levels of care, and the time to bed assignments was shorter than those processed through individual hospital transfer centers.

Powering the Arizona Surge Line is technology developed by ABOUT Healthcare, Inc. The ABOUT™ solution is purpose-built to orchestrate the movement of patients to the right location for the care they need, in a timely manner. Surge Line agents have real-time, statewide visibility of available beds, physicians, ventilators, and personal protective equipment. Prior to the pandemic, ABOUT owned a proven track record as the patient transfer technological platform for Banner Health, Arizona's largest health system, as well as for more than 900 client facilities across the country. In less than two weeks, ABOUT was able to scale up its technology to serve the entire state. And, with a cost of under $2 million for the first year and service to 8,000-plus patients, the Surge Line has proved to be a smart investment compared to the tens of millions spent in other states on temporary healthcare facilities that often went unused.

In summary, centrally managed care orchestration technology, purpose-built for patient load-balancing, helps ensure care equity and capacity optimization within a state or region.

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Barriers

Potential barriers to a statewide or regional access center include longstanding competitive tendencies, perceived loss of control over patient transfers, financial disincentives due to varying insurance coverages, and resistance to integration with the state's access center technology.

As demonstrated with the Arizona Surge Line, these and other barriers can be overcome. For example, in the face of a looming pandemic, competing Arizona health systems set aside their rivalries and worked in concert for the greater good. On the technology front, the ABOUT solution uses a vendor-agnostic, cloud-based platform, ensuring interoperability and the integration of data from participating EHRs, Health Current (Arizona's state-sponsored Health Information Exchange), and other relevant third-party IT systems.

Unfortunately, potential barriers can get in the way of such an ambitious initiative — and sometimes government needs to help facilitate the process. The Arizona Surge Line initially garnered broad participation by health systems and hospitals across the state. To ensure universal participation, Arizona's governor issued an emergency order, requiring all of the state's hospitals with available beds and resources to accept patient transfers via the centralized Surge Line.

Trends from the pandemic

Clearly, the COVID-19 pandemic has not played out in a linear fashion. Following an initial decline in cases, the Delta and Omicron variants spread rapidly, resulting in huge case spikes and challenging the ability of health systems, states, and localities to balance patient loads and deliver equitable care. This is why it's crucial to design state and regional access centers that can be quickly reactivated — and not just in response to surges with the COVID-19, but any public health emergency such as a new pandemic, natural disaster, terrorist attack, or other type of catastrophic event.

In Arizona, public and private health system leaders decided that the Surge Line, while responding to an immediate need, would be designed for any threat that could lead to a patient surge. "We envisioned a service that would be an asset to Arizonans beyond the pandemic," said Lisa Villarroel, MD, MPH, Medical Director, Public Health Preparedness, ADHS. The state is currently investigating continuation of the Arizona Surge Line to support rural hospitals not affiliated with larger health systems, as well as to manage additional surges due to other causes (e.g. flu season) and potentially for behavioral health transfers within the state.

User experience

A state or regional access center will be successful only if it meets or exceeds user expectations and has a high perceived value. Four months into the initiative, a survey revealed the opinions of 50 frontline healthcare staff, representing 37 mostly rural facilities, about the Arizona Surge Line. A vast majority of respondents (98%) expressed a desire to continue the Surge Line.

Narrative feedback from respondents was overwhelmingly positive, reflecting a strong user satisfaction with the service. Comments ranged from short and enthusiastic (e.g. "This is a fantastic service, and I would love to see it continued indefinitely!"), to detailed (e.g., "Thank

you, thank you, thank you! You prevented me from having to spend hours on the phone trying to find a bed, when my time was needed more for direct patient care. You helped save lives by getting people to critical beds in a timely manner.")

The survey also captured user perceptions of the Surge Line's value to providers, patients, and the general population. On a scale of 1-10 (1=strongly disagree, 10=strongly agree), respondents rated five key areas pertaining to the Surge Line:

- Expedited the transfer of patients with COVID-19 to higher levels of care: 9
- Load-balanced patients with COVID-19 across Arizona hospitals: 8.5
- Was beneficial to our hospital or health care system: 8.7
- Improved patient outcomes: 8.2
- Safeguarded the health of the healthcare system in Arizona: 8

Proposed government actions

Despite strong acceptance and support from clinicians, a centralized statewide or regional access center may face resistance from certain stakeholders, especially health system leaders. The good news is, concerns about competitors, loss of autonomy, and technological interoperability can be overcome — the Surge Line being a prime case in point. At the same time, all it takes is one large health system to scuttle the project, regardless of how unfounded the concerns are. Going forward, such vital lifesaving and health equity initiatives may depend on federal intervention and support to ensure participation.

Health equity

Lacking access to hospital care, disadvantaged individuals, including racial/ethnic, rural and low-income segments of the population, have suffered disproportionately during the COVID-19 pandemic. A centralized healthcare access center can help bring sorely needed equity to healthcare delivery during a public emergency by ensuring the transfer of patients to hospitals with available beds, staff, and equipment.

Certainly, this proved to be true in Arizona, where the governor's executive order mandating use of the Arizona Surge Line helped ensure the timely, efficient transfer of COVID-19 patients from every corner of the state to a higher level of care, wherever that might be. As an added benefit of this centralized coordination, the state used reports generated from ABOUT data to make crucial decisions, such as the deployment of traveling nurses to hospitals where staffing shortages necessitated patient transfers. This enabled more residents of rural areas to receive care in their home communities instead of being transferred to large urban facilities.

Of note, a large percentage of transfers occurring with the Surge Line involved indigenous populations, including members of the Navajo Nation where more than 52,000 individuals have tested positive for COVID-19 since the pandemic started. Navajo citizens were among the thousands of individuals who, regardless of ethnicity, income, insurance coverage, or location, received the lifesaving care they needed, thanks to the foresight and commitment of state leaders, from both the public and private health sectors.

From:	Martha Lawrence < █████████████████████ >
Sent:	Monday, January 10, 2022 3:41 PM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI
Attachments:	bd_jc_report_12_4_18a.pdf

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Green Category |

Health Equity

Pain is one of the most subjective measures in all of medicine - and thus subject to bias. There is a growing body of health care research that demonstrates bias with pain: women and pain, ethnicity and pain, and seniors and pain. As an example of ethnic pain bias, here is a link to a recent UCLA Health research study: >https://newsroom.ucla.edu/releases/do-doctors-treat-pain-differently-based-on-race<

This pain bias demonstrated in research also dovetails with real world health equity data. In a recent conversation, a physician who is in charge of health equity for a large health care system (50 - 100 hospitals) stated that the #1 complaint of their black patients - **is that their pain isn't believed.**

Pain is the #1 reason that patients access health care. So a bias with pain - is highly problematic. It will be impossible to retrain every health care worker in the country on pain bias - so an unbiased medical technology that provides objective pain data is needed to address this bias problem and validate patients perception of their pain.

AccendoWave is an example of an objective unbiased pain measurement solution. AccendoWave digital health technology was featured in the Alliance to Advance Comprehensive Integrative Pain Management's October newsletter. Perhaps this article might provide helpful background information: >https://painmanagementalliance.org/2021/10/27/spotlight-on-accendowave-innovative-device-that-objectively-measures-pain-and-improves-patient-experience-named-quarterfinalist-in-ucsf-health-awards/<

AccendoWave's pain technology was featured on a recent December 2021 Milken Institute panel:>https://milkeninstitute.org/video/employers-mental-health-addiction<

Proposed Government Action

Opportunities for the Federal Government to support the transformation of community health settings through the uptake of innovative digital health technologies like AccendoWave exist at the community level. These opportunities could take place in the immediate future as the technology currently exists. The technology can be used in the hospital, clinic, home and alternate site settings. Importantly, the technology also provides individual data to validate individual pain and also aggregated data on pain levels and patient satisfaction.

Tools and Training Needs

In the hospital setting, an innovative staffing model is employed. Part-time pre med college students/pre professional healthcare students are employed to hand out and oversee the technology. Nurses and techs are not needed. This reduces the cost of deploying the technology and it also trains the next generation of health care workers in digital

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health technology. The students are credentialed through a crediting organization, receive 5 - 10 hours of training (offsite and onsite) and they are then credentialed to use the AccendoWave technology, clean the technology, complete patient communication/rounding logs and communicate with clinical staff.

User Experience

User experience in the hospital is tracked several different ways. The average and maximum pain level is tracked, time usage of the technology, and a real time patient survey is displayed on the technology after 8-10 minutes of usage. For the hospital setting, this data is complied into a Joint Commission report: A sample Joint Commission report is attached. But reporting can be customized to the project and each health care channel has different data reporting requirements.

Trends from the Pandemic

The pandemic has highlighted the disparities in pain care of different ethnic groups: [>https://www.medpro.com/bias-pain-management<](https://www.medpro.com/bias-pain-management)

Additionally, pain from long COVID is being recognized: [>https://www.practicalpainmanagement.com/pain/other/covid-long-haulers-new-chronic-pain-profile<](https://www.practicalpainmanagement.com/pain/other/covid-long-haulers-new-chronic-pain-profile)

Barriers

45% of AccendoWave's data is from the Emergency Department. One of the most diverse sets of data available - insured, uninsured, all ethnicities, and all ages. AccendoWave pain data does not rely on the connectivity of the site and where it is administered and thus is not impacted by connectivity deserts - which is often a barrier to new technology adoption.

Accountable Care Transactions Inc dba Activate Care
200 State Street 12th Fl
Boston, MA 02109
www.activatecare.com

Request for Information (RFI) on Strengthening Community Health Through Technology

1. Successful models within the U.S.

Activate Care is on a mission to change the way healthcare and social service providers collaborate to create healthier communities. We believe that with the right data, the right interventions, and the right support, we can reduce health disparities, improve quality of life in communities, and reduce healthcare costs. Our model for community care transformation results in a vibrant ecosystem of multidisciplinary network partners that share processes and data.

What is the goal? Improved outcomes in whole person health and well-being as experienced by our country's most vulnerable individuals and their families . These gains are achieved through the ability to deliver enhanced community care plans, person-centered goal achievement, and bi-directional care coordination spanning integrated social, behavioral, functional and physical health needs.

Activate Care's team has years of robust foundational experience working with community care providers, health care centers, counties, local networks of care, individuals and their families. Since our founding we have helped leading researchers advance the science of social interventions, including our support for numerous grant-funded projects to support integrated care for vulnerable populations. Our outcomes have been published in leading journals, including Health Affairs and JAMA.

We have translated these experiences into a platform and service model for community leaders who are working across the country to deliver a comprehensive needs assessment and social risk navigation solution. Our solution reduces barriers to information sharing, unlocking efficiency, effectiveness, and measurable outcomes for countless front-line staff and those they serve.

Our experience includes years of relevant work supporting California's Whole Person Care program and its evolution to the Cal-AIM model of care. A leading example of this work is our partnership with the Marin County Department of Health and Human Services. The vision of the County of Marin's Whole Person Care program is to build a sustainable, evidence-based, outcomes-focused coordinated system of care across health and social sectors, with a targeted focus on reducing homelessness across Marin County.

A key milestone for the Marin County program was launching the multi-service platform using Activate Care technology. Clients are enrolled into one of three case management programs, depending on their medical, behavioral health, or housing needs. Case managers build a client-centered care plan known as the Community Care Record, and their model of care incorporates trauma-informed care, coordinated entry, and a Housing First strategy. This allows for systems-level change in new,

We are on a mission to help the world act differently to achieve better health outcomes

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coordinated, and sustainable ways that are proven to meet the needs of high-risk, high-cost Medicaid beneficiaries.

Marin County is on track to end chronic homelessness in 2022. The reductions are directly tied to a new system-wide approach that includes adopting a Housing First model and prioritizing the most vulnerable people for housing. Activate Care helps Marin's care teams share data, work collaboratively client by client, and expand cross-sector partnerships with nonprofits, hospitals, law enforcement, and other partners. Based on their care coordination processes and community engagement strategies, Marin HHS and their 50 community-based partners have achieved a 41% decrease in people experiencing chronic homelessness, and have reduced homelessness-related police calls by 86%, and homelessness-related emergency service transport calls by 54%.

Marin County California is just one example of where we see Activate Care's digital health technology help strengthen community health. Another is St. Joseph Health, Queen of the Valley Medical Center, where Activate Care is used to support the hospital's CARE Network. The CARE Network —case management, advocacy, resources and education—delivers timely health care services to chronically ill patients who are low-income and uninsured or underinsured.

Activate Care is proud to support this cornerstone community health program where our technology helps to power an interdisciplinary, whole-person approach to intensive outpatient care management for socioeconomic and medically complex populations.

Queen of the Valley's care teams use Activate Care's digital health technology to develop and execute individualized, holistic care plans reflecting patient's goals and priorities, support cross-community collaboration, and track new and unique data to inform and drive process improvement. Since the start of the program, Queen of the Valley has achieved a 60% reduction in hospitalizations and emergency department utilization, and a 21% lower 30-day readmission rate compared to overall hospital population.

2. Barriers:

Different communities and states around the country face a difficult task. Cities, counties, community organizations, hospitals, and payers have contracted with different resource directory or referral management platforms. These various offerings are making competing demands and overlapping requests of small organizations, with the imposition of multiple requirements to update and share information. This is replicating the same issue seen in hospitals in the early 2000s wherein different electronic health records (EHR) were purchased by different hospitals that didn't integrate, exchange information, or share resources. This is completely avoidable. Activate Care is agnostic to the directory or referral platform deployed in a community, and is built with standardization and integration at its core. We have the ability to integrate the various information and referral (I&R) offerings into our community-based application. The existing 2-1-1's have been doing this, working to identify, update, and validate service providers across the country. This is difficult work, but presents validated work that should be integrated and supported to enhance and build the Social Health Information Exchange. Activate Care's implementation strategy seeks to limit negative impacts to local organizations. We achieve this by prioritizing the integration of interventions, rather than the accumulation of referrals - our approach is one of quality over quantity, which we have found to be a more scalable and sustainable strategy.

We are on a mission to help the world act differently to achieve better health outcomes

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3. Trends from the pandemic:

The impact of the COVID-19 pandemic extends far beyond the illness itself. Communities with our most vulnerable populations were hardest hit, and demands for essential resources across all communities sharply increased. We have seen a significant increase in need for a community care record, single end-to-end dataset, telehealth and a closed loop resource service. Our response demanded a new level of collaboration, partnerships, and investment. In 2020, Activate Care launched a COVID-19 Response Platform, designed in partnership with front-line clinicians and COVID-19 response leaders, our FREE COVID-19 Response Platform includes a full suite of patient tracking, case monitoring, team workflow tools, community coordination, referral management, and data and analytics tools – pre-configured to support communities in responding to COVID-19.

4. User experience:

Activate Care's User Experience team includes researchers who recruit and engage users in all phases of our design process. We conduct ethnographic interviews to learn broadly about our users' daily work and community context. We also create focus groups with community members who experience medical and societal barriers to understand their goals and challenges. Using tools like journey maps and service blueprints, we connect our product features and service offerings to the social and emotional context of our users and the people they serve.

7. Health Equity:

Activate Care has centered equity from our founding by recognizing the need to give voice, agency, and access to community care partners and their individual clients in any community-based system of care. Our programs incorporate existing directory resources rather than attempting to replicate and replace these invaluable resources. We take a similar, methodical approach to community engagement with all network partner organizations. Many Social Health Information Exchange (SHIE) models emerging across the country are perpetuating a model of inequity in community care. In the traditional model of healthcare, care plans are developed by clinical teams or case management teams as directives based on a set of clinical tests (e.g., exams, labs, medications, etc.). In the emerging Social Health Information Exchange models, the hospital or payers are the purchasers of referral management platforms - which only reinforces the power of disparity. This imbalance translates into community based organizations and the individuals they serve not getting access or input into plans.

Additional challenges to local organizations are now present in the referral networks that are being built. Many organizations are becoming overwhelmed or disrupted by the scale of the need for help in their communities. When we build a SHIE with a focus on integrating interventions, rather than merely enabling referrals, we can take a more logical and less disruptive approach to implementing SHIE.

March 25, 2022

Via Electronic Mail Only: ████████████████████████
Dr. Alondra Nelson, Director
White House Office of Science and Technology Policy (OSTP)

Attn: Connected Health RFI

Dear Dr. Nelson:

The Advanced Medical Technology Association (AdvaMed) appreciates the opportunity to respond to the Request for Information from the White House Office of Science and Technology Policy, and actions related to strengthening community health through digital health technologies. AdvaMed member companies produce the medical devices, diagnostic products, and health information systems that are transforming health care through earlier disease detection, less invasive procedures, and more effective treatments, including a wide array of digital technologies, and others with digital components, that are transforming the delivery of health care services and enabling improvements in patient health care outcomes.

Successful Models Within the U.S. of Digital Technologies Delivering Health Care/Improving Health Care Outcomes. AdvaMed member companies produce many digital technologies as well as those with digital components that are serving patients in the community as they improve outcomes, including:

- *Continuous glucose monitors (CGM)* are wearable devices that use a sensor inserted under the skin, usually on the abdomen or arm, that allow persons with diabetes to measure their interstitial glucose levels, or the glucose found in the fluid between the cells. The sensor tests glucose levels every few minutes and a transmitter wirelessly sends the information to a monitor or receiver, which can also be a smartphone. has been demonstrated to have significant benefits for patients with diabetes, including: reduced A1C,[i] increased Time in Range (TIR),[ii] reduced hospitalizations,[iii] reduced absenteeism,[iv] and improved quality of life.[v] CGM has also enabled diabetes care with telemedicine during the COVID pandemic. Clinicians have been able to evaluate remotely the glucose data generated by CGMs with their patients and make treatment changes to enable appropriate care.[vi] CGM and telemedicine together allow patients to follow up with clinicians with higher frequency and with less disruption to their daily lives. A meta-analysis by Tchero et al. showed that telemedicine was at least as effective as face-to-face visits for managing care for people with diabetes.[vii] Unfortunately, once the public health emergency (PHE) ends, Medicare National and Local Coverage Decisions will once again require in-person visits and prohibit use of telehealth as a substitute for in-person visits.

- *Long-term continuous electrocardiographic (LT-ECG) monitoring devices* are used to detect cardiac rhythm disorders associated with approximately one-third of the deaths from heart disease, approximately one-fourth of strokes, and the dominant cause of loss of consciousness associated with heart disease resulting in fractures and accidents in the elderly. LT-ECG monitors, because of their engineering, software, and practical wearability allow long-term recordings of up to 14 days, an important factor in detecting cardiac rhythm disorders. LTC-ECG has been evaluated in over 35 peer-reviewed published articles[viii] to have significant diagnostic sensitivity and direct impact on care management for patients with known or suspected arrythmias.[ix] Critically, during the pandemic, LT-ECG has enabled care with telemedicine. Clinicians have been able to receive,

prescribe, and review LT-ECG data generated by patients remotely. This has enabled continuous, appropriate diagnosis and care for those at risk. LT-ECG technology faces significant Medicare reimbursement challenges because CMS has left to Medicare Administrative Contractors (MACs) the responsibility of setting payment rates. These rates have failed to recognize the total costs of providing LT-ECG services to Medicare beneficiaries, as determined by a KPMG cost analysis commissioned by AdvaMed.

- *Chronic respiratory disease and cloud-connected medical devices* have transformed care for people with sleep apnea, chronic obstructive pulmonary disease (COPD), and other chronic diseases. Respiratory devices that incorporate fully integrated cloud-based technologies capture real-time physiological data, aiding physicians in providing targeted patient care and enable coordination between the patient's home and providers. The cloud-connected devices have also been shown to increase patient adherence to use of the devices.[x] However, low payment rates for chronic respiratory devices under Medicare's Competitive Bidding Program create disincentives for developers of these technologies to continue to innovate with new patient-facing digital features that will improve patient outcomes. Medicare has also failed through its coding process for new technologies to recognize the extra value cloud-based features bring to patients and providers alike.

- *Prescription digital therapeutics (PDTs)* are a new therapeutic class that uses software to directly treat a wide-range of serious diseases and conditions, such as substance use and opioid use disorders, attention-deficit hyperactivity disorders, insomnia, major depression, diabetes, cancer, and stroke under a care model where patients receive treatment in their homes. PDTs are cleared, approved, or de novo authorized by FDA after demonstrating safety and efficacy in randomized clinical trials and a clinician prescribes the PDT for patient use. Unlike a physician's office, patients have 24/7 access to care during critical moments when they are in their homes. By way of example, patients interact with treatment modules that deliver cognitive behavior therapy, contingency management, and fluency training to reinforce proficiency during use of a PDT for substance use disorder. Studies have shown that PDT use results in better patient outcomes, which have been associated reduced emergency room visits and hospitalization, and lower costs.[xi] Medicare, however, has yet to find a coverage and payment pathway for PDTs under any of its benefit categories.

Barriers to Use of Digital Health Technologies in Community-Based Settings. Digital technologies are opening new frontiers in diagnosis, health care delivery, and health management of patient conditions they are designed to treat, but Medicare regulatory barriers like those mentioned above for specific digital technologies limit the scope and breadth of patient and provider use of the technologies. Medicare statute does not directly address coverage of digital health technologies; nor does the statute specifically limit or prohibit coverage of digital health technologies within the program's benefit categories. The Medicare statute was written, and Medicare regulations and other coverage and payment policies, were implemented long before digital health technologies played the major role they are assuming today. Without clear and explicit pathways to coverage and reimbursement defined in regulatory policies, Medicare regulations create barriers to deployment and use of digital technologies by patients and providers. As AdvaMed's report, *Modernizing Medicare's Coverage of Digital Health Technologies*, argues, updating program regulations and other policies is necessary to accommodate digital advances in medical technologies that improve the standard of care and patient engagement. AdvaMed acknowledges CMS's recognition of this need by establishing new codes that allow Medicare to pay for remote physiologic and remote therapeutic monitoring and approving a New Technology Add-On Payment (NTAP) application that use AI with a CT scan technology to assist physicians in diagnosing a stroke in patients hours earlier than a CT scan alone.

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It is, however, the pace at which CMS is accommodating and recognizing the need for changes in coding, coverage, and payment policies for digital technologies that needs to be accelerated. Furthermore, given the importance of Medicare in the health care marketplace, CMS and policymakers in Congress must take a leadership role in coordinating and collaborating with a wide range of stakeholders to ensure that the health benefits of digital technologies are available to all the patients who might benefit from them regardless of insurance status—including Medicaid patients and those with private insurance. AdvaMed's report with its specific recommendations for updating Medicare's regulatory framework can be found here.

Trends from the Pandemic in Use of Digital Health Technologies. The waivers authorized by Congress and implemented by the Centers for Medicare & Medicaid Services at the onset of the pandemic have dramatically changed our understanding and assumptions about the nature of health care services delivery and expanded our perspectives on the appropriateness of serving patients in the community and their homes. The waivers were applied across provisions of Medicare and Medicaid statutes, regulations, and other national and local coverage and payment policies. They have provided expanded access to telehealth and other other communication technology-based services, such as remote patient monitoring and diagnostic testing. We are concerned that an end to the public health emergency (PHE) will result in a return to the constraints of the statute and underlying CMS regulatory policies without a systematic evaluation of the impact, both positive and negative, that the flexibilities have had on expanding access to care in the community—including impact on disparities in care for minority groups and vulnerable populations. These evaluations should be undertaken immediately.

Health Equity in Community-Based Care. Digital technologies have the potential to assist in the management of chronic and other health conditions and could be instrumental in resolving disparate health outcomes—including those linked to lack of access to care facilities, lack of specialist access, transportation concerns, etc. Digital technologies have the potential, as we have seen during the PHE, to allow patients to continue to engage in regular monitoring and care for various conditions. This access should be continued post-PHE but should also be broadened beyond telehealth statutory restrictions and include more extensive monitoring and management of various chronic and other health conditions. Digital technologies, particularly if used in underserved communities with shortages of clinicians and other providers, could make a meaningful difference in the ability of patients to remain healthy and to seek routine care from the clinical professionals and in the facilities in their immediate communities. This can only happen if federal, state, and private insurance plans cover and ensure appropriate reimbursement for these services. We also emphasize the need to ensure infrastructure capabilities including broadband access, high speed internet, and sufficient data plans to facilitate use of these technologies by patients and recognize that the Infrastructure Investment and Jobs Act, will begin to assist with these needs.

We appreciate this opportunity to bring to your attention issues of great importance to our members. If you have any questions, please contact Richard Price in AdvaMed's Payment and Health Care Delivery Department at ████@AdvaMed.████

Sincerely yours,

████████████████████

Richard Price, SVP, Payment & Health Care Delivery Policy and Head of Research

Advanced Medical Technology Association (AdvaMed)

Dr. Alondra Nelson, Director
AdvaMed: Connected Health RFI
March 24, 2022

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[viii] https://go.irhythmtech.com/hubfs/PDFs/ZIO-XT/Publication%20Summaries.pdf

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[x] Malhotra A et al. Chest 2018.

[xi] Wakeman SE, Larochelle MR, Ameli O, et al. Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder. *JAMA Netw Open.* 2020;3(2):e1920622. doi:10.1001/jamanetworkopen.2019.20622.

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Dr. Alondra Nelson
Director, Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson:

On behalf of ADvancing States, I am writing to you to submit comments on the Connected Health RFI (87 FR 492). ADvancing States is a nonpartisan association of state government agencies that represents the nation's 56 state and territorial agencies on aging and disabilities. We work to support visionary state leadership, the advancement of state systems innovation, and the development of national policies that support home and community-based services (HCBS) for older adults and persons with disabilities. Our members administer a wide range of services and supports for older adults and people with disabilities, including overseeing the Older Americans Act (OAA), Medicaid, and related programs. Together with our members, we work to design, improve, and sustain state systems delivering long-term services and supports for people who are older or have a disability and for their caregivers.

We appreciate the opportunity to provide feedback on this important issue. While we recognize that the RFI seeks comprehensive feedback on digital health technology across the health care system, we will focus our comments on services and supports for older adults and persons with disabilities. Currently, we see great opportunities to leverage the increased focus on social determinants of health to advance the integration of health, human services, and long-term services and supports (LTSS) in a manner that improves the physical, mental, emotional, and social wellbeing of participants. Yet some of the initiatives that are currently underway, particularly the development of closed-loop referral systems, risk fragmenting the LTSS service delivery system and undermining progress made towards advancing the person-centered nature of services instead of an overly medicalized intervention model. As your office evaluates opportunities to advance community health, we strongly encourage you to think holistically about the intersection of health and human services at a participant level, rather than approach these initiatives from a perspective that focuses on integrating human services, HCBS, and LTSS into the health care system.

Fundamentally, we believe that health technology provides great promise to automate many processes that were previously manual and to advance person-centered services and supports across the whole health and human services sector. However, we want to stress that such initiatives must be accompanied by strong training and technical support that ensures participants, providers, and IT companies are able to collaborate and integrate in a manner that appropriately supports the individual without forcing participants into a medical model of service delivery.

Successful models within the U.S.:

The Centers for Medicare and Medicaid Services has worked to develop interoperability standards that encompass HCBS in the eLTSS project,[1] which presents an emerging opportunity to implement interoperability standards within the long-term services and supports sector. As discussed later, adoption of health information technology (HIT) in the HCBS space has lagged behind implementation in primary and acute care settings. Leveraging the eLTSS initiative and furthering its adoption, both across HCBS providers as well as in settings that interface with HCBS providers, such as hospitals and post-acute rehabilitation facilities can greatly assist improvement of the HIT ecosystem as well as improve transitions across settings. Missouri's initiative to incorporate eLTSS into a statewide case management system and to coordinate it across different parts of its system is one example of an emerging promising practice.[2]

The Administration for Community Living (ACL) has also worked to advance models that support integration between the health care sector and aging, disability, and LTSS. The Community Integrated Health Network (CIHN) model[3] relies heavily on the development of "closed loop" referral systems that ensure that health care providers and community-based providers are able to share accurate and timely information about necessary interventions and the outcomes of supports that an individual utilized. When implemented appropriately, with proper governance structures and oversight, these models can be extremely valuable and offer great promise for advancing integration across the entire service sector.

Barriers:

Historically, HCBS has not been included within health information technology initiatives. When HITECH passed in 2009 and established robust funding for the adoption and meaningful use of HIT, it did not include providers of HCBS. While some states are utilizing the HCBS funding in the American Rescue Plan Act to support adoption of HIT amongst these providers,[4] there are many other pressing issues that states must utilize this funding to accomplish, and the ARPA funding is insufficient to address the lack of HIT across the country. We believe that there should be ongoing Federal efforts to provide funding as well as to provide education and assistance, particularly through the Office of the National Coordinator for HIT, to support HIT adoption for HCBS providers.

Additionally, we note that the adoption and maturation of HIT in the primary and acute healthcare space has led to challenges for HCBS providers to interface with the health care system even when providers are

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[1] https://oncprojecttracking.healthit.gov/wiki/display/TechLabSC/eLTSS+Home
[2] https://www.healthit.gov/topic/scientific-initiatives/leap/person-centered-planning
[3] https://acl.gov/sites/default/files/common/BA_roundtable_workgroup_paper_2020-03-01-v3.pdf
[4] http://www.advancingstates.org/policy/federal-advocacy/advocacy-alerts/advancing-states-releases-analysis-state-hcbs-spending-plans

able to acquire the necessary technology and resources. Many HCBS providers deliver services and supports that are not included in traditional health care environments. As mentioned earlier, the Centers for Medicare and Medicaid Services has worked to develop interoperability standards in the eLTSS project, but though this initiative was balloted through HL7 and built upon the FHIR infrastructure, it is not widely adopted, particularly within many traditional health care provider settings. Given the ongoing efforts to integrate primary, acute, post-acute, and long-term services and supports, broader adoption of EHRs that encompass the eLTSS framework within all parts of the system would greatly improve timely information sharing for individuals that progress through the various service and support settings.

Proposed government actions:

There are many potential opportunities for the Federal government to support meaningful and constructive utilization of health technology within the HCBS and LTSS sector. One of the most crucial areas where we believe the Federal government can provide immediate assistance is to articulate necessary governance structures for IT systems that are cross sector. The current financing and development of many HIT are driven by the health care sector, often utilizing IT systems that are developed by a private technology vendor under contract with a healthcare system, hospital, or managed care organization. This can create perverse incentives, particularly in HCBS and human services, where the vast majority of services and supports are publicly funded. Fragmented referral systems that are controlled by private health care entities risk excluding or marginalizing community based nonprofits that older adults and persons with disabilities rely upon. The relationship and governance structure of health information technology, public agencies, health care systems must be clearly defined and articulated in order to ensure that their promise of holistic person-centered care can be realized. Without appropriate governance strategies, these systems risk further bifurcating different parts of the health system and undermining the person-centered nature of long-term services and supports.

Additionally, we believe that ongoing financial support and technical assistance to facilitate the adoption of HIT within HCBS settings is crucial to ensure that the full array of services and supports are incorporated within the various parts of the health care ecosystem. While there remains significant work to ensure that LTSS IT systems are appropriately interoperable with other parts of the health and human services systems, the first step should focus on ensuring that providers have the financial resources, training, and support needed to even implement and utilize these systems.

We appreciate the opportunity to provide feedback on this important issue. We look forward to working with you and your partners across the Federal government to ensure that any IT initiatives fulfill the promise of improving services and supports for older adults, people with disabilities, and their caregivers. Please feel free to reach out to Damon Terzaghi of my staff at ████████████████ if you have any questions about this letter.

Sincerely,

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Martha A. Roherty

Executive Director
ADvancing States

ACH | ADVOCATES FOR COMMUNITY HEALTH

February 28, 2022

Alondra Nelson, PhD
Director, Office of Science and Technology Policy
White House
1600 Pennsylvania Avenue
Washington DC

Dear Dr. Nelson,

Thank you for the opportunity to contribute to the Request for Information (RFI) on Strengthening Community Health Through Technology. Advocates for Community Health (ACH) is comprised of leading federally qualified health centers (FQHCs) focused on health equity and innovation. ACH strives to advance the delivery of health care to underserved populations by harnessing the power of community health systems. We want to reiterate our support for the overall Community Connected Health Initiative, and would like to offer ourselves as a resource to you. Our centers are some of the largest and most technologically advanced in the country, and have many lessons learned to share.

We strongly share the view of the White House that innovation in science and technology can help to allow all Americans to access quality healthcare and to lead healthier lives. We would like to offer comment in two areas – first, building capacity for equitable digital health between patients and care teams, and second, upgrading standards for health information technology, including standardizing and harmonizing population health software.

As recently noted by the Health Resources and Services Administration (HRSA), in response to the COVID-19 pandemic, health centers have quickly expanded their use of virtual care to maintain access to essential primary care services. Virtual visits increased from 478,333 in 2019 to 28,550,608 in 2020 – a 6,000 percent increase[1]. However, health centers have found that virtual visits are just the tip of the iceberg in terms of seeking and maintaining communication with patients. Not only can telehealth replace in-person visits when necessary – either for public safety, or increased patient access – it can also augment and expand the way that patients stay connected to care. To that end, FQHCs used supplemental funding during the COVID-19 pandemic to support digital communications with patients,

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[1] Health Resources and Services Administration, "HHS Awards Nearly $55 Million to Increase Virtual Health Care Access and Quality Through Community Health Centers." 14 Feb 2022. https://www.hhs.gov/about/news/2022/02/14/hhs-awards-nearly-55-million-increase-virtual-health-care-access-quality-through-community-health-centers.html

investing in software platforms enabling appointment reminders, scheduling, and communication. Studies have shown strong knowledge and uptake of mobile health technologies among low-resource safety-net patients[2]. However, overly aggressive uptake of telehealth has the potential to exacerbate health disparities. A study of telehealth utilization at FQHCs found a residual lag in adoption by minority populations, which could exacerbate long-standing disparities[3].

1. **Build Capacity for Equitable Digital Health**

Given the strong benefits and need for careful implementation, we strongly recommend that HRSA continue to ensure that all health centers across the country meet a minimum baseline readiness to serve patients virtually, with a strong equity lens. Over time, all health centers should build toward maximized digital health capacity, so that they can quickly integrate the latest tech tools to adapt to changing patient needs, including those based on cultural and linguistic differences.

We also recommend specialized programs to ensure that racial and ethnic minorities have access to these modalities when appropriate and desired. For example, there are certain apps that are extremely popular among specific communities, and represent an important engagement opportunity – for example, the WeChat app in Chinese, or Háblalo, for tech users with hearing challenges. The federal government should strongly encourage apps being developed for use in health care, especially among the underserved, to account for cultural differences, linguistic preferences, and disability status. This capacity can be built through funding, as Congress makes appropriations available, hands-on technical assistance and/or peer learning program, and programmatic requirements.

In addition, HRSA should facilitate more formalized partnerships between the tech industry and health centers to ensure that innovation is equitable, patient centered and focused on the health center as the end user. Through "health center-centered design," companies looking to maximize the utility of tech could benefit from real-time feedback from an incredibly diverse patient population, and the centers can increase their tech capabilities with access to technology at free or reduced prices. Another option would be a health center innovation challenge, where health centers submit issues they are facing with patient communication, retention, or management, in response and consideration, tech companies could participate in short-term hack-a-thons or longer-term design challenges to win government contract opportunities.

Finally, we recommend strong coordination between the current expansion of broadband with FQHCs in target communities. FQHCs can identify gaps in their service areas, help connect patients to free and reduced access services, and ensure that federal investments are maximized.

2. *Improving Standards for Health Information Technology*

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[2] Laing, S. S., Alsayid, M., Ocampo, C., & Baugh, S. (2018). Mobile Health Technology Knowledge and Practices Among Patients of Safety-Net Health Systems in Washington State and Washington, DC. Journal of patient-centered research and reviews, 5(3), 204–217. https://doi.org/10.17294/2330-0698.1622

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The most successful FQHCs are standard-bearers of high-quality primary care, providing a link between patient, family, community and the interprofessional care team. The initial wave of federal support for electronic health records a decade ago focused on the clinical aspects of this relationship, but policymakers have not yet caught up with the need to standardize the elements of care delivery that make health center-based primary care so successful. While health centers have started to utilize population health management tools, these take a number of forms, with varying degrees of impact. Some use predictive analytics help to identify the highest risk patients, others increase access to necessary data when interacting with a patient, and many facilitate communications across care teams interacting with patients in a number of different settings. Without federal guidance, however, these tools will continue to proliferate without regard for their return on investment, and health centers are at a disadvantage in making decisions with limited resources.

We strongly endorse the recommendations of the National Academies of Science's recommendations around digital health in their recent report, "Implementing High Quality Primary Care,"[4] which suggested that policymakers take two critical actions related to digital health:

1. The Office of the National Coordinator for Health Information Technology (ONC) and the Centers for Medicare and Medicaid Services (CMS) should develop the next phase of digital health certification standards that support relationship-based, continuous and person-centered care; simplify the user experience; ensure equitable access and use; and hold vendors accountable; and
2. ONC and CMS should adopt a comprehensive aggregate patient data system that is usable by any certified digital health tool for patients, families, clinicians, and care team members.

In particular, there is a need for standardization and harmonization in the area of social determinants of health (SDOH). FQHCs must consider the wide array of SDOH impacting their patients – both because of the requirements of HRSA grant funding, and because of the dramatic impact of these determinants on health outcomes. In an ideal world, tech tools can help to identify, address and mange social needs, and enable the necessary human touch in ensuring that patients have the social and emotional support they need to stay healthy.

Despite the role of health information technology in collecting and measuring SDOH, the federal government has not endorsed or promoted a set of standards for using and sharing SDOH data, which is undermining the value of collecting this information. As an example, a recent study of FQHCs found that while 71% of centers reported social risk factor screening capabilities, there was a wide variation in tools utilized. The most common type of screener was the PRAPARE (43%), but in almost a quarter of the FQHCs that screened for social risks, the centers did not use <u>any</u> standardized screener.[5]

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[4] National Academies of Sciences, Engineering, and Medicine 2021. Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care. Washington, DC: The National Academies Press. https://doi.org/10.17226/25983.
[5] Cole, M et al. Screening for Social Risk at Federally Qualified Health Centers: A National Study. American Journal of Preventive Medicine Feb 2022. https://doi.org/10.1016/j.amepre.2021.11.008

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Collection of this information is especially important in health centers, which primarily focus on primary outpatient care, and must coordinate with other providers to provide comprehensive care for their medically homed patients. While the Office of the National Coordinator has some information through their voluntary Certification Program or in the ONC Interoperability Standards Advisory, health centers are not sufficiently connected to this work to ensure that they are helping to lead the efforts. External efforts, like the Gravity Project, are not sufficiently supported or promoted either. These standards must benefit from the input of community health centers, who understand best the cultural and linguistic approaches to understanding and addressing SDOH most effectively in their patients.

Once again, thank you for launching this important initiative. The lightening speed of technological development of health is incredible – but unless leveraged effectively, it could make our health care system even less equitable. Thank you for working to ensure that all patients have access to high quality, affordable health care.

For more information, please feel free to contact me at ███████████████████████████████.

Sincerely,

Amanda Kelly
Chief Executive Officer
Advocates for Community Health

BOARD OF SUPERVISORS

March 24, 2022

Ms. Stacy Murphy, Operations Manager
White House Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Office of Science and Technology Policy *Notice of Request for Information (RFI) on Strengthening Health Through Technology,* **87 Federal Register 492 (January 5, 2022), pp. 492-493, Document Number 2021-28193**

Dear Ms. Murphy:

The Alameda County Board of Supervisors in California appreciates the opportunity to comment on the above-referenced notice of request for information. Alameda County supports the White House Office of Science and Technology (OSTP) effort to obtain input from stakeholders regarding how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

Digital Inclusion in Alameda County
The Alameda County Health Care Services Agency's (HCSA) Public Health Department (ACPHD) and Alameda County Social Services Agency (SSA) collaborate with community-based organizations (CBOs) to lead the Council for Age-Friendly Communities (Age-Friendly Council). The Council coordinates efforts to effect policy and system changes that enhance the overall well-being of older adults who live in Alameda County, engaging leaders, consumers, and providers to develop and sustain a community framework that fosters healthy aging.

The COVID-19 pandemic has exposed and exacerbated existing problems faced by older adults, including inequitable access to health care and digital resources. ACPHD, SSA and a CBO partner, the Senior Services Coalition, co-chair the Age-Friendly Council's Digital Inclusion Workgroup. In 2021, the workgroup conducted a survey of older adults ages 50 and older in Alameda County that looked for gaps in access to the internet and electronic devices, and the need for educational support to use those devices. The workgroup partnered with senior housing, senior centers, meal providers, libraries, and health care organizations to ensure that the survey was widely distributed to low-income residents in nine languages and in electronic and hard copy format.

1221 OAK STREET • FIFTH FLOOR • OAKLAND, CALIFORNIA 94612 • ███████
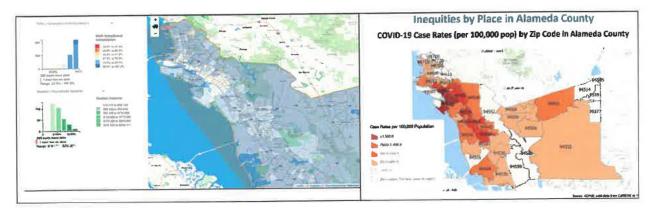
Over 1,400 surveys were returned. Selected key findings from those surveys are as follows:

- **Among respondents ages 50 and over, 42% were _not_ comfortable using telehealth.**
  - People in older age groups were significantly more likely to report that they were **not** comfortable using telehealth. Fifty-five percent of respondents ages 85 and older, and 46% of those ages 75 to 84 identified as "not comfortable" with telehealth.

- **Among the 43% of respondents who reported incomes under $2,000 per month:**
  - Only 70% were able to access the internet at least once a week, as opposed to 92% of those with higher incomes.
  - More respondents of all income levels had access to smartphones than any other device. However, only 52% of those with incomes under $2,000 per month reported access to a smartphone, as compared with 74% of those with higher incomes.
  - Twenty-eight percent reported special needs related to digital devices including visual impairment, hearing loss, hand dexterity and neurological issues, while only 18% of those with higher incomes indicated those challenges.

- Race/ethnicity was correlated with access to devices and the internet, and comfort doing online tasks. African American and Latinx populations were more likely to have access to smartphones than to tablets, laptops or desktop computers. As compared with other race/ethnic groups, white populations had more access to all devices.

- The most frequent theme in the survey comments concerned the high cost of the internet and need for subsidies or free access.

An online mapping program that tracks digital access shows stark disparities among Alameda County residents. For example, the graphic on the left below shows broadband subscriptions by Census tract.[1] That pattern mirrors the map on the right that shows inequities in COVID-19 case rates across the County.[2] Both are connected to income level, health care access, and other critical resources.[3]

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[1] I3 Connectivity Explorer. https://i3connect.org
[2] COVID-19 Update & Actions to Support Equity in Alameda County. Racial Disparities Task Force, 7/30/20.
[3] Alameda County Public Health Department. *Persistent Poverty Story Map.* 2015. http://arcg.is/1Lmzu8H

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The Alameda County survey results correlate with a 2017 Pew Research Center national survey of technology use among adults ages 65 and older.[4] That survey found large increases in smartphone ownership between 2013 and 2016 among older adults who are affluent, well-educated, and younger. However, "(f)ully 81% of older Americans whose annual household income is $75,000 or more say they own smartphones, compared with 27% of those living in households earning less than $30,000 a year." Smartphone ownership also decreased as age increased. The findings further indicated that older adults face unique challenges in using the technology that is available to them. For example, "(s)ome 34% of older internet users say they have little or no confidence in their ability to use electronic devices to perform online tasks…".

The inequities described in the 2017 Pew Research Center survey increased during the COVID-19 pandemic, even as health care providers have moved to a telehealth model that requires patients to access services via the internet. Seniors, people with disabilities and those who are immunocompromised have been increasingly isolated during the pandemic, while also needing to be able to access quality health care. The intellectual and developmentally disabled (IDD) community also experiences delayed and deferred routine/preventative care due to the pandemic. Including loss of access to personal services typically received in school such as occupational therapy, physical therapy, and speech and language therapy. The IDD community experiences lower rates of internet use and access to devices.

Recommendations to Address Barriers
Alameda County recommends the following government actions during the next two years to address the barriers to older adults' uptake and use of digital devices for telehealth.

1. Consider the internet to be a public utility. Access to critical resources such as health care, applications for benefits, and educational programming should not be available only to people with higher incomes.

2. Provide ongoing funding for low- or no-cost internet subscriptions for low-income people. While the Federal Communications Commission's Affordable Connectivity Program supports low-cost subscriptions, we recommend that those with the lowest incomes receive fully subsidized internet access.

   a. Additionally, such funding should be available in perpetuity or for as long as recipients need it. Providing internet access for only a limited time does not solve the problem.

3. Provide low- or no-cost internet devices that can accommodate enlarged font sizes, larger screens, screen readers, enhanced keyboards or ergonomic equipment and voice-activated software for older adults and people with disabilities who need those supports.

4.
   a. Smartphones are less expensive than other devices. However, tablets are recommended to support better access to telehealth because users can more easily see their healthcare providers on the screen, apply for benefits, and use supports for people with disabilities.

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[4] Pew Research Center, May 2017. *Tech Adoption Climbs Among Older Adults*. PI_2017.05.17_Older-Americans-Tech_FINAL.pdf (pewresearch.org)

5. Provide low- and no-cost training and ongoing technical support that is specific to the needs of older adults and individuals with disabilities. Training and technical support should be culturally appropriate and provided in recipients' language of origin. Training should include the basic use of digital devices, information about online privacy and security, and how to avoid identity theft and scams.

6. Fund, train, and support culturally relevant and linguistically competent Community Health Outreach Workers to become "digital navigators" to help locate resources to support internet access and obtain digital devices; and to provide training and technical assistance to enable older adults and individuals with disabilities to access telehealth and apply for benefits online.

Thank you for the opportunity to provide comments. We appreciate your consideration.

Sincerely,

Keith Carson
President, Board of Supervisors, District 5
Chair, Personnel, Administration, and
Legislation (PAL) Committee

cc: Members, Alameda County Congressional Delegation
       Members, Alameda County Board of Supervisors
       Susan S. Muranishi, County Administrator
       Colleen Chawla, Director, Alameda County Health Care Services Agency
       Lori A. Cox, Director, Alameda County Social Services Agency
       CJ Lake

Health Equity: **Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies**

The Department of Health and Social Services (DHSS), Office of the Commissioner and State of Alaska appreciate the opportunity to respond to the White House Office of Science and Technology (OSTP), Request for Information (RFI) on Strengthening Community Through Technology. DHSS and the State of Alaska believe in doing what is right and equitable for ALL Alaskans we serve. *Healthy Alaskans*, the State Health Improvement Plan, co-led by DHSS and the Alaskan Native Tribal Health Consortium is our Roadmap to address health disparities and keep Alaskans healthy. This work is a collaborative effort with communities, health care entities, Tribes, ad other stakeholders. The Healthy Alaskan 2030 Roadmap[1] highlights key goals and objectives. To achieve these goals and objectives, Alaska must continue harness the power of digital health technologies and data and analytics systems to provide access to affordable and quality care and to monitor and communicate our progress along the way. It is hard to change that which cannot be seen or measured.

Early in the pandemic, we enlisted the help of national guard members to enter one lab result into three different systems. It was clear, the lack of digital health tools and data infrastructure capabilities hampered not only our response here in Alaska, but across the country. Improved data can help community leaders know what health challenges affect their community and target their efforts; health care providers see the more complete picture of the health of their patient; and patients have better access to their own records empowering their health.

The Medicaid program within DHSS reported a significant increase in providers across the state using and billing for telehealth service codes. In fact, tele-behavioral health services were the most used and billed telehealth service. A decrease in "no shows" for appointments due resulted due to the virtual option for patients. Many providers who haven't previously used telehealth have done so during the pandemic.

There are many large efforts happening at a state and national level for digital health and data modernization. Key to this transformation is creating a governance structure, and roadmap for the numerous data systems, and technologies both within the State and community, to improve the health of Alaskans. This, however, will be an area that will need collective time and attention to achieve the desired outcomes. Through improved data modernization that provides reliable, understandable, and relevant data to the public at their fingertips, Alaskans can and will achieve more. Improved data modernization is more cost-efficient, more secure, and allows for real-time decision-making to better support health care providers and individuals.

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[1] https://www.healthyalaskans.org/

Proposed government actions: **Opportunities for the Federal Government to support the transformation of community health settings through the uptake of innovative digital health technologies and telemedicine at the community level. Please specify whether these opportunities could take place in the immediate future (** *i.e.,* **0-2 years), in the next 5 years, in the next 10 years or beyond.**

As DHSS and the State of Alaska defines the state's digital health and data modernization Roadmap to support health equity and health transformation goals; support from the Federal Government to accelerate and sustain this work is necessary. Federal support includes solidifying federal policies, quality standards, and ongoing for the continued use of digital health solutions such as telehealth, telemedicine, and remote monitoring. Federal agencies should support further study of implementation, consistent application and best practices across states, reimbursement of different modalities such as telephone or text messaging, and safeguards are necessary in the coming months and years to refine reimbursement policy, improve patient safety and care regardless of location, and bolster care coordination and integrity. Frontier or western rural states still require significant and continued investment from federal agencies in broadband infrastructure. Some villages in Alaska are unable to access or afford broadband services and may be relying on satellite, or they can only get a low about of broadband access that does not allow for telehealth usage with video. In these instances, the only option would be a telephone call or text message. Without consistent and reliable broadband communities cannot use digital health solutions.

In addition to policy and continuity of reimbursement, Alaska needs access to flexible, simple, and coordinated federal funding opportunities to invest in digital health solutions and the modernization of data infrastructure and workforce. DHSS and the State of Alaska commends the Centers for Disease Control and Office of the National Coordinator for advancing the concept of a "North Star Architecture" with the opportunity for shared data and governance solution to support health more efficiently in our communities. This concept along with flexible, simple, and sustainable funding will ensure all Alaskans have access to information and tools to keep their families and communities healthy and safe.

Barriers: **Specific descriptions of the current barriers faced by individuals or organizations to the use of digital health technologies in community-based settings.**

Broadband and cellular connectivity continue to be a barrier for the use and adoption of digital health technologies by Alaskans in our communities. As highlighted above, frontier communities face the even greater challenge of limited broadband or internet options, lack of affordability of broadband plans, and low connection speeds that at all barriers for increased use of digital health technologies. Larger communities still have only one or two internet service plan options, with broadband data caps or limits to how much data can be used. Once a data cap or limit is hit, Alaskans are limited to slower upload and download speeds. This further reduces access to digital health, education, and work opportunities. DHSS and the State of Alaska appreciate the Infrastructure Investment and Jobs Act (Pub.L. 117-9) and federal COVID-19 relief funds to

address broadband and increase access to digital devices. The state is moving forward significant efforts to bridge this gap. In addition to broadband, DHSS and the State of Alaska advocate for a portion of the 604-COVID-19 relief funds to be leverage for IT and data modernization efforts to support ongoing public health response and the health of our communities. Alaska has asked for the US Treasury for flexibility in using these funds and is disappointed by the lack of willingness to consider 604- COVID-19 relief funds for projects that are outside of the "presumptive eligibility" criteria. Alaskan requested to utilize the funds to address some of the specific health IT and data infrastructure deficits that were exacerbated by the pandemic. Because of Alaska is largely frontier the state needs to continue to invest in health IT and data infrastructure, broadband, and programs to enable use of digital health solutions. Otherwise, Alaska communities will have new buildings without connectivity to sufficient broadband, health IT, and data infrastructure.

Barriers also exist within state and local government to recruit, hire, educate and retain technical workforce to cultivate, maintain, and support digital health and data modernization efforts across Alaska's communities. Digital health and data modernization is highly technical and sophisticated work. IT involves a vast network of stakeholders, including a diverse workforce, providers, community-based organizations, tribal organizations, and governmental agencies, and consumers or patients. There is not existing designated funding for administering agencies in major U.S. jurisdictions to support health IT governance, grant and program administration, and innovation. Rather, funding must be within the scope of Medicaid (with match and complex cost-allocation methodologies) or spread across multiple federal agencies. Reliance on provider fees pose a particular hardship for smaller or rural healthcare providers and adds to current strains caused by the COVID-19 pandemic, including workforce shortages. As a result of funding shortfalls and inconsistencies, jurisdictions can fall to fragmentation and fail to realize their health IT visions in full. Federal support and investment should consider funding or longer term fellowships for states and territories to have at least a minimal number of employees (or baseline operations) to: foster greater centralization, administer a governance structure, apply for grants and funding through advance planning documents (APDs), serve as a technical assistance and innovation point of contact, and adequately support the use of digital health technology and social-health information exchanges by health providers, CBOs, and patients. This non-compete funding could be administered by The Office of the National Coordinator for Health Information Technology and be subject to planning and reporting requirements.

DHSS and the State of Alaska encourages the Biden-Harris Administration to consider our recommendations for improving health in Alaskan communities.

Contact- Dr. Anne Zink, Chief Medical Officer, Department of Health and Social Services, Office of the Commissioner at ▮▮▮▮▮▮▮▮▮▮ or Carrie Paykoc, Chief Health Informatics Officer, Department of Health and Social Services, Office of the Commissioner at ▮▮▮▮▮▮▮▮▮▮ for additional information.

March 31, 2022

Submitted electronically to ██████████████████████

Dr. Alondra Nelson
Acting Director and Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson,

Thank you for your leadership on the Community Connected Health initiative, which seeks to explore and act upon how innovation in science and technology can lower the barriers for all Americans to accessing quality health care and leading healthier lives by meeting people where they are in their communities.

Aligning for Health is an advocacy organization that brings together a broad coalition of members focused on improving health and wellbeing through efforts to address both health and social needs.[1] We support the many steps that the Biden-Harris Administration has taken to prioritize equity for all, including through initiatives to address social determinants of health (SDOH).

There is a significant body of academic work showing that economic and social conditions have a powerful impact on individual and population health outcomes. These non-clinical factors – such as housing, food assistance, income, employment status, education and transportation – have the potential to contribute to health outcomes more than clinical health care. In fact, one widely cited study found that while ten percent of premature deaths in the U.S. are due to clinical health care, social and environmental factors are estimated to account for sixty percent of health outcomes.[2]

As a coalition, we work to develop and promote actionable policies that create opportunities - and remove challenges - for states and local governments, health care organizations, and non-health care organizations to work together to develop cross-sector, coordinated solutions to address both health and social needs.

Digital health technologies – which the request for information defines as tools that improve health or enable better health care delivery by connecting people with other people, with data or with health information – are critical aspects of successful initiatives to address health and social needs.

Recognizing this, Aligning for Health has worked to energize stakeholders and policymakers around the need for targeted technical assistance and funding to states and communities to help them design high-impact, cross-system, data-driven strategies that achieve better health outcomes for Medicaid beneficiaries, improve program effectiveness, and lower health care costs.[3] We have also supported policies that would catalyze the development and expansion of interoperable, integrated community referral and information exchange networks to better connect health and social services providers to improve outcomes for all; that would support efforts to analyze racial and ethnic disparities or other

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[1] https://aligningforhealth.org

[2] Hood, C. M., K. P. Gennuso, G. R. Swain, and B. B. Catlin. 2016. County health rankings: Relationships between determinant factors and health outcomes. American Journal of Preventive Medicine 50(2):129-135.

[3] https://aligningforhealth.org/social-determinants-accelerator-act/

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factors that may affect health outcomes for Medicaid enrollees; and to ensure Medicaid and CHIP programs have the tools they need to address social determinants.[4,5,6]

Below, we provide specific feedback on select questions.

(5) Tool and training needs: *Information about the current technological tools, equipment, and infrastructure needs of community health workers and other community-based health providers. Descriptions about what is needed to train and/or certify community health organizations and workers on the use of digital health technologies for their work are also welcome.*

The siloed way in which health care, public health, and social services are paid for and administered has limited cross-sector coordination and data sharing across organizations in the health and social service sectors. Breaking down the siloes and supporting interoperability and coordination between programs and systems will help to ensure that they are most effective in improving individuals' health and wellbeing.

Over the past few years, CMS and HHS have made strong investments and taken significant steps to promote and require interoperability and exchange of health data. However, social service and community-based organizations (CBOs) have not benefitted from the same level of infrastructure and systems funding, and often experience difficulty in connecting with and sharing information, as appropriate, with health care organizations. Many CBOs do not have the capacity to invest in the tools and functionality required to connect with individual providers or other entities that would allow for seamless closed loop referrals and data exchange.

Technological infrastructure is needed to connect these sectors together and ensure that funding can flow where the referrals are going. These investments to connect health care and social services organizations can help to reimburse CBOs, and facilitate communication, consumer assistance, care coordination, referrals and capacity management, outcomes tracking, electronic resource directories, and other related services. Integrated network models across the country bring together CBOs, private foundations, health care organizations, and technology vendors to provide common points of connection and resources, alleviating the burden of multiple one-off connections and exchanges. Coordinated networks also provide users with greater insight on resource availability and allocation across health and social services providers, helping to target resources where they are needed most.

We recommend OSTP work with HHS to continue to promote, and with Congress to catalyze, further development of interoperable, integrated community networks.[7,8,9]

(7) Health Equity: *Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies*

Advancing equity will require better understanding of where inequities occur. However, data on race, ethnicity, and language, sexual and gender identity, or social needs are not uniformly identified and captured. We focus here on opportunities to improve screening for and collection of social needs data.

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[4] https://aligningforhealth org/lincact/
[5] https://www.help.senate gov/chair/newsroom/press/help-committee-passes-murray-burr-prevent-pandemics-act-in-overwhelming-bipartisan-vote
[6] https://aligningforhealth.org/wp-content/uploads/2021/09/Care-Thats-Fair-Act-Support-Letter.pdf
[7] https://acl.gov/framework
[8] https://www.congress.gov/bill/117th-congress/senate-bill/509?s=1&r=17
[9] https://www.help senate.gov/chair/newsroom/press/help-committee-passes-murray-burr-prevent-pandemics-act-in-overwhelming-bipartisan-vote

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The conditions or environments that we inhabit, including our communities, our homes, and our access to healthy foods, education, employment and transportation, all impact our health outcomes. Social risk factors and social needs increase the risk of, and exacerbate existing, chronic conditions and lead to poorer health outcomes.[10] Additionally, surveys have found that respondents who self-report poor health and higher health care utilization, and who experience high inpatient or ER utilization, are more likely to report multiple unmet social needs.[11]

Comprehensively documenting social risk and social needs data and increasing appropriate exchange of such data will ensure payers and providers delivering health and non-health care to individuals have a more comprehensive view of the factors affecting an individuals' wellbeing as well as the disparities contributing to health inequities. This documentation is the foundational first step toward care models that drive better alignment between health and social needs to improve patient outcomes. We believe that the outcome-focused care delivery systems of the future must rest on a data foundation that provides meaningful information about both health and social risks.

However, collecting social needs and risk factor data has proven to be a continuous challenge. Such data is not always routinely or systematically collected across the health care system, and a lack of standardization around how data should be collected makes it difficult to integrate this data into health records and to share, as appropriate, across coordinated entities, or to use for purposes of risk adjustment. For instance, a 2021 report from the Centers for Medicare and Medicaid Services (CMS) found that social needs data had only been collected and reported for 1.59 percent of Medicare beneficiaries, a fraction of the likely population with social needs.[12]

This information is the foundational first step toward cross-sector and more integrated care models that drive better alignment between health and social needs to improve patient outcomes. However, we also believe that screening for health-related social needs is only one piece of the puzzle. Information from screenings should be used to connect beneficiaries to covered services or resources to help meet their needs, if consistent with the beneficiary's goals and preferences. Efforts to screen without ensuring availability and access to resources to support whole person care may unintentionally increase burden and risk patients' trust.

Therefore, we recommend OSTP work with the HHS and CMS, to encourage and incentivize greater identification, documentation, and exchange of social risk and social needs data across its programs by removing barriers and by providing robust education, incentives, and access to tools that can connect individuals to needed resources.

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Thank you again for the opportunity to provide comments on this important issue. Please do not hesitate to let us know if you have any questions. I can be reached at █████████████████████

Sincerely,

Melissa Quick
Co-Chair, Aligning for Health

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[10] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863696/
[11] https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/insights-from-the-mckinsey-2019-consumer-social-determinants-of-health-survey
[12] https://www.cms.gov/files/document/z-codes-data-highlight.pdf

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March 31, 2022

Submitted electronically to ███████████████

Dr. Alondra Nelson
Acting Director and Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information on Strengthening Community Health Through Technology

The Alliance for Connected Care ("the Alliance") welcomes the opportunity to provide comments on the White House Office of Science and Technology Policy (OSTP) request for information on strengthening community health through technology. The Alliance is dedicated to improving access to care through the reduction of policy, legal and regulatory barriers to the adoption of telemedicine and remote patient monitoring. Our members are leading health care and technology companies from across the spectrum, representing health systems, health payers, and technology innovators. The Alliance works in partnership with an Advisory Board of more than 40 patient and provider groups, including many types of clinician specialty and patient advocacy groups who wish to better utilize the opportunities created by telehealth.

As reflected in the comments below, utilization of telehealth proliferated throughout the pandemic and has significantly improved access to care, care coordination, patient engagement, and more. Telehealth and remote patient monitoring are important tools for bringing innovative services and treatments to those with the least access to it, however there continue to be barriers in place that impede such access. One of the most prominent barriers to virtual care are the antiquated state licensure laws that limit the ability of health care providers to give care across state lines. In our comments, we outline this issue as a barrier to accessing quality health care, and provide two solutions for the federal government to consider.

Burdensome licensure requirements create a barrier in access to virtual health care
Digital technology is giving health care professionals new tools to deliver care to patients in addition to giving patients new access to care. The pandemic demonstrated that digital care can build capacity for care in rural and underserved areas, and areas experiencing provider shortages. Provider shortages are associated with delayed health care usage, reduced continuity of care, higher health care costs, worse prognoses, less adherence to care plans, and increased travel. In addition to being a tool to address such barriers, telehealth services play an important role in supplementing and strengthening clinician networks available to patients. Telehealth can be leveraged to strengthen the delivery system by providing highly specialized services in areas where clinicians with these skills are not available to consumers.

One barrier in accessing care via expanded digital technology is antiquated state licensure rules that have limited providers' ability to give care across state lines. State lines create artificial barriers to the delivery of care – complicating access for patients and creating additional burden on clinicians. These lines sometimes split major urban areas and hamper the ability of telemedicine providers to fill in gaps in the delivery system and provide high value care directly to consumers in rural or underserved areas. Current efforts to expand interstate licensure have been insufficient to meet the needs of patients and the clinicians seeking to better serve them. Health care professionals are prohibited from treating patients in states where they are not licensed, but the state-by-state licensing processes are burdensome and expensive. Uniform national standards across clinical practice areas are in place, but there is a mismatch

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with the wide variation in state licensing processes. Another barrier is the expense, as licenses in a single state can cost upwards of $1,000, and application fees on top of the licensing fees can add up.

COVID-19 exposed the barriers posed by the fragmentation of state practice act laws and regulations. The ability for licensed, credentialed health care professionals to provide care across state lines via telehealth during the pandemic helped maintain continuity of care, promoted patient choice, and improved care coordination. Telehealth also helped improve patient access to primary and specialty care, boosted patient and caregiver engagement, reduced missed appointments, and improved post-operative care. As pandemic flexibilities begin to expire, providers have to go back to cumbersome state-by-state licensing requirements if they want to continue to help patients in other states. Without permanent policy measures to adjust to these changes, patients have to either travel long distances to see a provider in person or cancel appointments, creating a barrier to accessing convenient care and to continuity of care.

Patients want to be able to access care from providers of their choice, both in the short- and long-term. In fact, over 230 organizations sent a letter to all 50 governors in November 2021, urging them to maintain and expand licensure flexibilities enacted at the start of the pandemic for the duration of the federal public health emergency to better address patient needs during the ongoing pandemic.

While existing state licensure compacts are active for six health profession categories, they do not always go far enough to ease provider burden associated with providing care across state lines, as several compacts like the Interstate Medical Licensure Compact still require a provider to hold a license in every state in which they treat patients. Compacts like the Nurse Licensure Compact employ a policy of mutual recognition, meaning providers licensed and in good standing in one compact member state can practice in other compact members states without obtaining an additional license. This is the type of model to aspire to for easing burdens associated with patchwork licensure laws. Additionally, there are no existing compacts that currently include a broad range of health professions, therefore leaving health systems and provider groups to keep up with the many compacts in existence for every provider type they employ.

Recommendations for a federal solution to interstate licensure
As evident from the above, there is a clear need for a federal solution to decrease the barriers to providing care across state lines in order to improve access to care for all Americans. As such, we urge the Biden-Harris Administration, via the OSTP, to consider addressing antiquated licensure laws that impede access to care. Below, we provide two solutions OSTP and the Administration can consider.

Develop and implement a national framework for interstate licensure
To address this issue, we recommend that the White House instruct the Secretary of the U.S. Department of Health and Human Services (HHS) to convene experts and support the development of a voluntary, national framework for interstate licensure using a policy of mutual recognition. This would allow patients to receive care beyond their state borders, and allow qualified health care providers already licensed in a U.S. state or territory to treat patients without the costly and time-consuming burden associated with purchasing and renewing multiple state licenses. Key features of this framework include:
* Allows multiple provider types to participate in the framework and practice via telehealth in order to expand access to care to patients across the country.
* Maintains state control over licensure and does not preempt state law or take away authority from the state licensing boards. State governments must authorize the State's decision to participate through legislation or gubernatorial action.
* Creates a consistent federal framework for cross-state licensure drafted with the patient at the center, so that the focus is on patient access to care, and that has true licensure reciprocity for providers licensed and in good standing in at least one participating state.

- Creates an Advisory Commission on Care Across State Lines to develop the framework and engage in a robust stakeholder engagement process to hear from a broad range of groups on this issue.
- Ensures that health care professionals must be listed in a central database of those who have been deemed eligible to practice across state lines by their home state licensing board, and will be disciplined by their home state licensing board.
- Prohibits health care professionals from practicing beyond the scope of practice authorized by any jurisdiction that adopts this framework, and from providing any service or subset of services prohibited by any such authority in the jurisdiction where the patient receiving services is located.

Additional information on this national framework can be found here. Two prominent examples of a federal-state legal framework that created consistency across states include: 1) the ability of the U.S. Department of Veterans Affairs providers to offer services via telehealth across state lines regardless of where the provider or veteran is located; and 2) the Driver License Compact, which allows member states to share driver's license information and traffic violation records with other states for legal purposes.

Address state licensing limitations that impact clinical trial recruitment and diversity

The Alliance believes that continuing to modernize and decentralize clinical trials is critical for creating opportunities for more diversity and patient engagement. Obviating the need for travel time, lost wages and childcare/eldercare through use of digital technologies will significantly increase the pool of potential participants in clinical trials across geographies. Decentralizing clinical trials is also critical with respect to advancing health equity by accounting for such logistical and other participant-related factors that could limit participation, and would also help improve recruitment, retention, and participation in clinical trials.

One barrier in using digital technology in clinical trials is the state licensing limitations that effectively prohibit clinicians working on clinical trials from recruiting patients from outside the state where the clinician is licensed, thereby creating a barrier to entry for use of decentralized trials and diminishing the impact of federal changes aimed at decentralizing clinical trials. This is especially important for rare diseases affecting fewer than 200,000 people in the United States, for which utilizing clinical trials across state lines may significantly increase the likelihood of a successful and diverse clinical trial.

The Administration could direct the FDA to provide non-binding guidance to states on how to bolster clinical trial modernization through licensure flexibilities to help catalyze change at the state level. We recommend that the FDA set up an intergovernmental working group with state and federal regulators to develop such guidance. This group will likely identify other areas beyond licensing that may need to be addressed, such as mailing of non-approved medications.

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We hope you will consider these recommendations as a solution to addressing antiquated licensure laws that impede access to care. We also hope this commentary emphasizes the value of telehealth and cross-state care in providing greater access to health care and specialty medicine, addressing provider shortages in rural and medically underserved communities, improving follow-up and continuity of care, and providing patients with more choice in the providers they wish to see. We look forward to working with you and welcome further discussion on this topic. Please reach out to Casey Osgood at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ with any questions.

Sincerely,

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Executive Director
Alliance for Connected Care

March 31, 2022

Stacy Murphy
White House Office of Science and Technology Policy (OSTP)
1600 Pennsylvania Ave NW
Washington, DC 20500

Re: Connected Health RFI
Submitted electronically at: █████████████████████████

Dear Ms. Murphy:

The Alliance for Nursing Informatics (ANI) appreciates the opportunity to contribute as nursing stakeholders to the Request for Information (RFI) on Strengthening Community Health Through Technology (87 FR 492) as part of the Community Connected Health Initiative.

The Alliance for Nursing Informatics (ANI), cosponsored by AMIA & HIMSS, advances nursing informatics leadership, practice, education, policy, and research through a unified voice of nursing informatics organizations. We transform health and healthcare through nursing informatics and innovation. ANI is a collaboration of organizations representing more than 20,000 nurse informaticists and brings together 25 distinct nursing informatics groups globally. ANI crosses academia, practice, industry, and nursing specialty boundaries and works in collaboration with the more than 4 million nurses in practice today.

Thank you for the opportunity to provide input on the aspects of strengthening community health through digital health technologies. We recognize the profound role that digital health technologies have and will continue to have to support high-priority target areas, including the COVID-19 public health emergency, health equity and support for underserved communities, and the interoperability priorities referenced by the 21st Century Cures Act and in the Future of Nursing 2030 Report[1].

ANI directs comments to six of the topics:

1. Successful models within the U.S.: Nurses are at the frontlines of care and are the largest group of providers in the community and home care setting. Professional nursing organizations, such as ANI, are well positioned to support collaborative efforts to improve care delivery models and quality measures that support interoperability and align with the vision for patient-centered care across the care continuum. We suggest an examination of the Long Term and Post-Acute Care (LTPAC) Health Information Technology (HIT) Collaborative, the PACIO Project (streamlining transitions of care and care coordination through FHIR), and the Gravity Project (data models for the social determinants of health) for their findings related to electronic health information exchange and its role in improving care coordination across the continuum. As a nursing informatics community, we welcome the opportunity to contribute volunteers to this effort.

2. **Barriers:** There are many barriers to using digital health technologies in community-based settings. Primary language, literacy and digital health literacy, education, and income all play important roles in

advancing the use of digital health technology. We reiterate our endorsement of Social Determinants of Health (SDOH) as a key data collection and interoperability need, the importance of which has been further amplified during the COVID-19 public health emergency. We also recognize the need to move beyond individual SDOH factors (e.g., housing insecurity) to incorporate complementary neighborhood/community/zip code level factors (e.g., redlining, housing discrimination) contributing to how SDOH are experienced at an individual level. Measures of the social context should be included in patient records in a standardized way to identify systemic and institutionalized forms of discrimination that may affect health and the downstream use of digital health technologies.

3. Trends from the pandemic: ANI is in favor of the continued expansion of telehealth and virtual health care coordination capabilities to provide equitable access to all. However, obtaining patient consent has been a barrier during the pandemic. The need to obtain notarization of the individual's signature, accepting individuals' written requests only in paper form, in person at the covered entity's facility, or through the covered entity's online portal are examples of the observed barriers. To expand the judicious use of telehealth, we believe this is a barrier needing attention.

4. **User experience:** ANI recommends the development of engagement and collaborative strategies to better engage end-users, such as community-based participatory research and user-centered design. A clear operationalization of stakeholder engagement is needed, and concrete strategies to support and sustain engagement and collaboration, ensure public health surveillance, promote safe and high-quality care, and advance the development and use of health IT capabilities. Finally, it is important to include patient-reported outcomes and patient-generated health data in design and development efforts to enhance understanding of patient experiences and data needs.

5. **Proposed government actions:** ANI encourages harmonization and alignment of data standards and terms across different regulations, reporting programs, and federal agencies. Special considerations are needed for settings governed by multiple regulatory systems, such as school-based and occupational health settings. In these settings, digital health technology efforts can be hindered by regulatory complexities (e.g., conflicts between HIPAA and FERPA in the school-based health setting) and data loss due to gaps in third-party consenting processes. Data collection and health information exchange for community-based care coordination in these settings is essential, as these settings can capture timely information about healthy people and provide powerful data before acute illness occurs. ANI recommends that the OSTP examine ways to leverage the school-based health environment.

6. **Health Equity:** ANI fully supports the importance of addressing disparities in access to technology from a community perspective. We encourage OSTP to consider the broader implications of health IT in propagating health disparities. While important, strategies to increase access to the technologies necessary to attain, interact with, use, and share personal health data and health information are insufficient. Additional strategies are needed to address disparities in the adoption, adherence, and effectiveness of health IT.[1] Strategies for consideration include inclusive language and content in consumer-facing health IT, broad and thoughtful dissemination, increased emphasis on usability testing and implementation science, and sustained evaluation to identify and address disparities in access, adoption, and adherence. Furthermore, strategies are needed to minimize bias within machine learning algorithms that are increasingly used to inform healthcare, as such biases have the potential to amplify health disparities substantially.[2] Strategies might include upstream approaches to ensure that data are captured without bias, increased emphasis on the reliable capture of SDOH data, and collaboration with

public health community-based organizations, school health services, correctional health, and other non-traditional settings to capture data for populations not receiving care in traditional healthcare settings.

In conclusion, ANI commends OSTP's careful consideration of strengthening community health through digital health technologies and appreciates the opportunity to contribute to this important topic for a safe, high-quality healthcare system that puts patients first. We are available and interested in supporting future public responses on this important healthcare issue.

Sincerely,

Susan Hull, MSN, RN-BC, NEA-BC, FAMIA
Alliance for Nursing Informatics (ANI) Co-chair

Nancy Beale, MSN, RN-BC
Alliance for Nursing Informatics (ANI) Co-chair

March 4, 2022

Dr. Alondra Nelson
Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Director Dr. Nelson:

On behalf of the Alliance for Patient Access (AfPA), I am writing in response to the White House Office of Science and Technology Policy's (OSTP) Request for Information on *"Strengthening Community Health Through Technology."* AfPA is pleased to see the OSTP's interest in innovative health technology and the positive impact it can have on communities, especially in traditionally underserved populations. Prescription digital therapeutics (PDTs) support and supplement a variety of appropriate therapeutic outpatient treatments to patients, including those suffering with substance use disorder (SUD), opioid use disorder (OUD), and chronic insomnia, offering additional treatment options for patients and health care providers.

About AfPA

Founded in 2006, AfPA is a national network of policy-minded health care providers who advocate for patient-centered care. AfPA supports health policies that reinforce clinical decision making, promote personalized care and protect the physician-patient relationship. Motivated by these principles, AfPA members participate in clinician working groups, advocacy initiatives, stakeholder coalitions and the creation of educational materials.

Barriers and Trends from the Pandemic

Barriers to Access: Outdated Reimbursement Policies

Health care providers and patients face an array of barriers when seeking to utilize PDTs, particularly around reimbursement policy. Historically, there has been a disconnect between Food and Drug Administration's (FDA) authorized digital health technologies and Centers for Medicare & Medicaid Services' (CMS) coding and reimbursement policy. Procedures and disconnect in policy that cause delays in adequately and appropriately reimbursing for digital health technologies, like PDTs, impacts the health care providers ability to begin treatment in a timely manner. This disconnect has made it challenging for health care providers to utilize digital health technologies and places an undue burden on provider offices, as they must spend additional time working with the insurers to approve PDTs and other digital health technologies.

Further, this can cause a significant delay in patients' access to appropriate, and potentially lifesaving, FDA-authorized digital health technologies.

Currently, there are nearly 150 FDA-regulated PDTs that are expecting clinical trial results in 2022.[1] It is essential that reimbursement policies do not fall behind the curve, and public and private insurers have the appropriate reimbursement policies in place to ensure patients have timely access to FDA-authorized PDTs. OSTP should work with CMS to understand how best to create PDT, and other digital health technology, codes to ensure the necessary resources exist that allow timely review which will promote adoption.

<u>Trends in Telehealth from the Pandemic and Ongoing Barriers to Broadband Internet Access</u>

During the COVID-19 pandemic, telemedicine emerged as an effective and appropriate method of care for millions of Americans and has changed the way many view telehealth overall. Growth in telehealth usage increased by as much as 38X as compared to pre COVID-19 usage, aided by timely governmental action allowing appropriate reimbursement.[2] This action allowed for millions of Americans to seek the care they needed in their own homes, and without having to expose themselves to possible COVID-19 transmission by having to be seen for an in-person medical visit. Telehealth continues to provide opportunities for appropriate care, and PDTs can play an important role in both telehealth and traditional in-person care.

The utilization of telemedicine changed patient, provider, insurer, and policymaker perceptions during the COVID-19 pandemic. Telemedicine visits not only helped those who already had adequate access to in-office visits, but also those who would traditionally not have access to appropriate care due to factors like a lack of transportation, provider scarcity in rural areas, scheduling challenges or caregiver burden. PDTs have the potential to support millions of patients across many disease states, including patients in traditionally underserved communities.

Regrettably, the COVID-19 pandemic has increased substance and opioid abuse as well as mental illness throughout the United States. Underserved populations are already at an increased risk of suicide, eating disorders, coincident mental health issues, and severe illness and death from COVID-19. Better access to telehealth and PDTs that treat these conditions can help millions of Americans across the nation who are suffering with substance and opioid abuse and mental illness.

However, one continued barrier in telehealth has been access to broadband internet, especially in rural and low-income areas. This is also a barrier to the use of all digital health technologies,

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[1] Miao BY, Arneson D, Wang M, Butte AJ (2022) Open challenges in developing digital therapeutics in the United States. PLOS Digit Health. 2022 Jan 18. https://doi.org/10.1371/journal.pdig.0000008 https://journals.plos.org/digitalhealth/article?id=10.1371/journal.pdig.0000008#pdig.0000008.ref016

[2] Bestsennyy, Oleg, et al. "Telehealth: A Quarter-Trillion-Dollar Post-Covid-19 Reality?" *McKinsey & Company*, McKinsey & Company, 22 July 2021, https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality#:~:text=Telehealth%20utilization%20has%20stabilized%20at,17%20percent%20across%20all%20specialties.

including PDTs. Almost a quarter of U.S. households do not have home internet, which hits seniors, students and those living in rural areas hardest.[3] For these underserved communities, access to reliable mental health services was already a challenge; as we see innovative digital health technologies being approved by the FDA, the digital divide becomes ever more apparent.

Proposed Government Actions

There are many opportunities for the federal government to support the transformation of community health through the uptake of innovative digital health technologies like PDTs.

Given the increased interest in virtual care and digital health technologies, policies that encourage increased access to these services can significantly benefit patients. The COVID-19 pandemic forced the health care system to quickly adapt to digital health technologies and address access barriers to new and emerging technologies. Continued reform on the federal and state level, as well as in public and private insurance, is needed to ensure patients have access to all appropriate digital health technologies, including PDTs.

While digital health technologies have been around for some time, they have just recently began gaining recognition from policy makers and the community. In 2020, the Senate introduced the "Prescription Digital Therapeutics to Support Recovery Act (S. 3532)." The bill mandates Medicare and Medicaid to cover PDTs that work to prevent, manage, and/or treat mental health and substance-use disorders; this bill was not taken up. However, policies like this from federal and state government should be considered to raise awareness of PDTs and enable better access to those most in need.

Closing

Innovative digital health technologies present new opportunities to improve the quality and delivery of health care in the United States, and adequate access to prescription digital therapeutics will play an important role in strengthening community health. We appreciate the opportunity to provide comments and your attention to this matter. If we can provide further details or be of assistance, please contact us at (

Sincerely,

Josie Cooper
Executive Director
Alliance for Patient Access

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[3] McNally, Catherine. "Nearly 1 in 4 Households Don't Have Internet-and a Quarter Million Still Use Dial-Up." *Reviews.org*, 18 Oct. 2021, https://www.reviews.org/internet-service/how-many-us-households-are-without-internet-connection/.

6th March 2022

Responding to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

The Alliance of Information and Referral Systems (AIRS) is a 501(c)(3) incorporated nearly 50 years ago and serves as a standards, accreditation, certification, and training body for community and government-based information and referral (I&R) services throughout the U.S. and Canada. With over 900 members, the AIRS membership brings people and services together and has been individually and collectively engaged in addressing the Social Determinants of Health for decades.

We appreciate the opportunity to comment on the RFI issued by the OSTP on this important area as we believe that over the past two years, astute corporate marketing is creating an imbalance between strengthening through technology as opposed to strengthening through technology AND direct community services. The resolution to finally directly address core SDoH issues and improve health disparities is in danger of being led astray.

Ultimately, we all want the same thing: a collaborative framework between healthcare institutions, private sector technology innovators, government that can make a difference, and community-based organizations who are geared to help individuals and families across the spectrum of human need.

AIRS membership embraces more than 900 organizations in the US and Canada:

o 40% of our members provide specialized services to older adults and persons with disabilities through aging and disabilities networks that include Aging and Disabilities Resource Centers, Area Agencies on Aging, Centers for Independent Living, and state-driven No Wrong Door systems. Nearly all of these receive funding through the US Administration for Community Living.

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- o 95% of 211 providers are AIRS members, and the 211 network has evolved through a national partnership between AIRS and the United Way Worldwide (UWW), and without any federal funding/support
- o Our members answer over 25 million calls for help every year, with the vast majority addressing the basic needs of vulnerable people (food, shelter, health, utilities, etc.)
- o Collectively, community I&R programs curate hundreds of thousands of database records, primarily gathered at the local level in accordance with AIRS national standards and using prescribed data elements, within a common style guide and classification system
- o During COVID, AIRS member call volumes increased by 300% and these same members developed innovative programs and delivered specific public support at the request of county and state governments. If the response to COVID told us anything, it was about the benefit for the public to be able to talk directly with someone who really cared about their situation, made a real connection, listened to their concerns, worked with them to understand their options, and encouraged them to empower themselves

Closed loop referral (CLR) software platforms can provide a tremendous leap forward providing the software vendor remains a software vendor. But the result is increasingly a duplication of resource databases, confusion in the broader community and social services sector, and the creation of new balkanized silos of competing softwares and outcomes data. Sectors such as Area Agencies of Aging are increasingly being asked to update case histories in 2+ systems, resulting in more work with the no additional support while some software companies are close to securing an oligopoly on big data in the health sector. Again, we seem to be overlooking the opportunity to secure true improvements in the health of individuals, families, and communities by making software the driver.

The community I&R sector has been working for years towards the principle of having every community database record maintained, according to standards, by one steward but available to everyone. However, this progress is being reversed as 2-3 private companies parachute into a region already covered by a community-based I&R, and there are soon 3-4 community resource databases all with different information! If you are a small food pantry that has been updating its information with its local I&R for decades, why are you now being contacted by private companies to gather the same information? In a recent AIRS survey of 211 providers, more than 80% of respondents believed that private for-profit vendors have (in their experience) behaved in an unethical manner. However, more than 90% of 211 respondents also actively *want* to develop a partnership with these vendors – even though in most situations, 211s have been sidestepped by private vendors.

Here is what we are seeing happening in our communities: a software company secures a contract from a healthcare institution with the decision made through a technological rather than a community-based lens. The software company hires staff to do work that is already being done at the local level, then invites agencies to an online event so they can learn about this new, wonderful partnership and their role in it. A few months later, our service providers receive a similar invitation from another private company that has secured their own contract in their region, therefore, building non-accessible data silos of valuable community client/patient SDOH needs.

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When a private vendor has a partnership opportunity to use existing community resource data that is better, cheaper and easier to use than creating their own versions -- we have to question why are these vendors so *desperate* to avoid working with a community-based I&R/211 to make this happen? When hundreds of nonprofit and government organizations are following the AIRS national standards for the creation and maintenance of community resource information, why do these handful of private sector software providers ignore those standards? Again, we want to work *with* the private sector software companies in the SDoH space, but not *for* them.

Ultimately, community-based service providers, community-based I&Rs, and private sector vendors, should partner together with healthcare entities to provide the best of all worlds – highly-developed, relevant resources for healthcare consumers that are maintained by AIRS certified database curators, staffed by AIRS trained community-based professionals, and have leading-edge software with the capacity and capability to provide and track referrals, and health outcomes. This also helps to address the inequities created by the digital divide. I&R specialists provide a critical bridge to services and provide assistance and advocacy to help clients overcome barriers to health-related social services. AIRS members answer over 6 million annual requests related to housing and shelter, 5 million about healthcare issues, 4 million about food, etc. – *this knowledge and experience makes a difference to the lives of tens of thousands of people every day*. AIRS members connect with and have helped people for years, and yet we now seem to be forced to work in the shadows of "big tech" agreements.

In effect, the goal should be genuine Community Information Exchanges (such as in San Diego) governed by the community itself or similar projects such as the Community Referral Network developed by the Greater Flint Health Coalition. Note that the US Administration for Community Living is also encouraging the development of similar collaborative models that promote health equity.

Thank you again for broadening the engagement of nonprofit organizations such as AIRS in this important discussion and at this important juncture. AIRS would welcome the opportunity to provide any information and assistance that is required as this process moves forward. We are certainly able to provide you with more specific recommendations if invited.
Yours,

David Jobe
Board President of AIRS (and Assistant Vice President, United Way of Greater Houston)
Alliance of Information and Referral Systems
11240 Waples Mill Road, Suite 200
Fairfax, VA 22030

Allscripts

March 30, 2022

Request for Information: Office of Science and Technology Policy, Connected Health

Submitted by Leigh Burchell, Vice President, Policy & Government Affairs

I am pleased to submit Allscripts' response to the Request for Information on Connected Health issued by the White House Office of Science & Technology. With a platform of clinical and business health IT solutions for ambulatory and acute settings, Allscripts is relied upon by the industry's largest network of providers – physicians in tens of thousands of different practice locations and more than 2,000 hospitals. It is through our three decades of experience partnering with and deploying software to this vast network of providers that we can submit informed comments today. Below are our responses to many of the questions included in the RFI.

Successful models within the U.S.:

- The **ClinicalConnect Health Information Exchange** (HIE), in Pittsburgh PA, connects almost 100 provider organizations, including hospitals, health systems, physician practices, urgent care, pediatrics, senior care, and federally qualified health centers – all using a variety of EHRs – who are exchanging information on behalf of millions of patients. CCHIE also connects to other state-based health information exchanges to further interoperability, network to network.
- The North Carolina Department of Health and Human Services launched its **Healthy Opportunities Pilot Programs** to test the viability of non-medical interventions to reduce costs and improve outcomes for Medicaid beneficiaries. Services to address housing, food, transportation, and safety issues receive funding through the pilot program. As a part of the program, health plans and providers screen for social determinants of health (SDOH) and electronically refer qualifying patients to appropriate community-based organizations (CBOs) to address those determinants.

Taking the lessons learned from these models to a greater scale, however, will require:
- a way to identify patients that allows for a longitudinal record of health / community care;
- increased coordination of laws and regulations between neighboring states to allow provider organizations to more easily coordinate health and social care across state lines;
- a shared governance model that sets a common floor across multiple health / social networks;
- development and maturation of standards for social determinant domains, screener assessments, and closed-loop referrals between healthcare systems and CBOs; and
- a robust technology infrastructure to support a wider range of CBOs, not just a select few.

Barriers in the U.S.:

- One of the barriers we see from a technical perspective include issues related to basic internet access, internet bandwidth, and internet speed in rural areas. If you look at the map of Medicare patients who received at least one telehealth service in the last two years, there are very clear gaps that exist in rural communities, and that is something that must be addressed.
- Providers also do not always maximize the capabilities of the technologies they are using, and their commitment to exchanging information electronically still needs to be incited through expansion of

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value-based care models beyond those that largely now focus on motivating larger institutions but leave out small and rural providers.

- Costs can also be a barrier, particularly in rural areas and for organizations serving low-income patients, reflecting the payment models for those environments; public health agencies have also not had adequate funding to invest in modernized, standards-based technologies to facilitate greater connectivity, but the money stemming from pandemic-related funding bills should help to address that if focused on in a consistent way from state to state.
- Community-based organizations focused on addressing social determinants of health are terribly underfunded and largely have no technology in use that allows them to connect with the highly digitized healthcare organizations. This needs to be addressed assertively for any chance to occur.

Trends from the pandemic:

We supported our clients through use of critical clinical decision alerts to support providers in incorporating rapidly adjusting best practices into their clinical care routines; the provision of dozens of different reports specific to COVID-19 so our clients could comply with city, county, state and national requirements; and the ability to document and report on racial and ethnic patient classifications to support the study of health inequities during the pandemic.

Further, we have seen a large increase in the use of our telehealth technology by providers and patients and, as previously mentioned, mobile technologies used to stay in touch with their patients. While the pandemic may have provided an unprecedented opportunity to stress test remote treatment capabilities, there is now a need for PHE-dependent waivers and extensions to be made permanent for the benefits of patients and increased access to care. Certain clinical use cases have proven to be served exceedingly well via a telehealth model, but if the pay parity that was put in place under the pressures of COVID-19 is not extended permanently, provider willingness to maximize the remote technologies will dissipate very rapidly. Some things haven't changed even in the pandemic, and the fact that healthcare providers deliver only the care they are paid for is one of them.

We also note that there has been a dramatic increase in the attention and mindfulness that providers are paying to health inequities and the usefulness of social determinative data. They are increasingly careful to document information in their patient charts and through questionnaires related to circumstances outside the care environment, and the implementation of policies out of HHS that further encourage this activity, as well as strengthening the support of social services and their use of connected technologies, will help.

Tool and training needs:

Our clients are not able to maximize the potential of the systems they already own due to staffing limitations and prioritization issues. It would be beneficial to have more public funding available for additional staff to relieve the burden or for new technology to help train them or become product certified.

Proposed government actions:

We would encourage new public funding, as it occurred for Meaningful Use, for the adoption of technology in underserved care environments, including behavioral health settings and long term care agencies of all sorts. Additionally, to facilitate a truly connected community, the community based organizations helping

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patients address SDOH must also be funded in a much more robust fashion, including building a digital infrastructure that facilities the flow of appropriate patient information to and from the healthcare providers seeing them in the clinical setting.

We would also encourage the federal government to itself coordinate more effectively across all the involved governing agencies and also provide significantly increased alignment with the states, so that health IT software developers and the providers who are our clients can more easily comply with the requirements put forth by various regulatory bodies. Right now, there is disparity in requirements, code sets, standards and more, which creates great inefficiencies for all parties and diminishes the opportunity to assess public health reports from various geographies.

Additionally, all stakeholders need advanced notice of new requirements and sufficient time to get them implemented – requirements of a normal order mean that software developers need 18-24 months to develop, test, deploy and train on new versions; in situations where standards are not fully agreed upon by the industry or where the necessary development represents a noteworthy leap in technical capability, the necessary time can be upwards of 36 months. Healthcare as an industry is VERY slow to adapt to changes, even when upgraded technologies are made available – we have examples of clients who refused to upgrade their EHRs or other technologies for five years or more (even when no cost was involved). If the government wants to see providers using more modern versions of health IT as they are regularly released with improved functionality related to interoperability, reporting, social determinative data and more, it is very likely necessary for CMS, HRSA and other agencies to use payment rules and conditions of participation to force providers to move to the latest version of software with much more frequency.

Health Equity:

Any initiative aimed at improving the community-wide care of patients through technology must measure the impact of the initiative across race, ethnicity, and socioeconomic status. HHS should establish transparent and accountable key performance metrics and quality measures from the outset and plan to stratify and break down performance on those metrics by citizen demographics.

There is currently little consensus among federal and state agencies as to how race, ethnicity, and preferred language are codified. While significant data already resides in EHRs today (with expanded data capture occurring regularly), CMS and many state systems are very limited in their ability to receive or analyze the type of segmented data that can already be submitted by providers. We encourage OSTP to work together with ONC on the establishment of a standardized code set and best practices for capturing information, to invest in modernized systems at CMS, and to focus on digitizing the community environment (CBOs and social service agencies) who are serving patient daily.

 Thank you for the opportunity to provide input. I welcome the opportunity to answer any questions.

Leigh C. Burchell
VP, Policy & Government Affairs
Allscripts

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INTRODUCTION

Altarum Institute (Altarum) is pleased to submit this response to the White House Office of Science and Technology Policy (OSTP) Request for Information (RFI) published to the Federal Register on January 5, 2022. Altarum is fully committed to supporting OSTP to identify and implement innovative, technology-focused strategies that have a meaningful impact on community health and integrate purposeful, stakeholder-informed methods to increase health equity and reduce disparities.

Altarum is a non-profit health research and advisory organization with a mission to create solutions that improve the health and wellbeing of historically underserved and marginalized populations. We bring diverse experience, including more than 70 years working closely with government clients and health systems, nonprofit and community organizations, social service providers, criminal justice, universities, and philanthropies to customize approaches to community health problems. Altarum works across the health care continuum providing tools, services, and expertise to advance health for all populations. Our solutions include:

- **Technology Solutions** – We assist clients with public health surveillance and registry systems, health information interoperability, and health information technology (IT) training and security analysis through customized software and data solutions.
- **Technical Assistance (TA), Quality Improvement, and Advisory Services** – We provide quality improvement, TA, training, continuing education, and consultation across a wide range of health and social services professions and topics.
- **Applied Health Research and Analytics** – We have decades of experience informing public health programs through economic modeling, program evaluation, policy analysis, advanced analytics and data visualization, survey science, and health claims analysis.

We appreciate the OSTP's efforts to incorporate the needs and perspectives of historically underrepresented populations into policy, programming, and procedures. Our **specific recommendations** detailed below include:

1. Develop and implement assessments and measures to identify the current state of, and address specific gaps in, community-based technology use and capabilities.
2. Use assessment findings to inform decisions on investments for community-based technical infrastructure.
3. Fund TA to help stakeholders make effective use of infrastructure investment.

RESPONSES TO TOPIC AREAS

Widespread movement toward health IT adoption began when the U.S. government introduced the Meaningful Use program as part of the 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act to encourage health care providers to show "meaningful use" of a certified Electronic Health Record (EHR). While this helped increase adoption among organizations with the ability to invest financial and personnel resources into the required health IT infrastructure, it did not support community-based organizations and post-acute care health care facilities and left behind under-resourced organizations, such as small, underserved, and rural providers.

The experiences of high-performing organizations are often cited as measures of programmatic success. However, we strive to bring awareness to the experiences of providers and practices for whom health IT adoption and utilization are difficult or even out of reach altogether.

Furthermore, successful health IT adoption can be difficult even when an organization is well resourced or able to access external consulting support.

Altarum has direct experience helping medical practices work toward the optimal use of health IT for patient care, care coordination, and information exchange with other health care providers and community-based organizations. Our perspectives are based on our interactions with tens of thousands of providers pursuing health IT adoption over the last decade. The boxed quote is from a recent survey of providers Altarum supported as part of the CMS Quality Payment Program – Small, Underserved, and Rural Support (QPP-SURS) program.

> *"I believe MIPS [merit based incentive payment system] was designed with gigantic medical groups in mind. They can spend a million dollars to do it better than anyone else and get all the rewards in better payments. The small practitioner, in the mergers, got crushed trying to do this while seeing patients, billing, and keeping up with all his/her practice needs!"*

Topic 2. Barriers to Uptake of Digital Health Technologies

Technical: Technical barriers exist even with strong efforts to promote community-based health capacity. Altarum provided a freely available reference implementation to assist developers adding electronic Long Term Services and Supports (eLTSS) standards to their software tools to promote sharing of data across the LTSS ecosystem. When the Office of the National Coordinator for Health IT (ONC) provided a funding opportunity to pilot the new eLTSS standards, key organizations such as the Area Agencies on Aging did not have technical resources or capacity available to participate in the pilot.

Therefore, it is essential to consider the substantial time necessary for a new technology or standard (e.g., eLTSS or Fast Healthcare Interoperability Resources (FHIR)) to be adopted. Vendors may take years to incorporate a new standard on their product roadmap and then after implementation, face delays going through a certification process. Providers need time to become aware of a new technology, evaluate it for appropriateness and feasibility for their setting, purchase and implement the technology and train staff to utilize it properly. If the technology is patient-facing, the timeline can be even longer to ensure there is buy-in and patient engagement. Practices, particularly small and those in underserviced areas, are habitually caught in a constant cycle of upkeep to attempt to remain current. One Altarum client recently stated that even with their efforts they are keeping up to, "2 versions behind". Often, health IT leaders promote new technology without acknowledging these factors, leaving those outside of the industry or removed from patient care with the impression that advancements are widely accessible and adopted.

Costs: Inconsistent pricing models among health IT vendors make obtaining new technology prohibitive for some small practices and those in underserved areas. Upgrades and additional functionality utilized to support aspects of patient care (i.e., health information exchange, public health integration) are often delayed or not pursued due to cost concerns.

> *"The cost to us to submit the data through a vendor will be more than the reductions in reimbursement from CMS for not submitting the QPP MIPS data. Eventually, providers will discontinue providing care for the Medicare insured."* -Provider response on QPP-SURS survey.

Topic 4. User Experience

The user experience behind new technology is not always intuitive or streamlined for providers. New technologies introduced into workflows are often perceived as burdensome and time-consuming rather than time-saving improvements. Often, this leads to hesitation to engage with future technologies and lost buy-in.

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It is essential to capture and understand the contributing factors that create this experience for providers. We recommend strategies that consider providers' perspectives when measuring buy-in and utilization of health IT that account for the fact that providers' focus is on care, not health IT. Strategies of community-engaged research (CER) should be incorporated into measurements designed to help us better understand disparities experienced by users of health IT. CER is a collaborative process between researchers and community members that creates and disseminates knowledge to strengthen community well-being. Working with Community Voices for Health, Altarum created tools to guide best practices in CER, including methods for incorporating communities in research design and process, interpreting results, considering ownership of data, and disseminating findings. The goal is to create sustainable, two-way communication channels between policymakers and community residents and ensure that health policy decisions are driven by and ultimately serve communities' goals and needs.

We recommend OSTP funds and supports initiatives and research aimed directly at addressing and assessing disparities and inequities and includes equity measures in assessing user experience of all its sponsored programming and policy. We further recommend OSTP provide funding for the technical assessments and assistance needed to ensure successful interoperability with public health stakeholders and systems.

Topic 5. Tool and Training Needs

The effectiveness of technology in strengthening community health is highly impacted by health providers' understanding of the big picture and how their actions with technology utilization contribute. Their understanding and buy-in are also essential due to their influence over staff and patients. Providers can be strong champions for engagement with technology if they understand the importance and impact. They need hands-on support to understand the value of utilization, maximize functionality, and identify resolutions when technology does not work as intended.

Topic 6. Proposed Government Actions

Given the issues and opportunities identified above, Altarum recommends that OSTP **conduct assessments to understand the current state of the community-based health infrastructure** and capabilities and **develop evaluation measures** for tracking how well gaps get addressed during follow-on implementation efforts.

Our second recommendation is to use the assessment to **invest in community-based technical infrastructure** covering both the IT and staffing needed to spur a "meaningful use" level of change similar to what HITECH did for the adoption of electronic health records in hospitals.

Finally, we recommend funding TA programs to ensure all stakeholders effectively use the investment in community-based technology infrastructure. Providing ongoing support will help ensure success across the community health continuum. Many policies and programs inadvertently widen the gap between resource-rich early adopters and providers who cannot overcome entry and participation barriers to infrastructure investment and successful health IT adoption. Conducting inclusive community assessments, developing tailored measures, investing in technical infrastructure, and funding technical assistance will ensure improved community health and effective use of technology investment.

> *"We need help in interpreting all the rules and regulations set by the government and how to implement these requirements. We need more resources to keep up with all the changes the government makes because it changes so much from year to year."*

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March 31, 2022

The Honorable Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Office of Science and Technology Policy
White House
1600 Pennsylvania Ave. NW
Washington, DC 20500

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:

Amazon Web Services, Inc. (AWS) applauds the White House Office of Science and Technology Policy (OSTP) for its commitment to leveraging technology to support community-based care and address health equity. As health care transitions from paper to electronic health records (EHRs) and from traditional care settings to innovative digital platforms, digital health technologies can promote improved access to care and health outcomes for underserved populations and enhance the data available to patients and clinicians alike.

AWS has prioritized the use of technology to reduce health care disparities. For example, in 2021 AWS launched the Health Equity Initiative—a $40 million commitment over three years to increase access to health services for underserved communities, address social determinants of health, and leverage data to promote more equitable and inclusive systems of care.[1]

To foster improved patient care through digital health technologies via the Community Connected Health Initiative, we encourage OSTP to advance the below policies through federal agencies and in working with the U.S. Congress. Respecting patient privacy preferences and ensuring effective security are critical to these areas of focus and paramount to improving patient care for individuals and families nationwide.

We look forward to partnering with you to reduce disparities in care and improve public health. Thank you for considering our comments.

Shannon Kellogg
Vice President, Public Policy – Americas
Amazon Web Services

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[1] Peterson, Max. "New global program to help customers develop cloud solutions to improve health outcomes and health equity." September 27, 2021.

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601 New Jersey Ave NW
Washington, DC 20001

Response to Request for Information on Strengthening Community Health Through Technology

1. *Increase digital access to support care for all populations*

During the COVID-19 pandemic, telehealth has empowered patients to receive convenient, quality care. OSTP should recognize telehealth's unique ability to promote access to primary and specialty care within underserved communities.[2] Telehealth and remote services—both synchronous and asynchronous—can help patients receive timely preventive and specialty care while encouraging care coordination, promoting health equity, and supporting under-resourced community care settings otherwise overburdened by in-person care.[34]

Data from public and private payers indicate that telehealth use grew during the pandemic and has remained a popular and clinically effective option even as in-person care became more readily available.[5] The Medicare Payment Advisory Commission's annual beneficiary survey found that more than 90% of Medicare beneficiaries were satisfied with their telehealth visits in 2020.[6] More importantly, the greater use of telehealth care modalities has produced real-world evidence that telehealth helps narrow gaps in primary care access and aligns limited health care resources towards optimal care and improved outcomes, helping address health disparities and achieve health equity.[7]

Unfortunately, a lack of high-speed, reliable internet and federal reimbursement policies implemented before today's telehealth capabilities were available serve as twin barriers to ensuring all Americans can access high-quality, popular telehealth services. These barriers are well recognized, including by the Presidential COVID-19 Health Equity Task Force, which examined inequities exacerbated by the pandemic and recommended federal policymakers address telehealth reimbursement and broadband to promote health equity.[8]

As everyday needs, including health care, continue to depend on reliable internet, policymakers must work with industry to close the digital divide.[9] Federal reimbursement policies, including restrictions in Medicare statute, created a pre-pandemic environment in which less than 1% of all Medicare visits were made via telehealth. In 2020, temporary federal authority loosened these barriers, injecting choice and convenience for patients, with telehealth visits estimated to account for 5.3% of Medicare Part B visits.[10] Without action before the end of the public health emergency (PHE), Medicare beneficiaries once again will be restricted by requirements that limit access to care. To protect access to care post-PHE, policymakers should support permanent, statutory reform of the Medicare statute to remove the originating site and geographic restrictions on telehealth for Medicare beneficiaries. At minimum, the administration should support a multi-year extension of current pandemic flexibilities before the expiration of the COVID-19 PHE.[11] Further policies that should be advanced immediately include allowing employers to offer High-Deductible Health Plans-Health Savings Accounts with first-dollar coverage of telehealth services, enabling employers to offer telehealth to all employees, regardless of Employee Retirement Income Security Act plan participation or status, and make price information available at the patient and customer level.

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[2] "The Evidence Base for Telehealth: Reassurance in the Face of Rapid Expansion During the COVID-19 Pandemic " Agency for Healthcare Research and Quality, May 14, 2020.

[3] Shah, Sachin D., et al, "Seizing the Moment for Telehealth Policy and Equity," *Health Affairs*, September 13, 2021.

[4] Shah, 2021.

[5] "Medicare Telemedicine Snapshot," Center for Medicare and Medicaid Services, December 3, 2021.

[6] "Telehealth in Medicare after the Coronavirus Public Health Emergency " Medicare Payment Advisory Commission (MedPAC), March 2021.

[7] "Telehealth and Health Disparities," Agency for Healthcare Research and Quality. August 2020.

[8] "Presidential COVID-19 Health Equity Task Force Final Report and Recommendations," United States Department of Health and Human Services Office of Minority Health, October 2021.

[8] Shah, 2021.

[9] "Telehealth Visit Use Among U.S. Adults," Bipartisan Policy Center, August 2021.

[10] "Medicare Beneficiaries' Use of Telehealth in 2020: Trends by Beneficiary Characteristics and Location," Assistant Secretary for Planning and Evaluation Office of Health Policy, December 2021.

[11] MedPAC, 2021.

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2. *Modernize safety net provider technology and encourage adoption of population health management tools*

Many health care organizations that primarily serve patients with commercial insurance have the resources for technology modernization. However, safety-net providers that treat disproportionately high rates of Medicare, Medicaid, Children's Health Insurance Program, and dually eligible beneficiaries and uninsured patients—and therefore receive lower reimbursement for services—often lack resources to expand their technical infrastructure, hampering patient and clinician access to data to guide care decisions and improve wellness in communities. For example, researchers found that while more than half of hospitals adopted advanced capabilities for patient engagement and clinical data analytics, less than a third of critical access hospitals have the same capabilities.[12]

With the available resources, digital health technologies can help providers identify high-risk patients, assign the appropriate clinical care team, prescribe appropriate medications, identify risk factors, and address the social needs of patients (e.g., via referrals to housing services to address housing insecurity). More broadly, population health management tools can give health care organizations visibility into neighborhoods disproportionately affected by disease and other disparities, guidance on inequities in access to care by certain segments of a population, and other insights. Health care providers have used these tools to inform community response to the COVID-19 pandemic through real-time dashboards on admissions, discharges, common symptoms, and other information critical to high-quality patient care.[13]

The gap in technology among health care facilities translates to disparities in care for underserved communities—both perpetuating inequities and harming patients who otherwise may benefit most from tools that address social determinants of health. We encourage OSTP to help modernize the technology used by safety net hospitals and community health centers by working with Congress to: 1) create a set of priorities and a roadmap for technology modernization and population health tools to guide investments that would most meaningfully improve outcomes for patients; 2) establish grants within the Health Resources and Services Administration to support community health center adoption of advanced technology tools, including for population health management; and 3) establish Medicare and state-based Medicaid payment incentives to assist safety-net providers in adopting new technologies to improve care for vulnerable patients.

3. *Advance clinical trial diversity and participation*

Patients with rare disease often lack new interventions and health care services in part due to clinical trial recruitment challenges, particularly to evaluate novel drugs, medical devices, and other innovative treatments. In parallel, as white patients disproportionately participate in clinical trials, patients, clinicians, scientists, and regulators often lack data on whether certain interventions affect subpopulations in a different manner. These gaps occur, in part, due to the centralized nature of clinical trials, where patients have historically traveled to specific sites for care and monitoring.

Throughout the COVID-19 pandemic, some trials shifted to decentralized models, where telehealth and remote tools could support patient participation regardless of the individual's location. The increasing use of digital health tools—including EHR systems and virtual care platforms—can give patients greater ability to contribute data remotely and enable researchers to find qualifying patients, regardless of where the individual is located. OSTP should work with the Centers for Medicare & Medicaid Services (CMS) and the National Institutes of Health to accelerate implementation of decentralized clinical trials. For example, CMS could expand its programs focused on promoting health data interoperability to pilot the use of technology in support of research.

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[12] Apathy, Nate, et al. "A decade post-HITECH: Critical access hospitals have electronic health records but struggle to keep up with other advanced functions". *J Am Med Inform Assoc.* August 13, 2021.
[13] Lateef, Omar, et al. "Rush University Medical Center creates COVID-19 analytics hub on AWS". April 30, 2021.

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4. *Strengthen public health data sharing and use*

State and local public health officials rely on data to identify the emergence of communicable illnesses, track rates of vaccinations in their communities, and identify populations disproportionately affected by disease. The COVID-19 pandemic highlighted gaps in the ability to obtain, analyze, and use data to inform each jurisdictions' response and recovery efforts. To obtain data, some states have relied on faxes and other manual means, while other states still are operating systems unable to support the volume of data received. These challenges continue to hamper pandemic-related and routine public health activities. This gap in data also has hindered public health officials' visibility into communities disproportionately affected by the pandemic, inhibiting efforts to address disparities and enable community-specific interventions.

The Office of the National Coordinator for Health Information Technology (ONC) and CMS have both implemented policies to accelerate standard data sharing from health care providers with public health authorities. While an important step, gaps remain. OSTP should work with ONC, CMS, and the Centers for Disease Control and Prevention to prevent data bottlenecks and manual transmission of information by encouraging state and local health departments to use a modern technology infrastructure—such as cloud—that can scale up or down to accommodate the level of compute capabilities needed to support the volume of information obtained during emergencies, pandemics, and mass vaccination campaigns. Through scalable systems, state and local officials can optimize use of limited resources—paying less for compute capabilities when needed with the ability to immediately increase capabilities in a time of crisis. This elastic infrastructure would enable a long-term, cost-effective solution that maintains preparedness for future needs.

5. *Accelerate data sharing among clinical and community-based organizations*

While health care organizations focus on clinical factors related to disease, social and environmental factors—such as housing and food insecurity—also contribute to the health of patients. Despite the driving role of social determinants in the health and wellness of individuals, limited information sharing typically occurs between clinical and community-based organizations.

OSTP should examine additional policies—including through the ONC and CMS—to foster greater coordination and data sharing among health care providers and community-based organizations, particularly around social determinants of health. Along with expanding the types of interoperable data, OSTP should evaluate the role of health information exchanges (HIEs). Federal policies have focused on the use of HIEs to enable greater interoperability among clinicians, such as through alerts when shared patients are admitted to the hospital. Health information networks may also support greater data sharing between clinical and community-based groups.

6. *Prioritize technology modernization for Medicaid, health and human service agencies*

Just like in public health, many state Medicaid and health and human service agencies lack technology to effectively leverage data in different systems. Medicaid and state data systems are often diffuse, disconnected, and unable to provide appropriate analytics to improve the health of residents. OSTP should work with CMS, the U.S. Digital Service, and other agencies to help Medicaid plans and states modernize their systems with the ability to better use data they have, including related to Medicaid and housing assistance. Better and more complete data will allow public health officials and policymakers to design more effective interventions and advance health equity.

7. *Improve access to healthy foods*

Access to healthy foods is a prerequisite to closing existing health equity gaps. One way this could be addressed is by modernizing the Supplemental Nutrition Assistance Program (SNAP) and Women Infant and Children (WIC) program to allow the online purchase of qualified foods.

March 28, 2022

Dr. Alondra Nelson
Director
White House Office of Science and Technology Policy
1600 Pennsylvania Ave NW
Washington, DC 20500

Re: Strengthening Community Health Through Technology; Request for Information

Dear Director Nelson:

On behalf of the American Academy of Family Physicians (AAFP), which represents 127,600 family physicians and medical students across the country, I write in response to the request for information, *Strengthening Community Health Through Technology*, as requested by the January 5, 2022 Federal Register.

Successful Models within the U.S.

Telehealth and other digital health technologies are most valuable as part of the patient's medical home, used to supplement in-person care rather than replace it. When telehealth is provided by a patient's usual primary care physician, it enhances the patient-physician relationship, increases timely access to quality care, and improves health outcomes. Telehealth services provided by direct-to-consumer (DTC) companies are usually not integrated into patients' primary care or coordinated with the primary care physician and can result in care fragmentation. Health insurance benefit designs should not incentivize enrollees to use DTC telehealth services, for example, by offering lower copays for those services. As such, federal policies should facilitate patients' access to telehealth services from their usual source of care.

Barriers

Patients must have access to modern high-speed internet in their homes to benefit from video visits. The lack of modern broadband infrastructure has proven to be a primary barrier to equitable telehealth and digital health access for rural Americans, who are 10 times more likely to lack broadband access than their urban counterparts, leading to fewer telehealth visits, and less access to patient portals and remote patient monitoring. Many patients also do not have adequate technology to use telehealth services or may not feel confident in using it for telehealth due to low digital health literacy. Patients of color, low-income patients, rural patients, and patients in underserved areas are more likely to experience these barriers.

Uncertainty surrounding permanent telehealth coverage and payment policies is another barrier to equitable telehealth adoption. Coverage and payment should be standardized across all payers and payment models should support the patient's and physician's choice of the appropriate modality of care. In the absence of equitable, robust access to broadband internet, coverage of audio-only telehealth services must be included in permanent telehealth policies.

Threats to patient privacy and data security are a major barrier to equitable digital health adoption, but physicians are unequipped to ensure the privacy and security of patient health data and apps or educate patients on app security. Privacy and security can be even more concerning for patients with less experience using technology and patients with limited English proficiency. Additional federal action is needed to protect patient privacy and security as health data becomes more interoperable.

The lack of standardization across EHR platforms burdens physicians and inhibits effective information sharing and care coordination across the patient's care team. The AAFP has long supported efforts to advance interoperability and data sharing standards. We encourage the administration to continue this work and prioritize reducing physicians' administrative burden.

Trends from the Pandemic

The use of telehealth has increased remarkably during the COVID-19 pandemic and will continue to be an important part of primary care after the PHE ends. According to internal AAFP surveys, fewer than 15% of family physicians were providing virtual visits to their patients before COVID-19, and during the PHE that number surged to more than 90%. More than 80% of family physicians provide telehealth services through phone calls. Federally Qualified Health Centers (FQHCs) and Rural Health Centers (RHCs) also began providing telehealth services as part of the comprehensive primary care they provide to underserved patients. While telehealth is an efficient method of supplemental care delivery there are limits to what can be addressed through telehealth and in-person follow-up may be necessary.

Since the pandemic began, physicians have absorbed unique costs and resources to integrate telehealth software into existing clinical workflows and EHRs, hire additional staff or increase staff compensation to cover both in-person and virtual visits, assist patients in using telehealth correctly, respond to sharp increases in electronic messages from patients, and ensure physician malpractice or liability insurance covers telehealth. Payment for telehealth and other digital health services must account for these costs and support the integration of telehealth into the medical home.

Health Equity

When implemented intentionally and appropriately, digital health technology can advance health equity by enabling patients with transportation, time, distance, and language barriers to connect with their trusted primary care physician. Similarly, enhancing interoperability of EHRs improves care coordination and enables primary care physicians to address unmet needs.

However, not all patients have equitable access to telehealth services or confidence in using digital health technologies. Access to broadband for Black and Hispanic Americans is an

estimated 10 years behind that of white Americans and video telehealth rates are lowest among those without a high school diploma, older adults, and Latino, Asian, and Black individuals. Older patients and non-English speaking patients have had lower rates of telehealth use overall. Low digital health literacy and concerns among older adults with being able to see and hear their physician when using telehealth are barriers to use of telehealth and EHRs. Further, many mobile health apps are above the recommended reading level for patient materials, and many are not available in Spanish. To ensure that all patients can access digital health, policymakers must expand and support programs that distribute technology along with effective patient education on how to use digital health technologies.

Proposed Government Actions

The AAFP recommends the following policy actions for the immediate future.

- Adopt appropriate telehealth coverage and payment policies that facilitate and encourage equitable access to high-quality telehealth services within the medical home and support physicians' ability to choose the most appropriate modality of care.
- Maintain telehealth flexibilities, including Medicare coverage of audio-only services, for at least one year after the PHE ends to avoid sudden interruptions in care delivery.
- Continue to study and analyze the data and evidence on the use of telehealth services, how physicians can be best financially and technologically supported to provide this modality of care, and the impact of telehealth and broadband on health care access and equity by ensuring data collection and evaluation include key demographic factors.
- Expand federal programs that provide all patients with the resources needed to successfully conduct video visits or access their EHRs, including the Lifeline Program, the Emergency Broadband Benefit Program, and the Affordable Connectivity Program.
- Work with Congress to create a pilot program to fund digital health literacy programs for patients, digital health navigators, point-of-care interpretive services, digital tools with non-English language options, and tools with assistive technology.
- Implement appropriate payment for electronic communication and evaluations that physicians provide for the medical management of their established patients, such as the time and work spent engaging in inbox messaging through EHRs.
- Work with ONC to allow health care organizations and certified EHR technology developers to implement needed safeguards to ensure patient privacy and security.
- Improve the EHR experience for physicians by investing in interoperability and reducing the complexity of inputting data.

Thank you for the opportunity to provide comments. Should you have any questions, please contact Erica Cischke, Director, Legislative and Regulatory Affairs at ecischke@aafp.org.

Sincerely,

Ada D. Stewart, MD, FAAFP
Board Chair, American Academy of Family Physicians

March 22, 2022

Alondra Nelson, PhD
Director
White House Office of Science and Technology Policy
1600 Pennsylvania Avenue, NW
Washington, DC 20500

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson,

The American Academy of Neurology (AAN) is the world's largest neurology specialty society representing more than 38,000 neurologists and clinical neuroscience professionals. The AAN is dedicated to promoting the highest quality patient-centered neurologic care. A neurologist is a physician with specialized training in diagnosing, treating, and managing disorders of the brain and nervous system. These disorders affect one in six people and include conditions such as multiple sclerosis, Alzheimer's disease, Parkinson's disease, headache, stroke, migraine, epilepsy, traumatic brain injury, ALS, and spinal muscular atrophy.

The AAN strongly supports policies that ease unnecessary restrictions to virtual care, support long-term sustainability of care delivery, and promote high-quality, patient-centered care. We note that evidence supports the effectiveness of telehealth in inpatient and outpatient settings, for acute evaluation and routine assessment and for multiple neurologic subspecialties.[1] To ensure delivery of safe, high-quality virtual care, policymakers need to consider numerous issues including access, infrastructure, reimbursement, and interstate delivery of care.

Successful models within the U.S.

AAN members and their patients rapidly adopted telehealth in response to the Covid-19 Public Health Emergency (PHE). There is consensus among our members that adoption of telehealth and continued use over two years has yielded copious benefits for patient care. Throughout the PHE, the expanded availability of telehealth services and additional administrative flexibilities have allowed AAN members to mitigate infection risk and continue to provide care to patients who otherwise would have missed critical appointments with serious potential consequences. Successful models of care include the use of telehealth to augment capacity in areas where there is a shortage of providers or other barriers to access and include the use of both audio/video and audio-only services, as appropriate. The available literature demonstrates that benefits for neurology patients associated with expanded access to telehealth services include[2]:

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[1] Hatcher-Martin, Jaime M., et al. "American Academy of Neurology Telehealth Position Statement." Neurology, Wolters Kluwer Health, Inc. on Behalf of the American Academy of Neurology, 17 Aug. 2021, https://n.neurology.org/content/97/7/334.
[2] Id.

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- Improved access to expert neurologic evaluation and enhanced comfort, convenience, and safety, particularly for patients with limited mobility due to their medical condition or need for home medical support equipment.
- Reduced travel time and decreased time away from work or other essential activities for patients and care partners.
- Reduced patient costs, including fuel costs, associated with traveling for an in-person visit.
- Increased care partner and provider participation during a visit and reduced caregiver stress.
- Better assessment of social determinants of health, including the patient's home environment.
- Early intervention prior to a scheduled office visit, based on continuous assessment of neurologic disease progression and treatment efficacy.
- Protection of patient and providers from infectious disease exposure and reduction in the use of personal protective equipment.

Barriers

There are a number of barriers that OSTP should consider when evaluating potential policy options. As noted in the RFI, significant technical barriers must be addressed to promote the use of telehealth, including access to high-quality broadband, robust, and affordable cellular data networks. We also must take steps to better understand and address technological literacy and the digital divide as well as patient perspectives on quality, trust, and privacy. In situations in which technological literacy or access is an issue, supporting audio-only services is essential.

The complexity of reimbursement policies across payers creates substantial barriers for providers to incorporate telehealth services into their practices. The AAN strongly believes that payment policies for telehealth must be reformed to ensure that providers can sustainably provide patient care through telehealth while maintaining access to critical in-person services. The AAN firmly believes that coverage and the professional component of reimbursement for two-way real-time interactive encounters should be independent of setting and modality, provided that standards of care are met because the provider's cognitive work is equivalent. To best address the needs of the patient and their health, the appropriateness of a telehealth evaluation should be determined on a case-by-case basis by the provider and the patient, not by the payer, based on arbitrary geographic or site limitations.

Variations in regulatory frameworks across states pose significant barriers to the practice of telehealth across state borders. The AAN notes that neurology faces substantial workforce shortages and in-person access to a neurologist is highly variable across geographies. The AAN believes that if there are no local providers practicing a certain specialty, patients should have telehealth access covered for that specialty. When traveling out of state, patients should maintain coverage for telehealth access to their home state providers.

Proposed government actions

There are numerous opportunities for the federal government to transform community health by improving access to telehealth services. The AAN believes that the following changes are necessary to ensure that progress made in improving equitable patient access to care via telehealth services is preserved and built upon following the termination of the PHE. Recognizing the barriers enumerated above, we believe that the White House should work with legislators and regulators to implement the following changes in the immediate future:
- Permanent payment parity for evaluation and management (E/M) services for established patients delivered via real-time interactive audio-video technology with in-person E/M services.
- Elimination of geographic site restrictions and modification of originating site restrictions in the Medicare program to allow the patient's home to be a permissible originating site.

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- Revision of the Medicare definition of "direct supervision" to include immediate availability through the virtual presence of the supervising physician or practitioner using real-time, interactive audio/video communications technology.
- Permanent coverage of and adequate reimbursement for the telephone E/M codes 99441-99443. In the absence of coverage of these codes, adequate reimbursement for virtual check-in services should be prioritized.
- Continued assessment of available evidence concerning quality and safety and when appropriate, addition of certain Category 3 telehealth services to the Medicare telehealth list.

In the medium term, the White House should work with relevant agencies and the states to develop necessary infrastructure for high-speed broadband internet in rural and otherwise underserved communities so that patients have equitable access to telehealth services regardless of geography and other potential barriers. Addressing barriers associated with delivering telehealth services across state lines is also necessary. The AAN believes that licensing, prescribing, and related policies should also be simplified. We appreciate recent steps taken by the Centers for Medicare and Medicaid Services to recognize interstate medical licensure and note that the White House should further encourage states to implement policies that include blanket reciprocity and an expedited licensing process that would require one unrestricted state license, a new background check for each state in which telemedicine is practiced and reduced annual fees for limited practices.

Health Equity

The AAN believes that OSTP should be aware of the following considerations and their impacts on health equity when considering potential policy solutions. A substantial proportion of the neurology patient base does not have access to or cannot operate computers or mobile devices that have video and audio capability. There are also many patients who cannot afford broadband access or robust cellular data plans that would allow audio/video encounters to take place. Some neurology patients have barriers related to language and visual or hearing impairments. Resources to assist with translator services and appropriate, easily accessed adaptive technology must be available and reimbursed at equitable rates. Recent studies have also shown that Black and rural beneficiaries had lower use of telehealth compared with white and urban beneficiaries, respectively.[3] Age, race, ethnicity, educational level, and income are also correlated with preference for video visits versus in-person visits.[4]

The AAN appreciates the opportunity to respond to this RFI. Neurologists have historically been early adopters of telehealth and possess a depth of expertise and knowledge that is critical to ongoing policy discussions. Our members stand ready to provide you with our expertise and to provide any additional evidence you may need in support of policy changes to ensure that patients maintain access to telehealth services. If you have any questions regarding these comments or seek further input, please contact Matt Kerschner, Director, Regulatory Affairs at ███████████.

Sincerely,

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Orly Avitzur, MD, MBA, FAAN
President, American Academy of Neurology

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[3] Samson LW, Tarazi W, Turrini G, Sheingold S, for the Department of Health and Human Services Assistant Secretary for Planning and Evaluation Office of Health Policy. Medicare Beneficiaries' Use of Telehealth in 2020: Trends by Beneficiary Characteristics and Location.
[4] Predmore ZS, Roth E, Breslau J, Fischer SH, Uscher-Pines L. Assessment of Patient Preferences for Telehealth in Post-COVID-19 Pandemic Health Care. JAMA Network Open. 2021 Dec 1;4(12):e2136405. doi: 10.1001/jamanetworkopen.2021.36405. PMID: 34851400

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American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

March 31, 2022

Alondra Nelson, MA, PhD
Acting Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

VIA ELECTRONIC SUBMISSION

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:

The American Academy of Pediatrics (AAP), an organization of 67,000 primary care pediatricians, pediatric medical sub-specialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of infants, children, adolescents, and young adults, appreciates the opportunity to provide input in response to the White House Office of Science and Technology Policy (OSTP)'s request for information (RFI) on Strengthening Community Health Through Technology.

As noted in the background of the RFI, the COVID-19 pandemic shone a light on many of the inequities and disparities that already existed in our nation's distribution of health resources and access to and delivery of health care. For many, this included an inability to access quality health care when in-person services were limited and telehealth was the only option available due to a variety of barriers, including financial and technological barriers, lack of reliable broadband, and lack of housing. However, the pivot to and increased availability of telehealth services because of the pandemic was a tremendous benefit for many families and children across the country, particularly for children and youth with special health care needs.

Many patients, parents, and providers – including the Academy – have advocated for the existing telehealth flexibilities to remain in effect after the end of the public health emergency. Therefore, the AAP appreciates OSTP's recognition of the importance of continued investment in and improvement of health care access and outcomes through the use of technology by issuing this RFI. The AAP strongly applauds OSTP's Community Connected Health initiative, described as an effort that will explore and act upon innovation in science and technology to lower the access barriers to quality healthcare and to promote healthier lives by meeting people where they are in their communities. It is crucial that children and their diverse, unique needs are explicitly considered in the decision-making and implementation of the efforts associated with this initiative. We offer the following feedback and comments in response to some of the specific topics highlighted in the RFI:

<u>**Barriers**</u>:

The AAP is committed to the meaningful adoption of EHRs in pediatric practices and believes there is tremendous potential for fully functional pediatric EHRs to improve the quality of care

for infants, children and adolescents. However, because of burdens associated with implementation and lack of uniformity or standardization, many providers and clinicians do not view the EHR as a benefit, but rather an impediment to their work. The costs associated with implementing EHR systems are too burdensome for many practices and the high cost of providing technology and associated devices such as computers and monitors is often not feasible for less-resourced practices and providers. Even with government encouragement and help, purchasing an EHR system is a large investment and it may not, unfortunately, communicate well with other EHR systems. Interoperability still needs to be improved so providers can access information from organizations that are using different EHR systems.

The Academy also remains concerned about the intersection of EHRs, telemedicine, and patient confidentiality for minors, which is still difficult to provide or maintain for many providers. It is often inhibited and potentially undermined by existing technology and regulations, which do not consider the unique circumstances of adolescent patients. This is especially true now that the 21st Century Cures Act Information Blocking final rule has gone into effect. The lack of granular segmentation standards to help accommodate information blocking exceptions complicates efforts to keep certain segments of an adolescent's EHR confidential.

In addition, broadband and access to suitable devices such as computers, tablets, and smartphones remain a significant barrier and out of reach for many Americans in marginalized communities. As highlighted earlier, the pandemic has catalyzed adoption of telemedicine overall, but in some ways only broadened disparities because of the reliance on costly devices and the lack of access to reliable broadband and assistance in using technology when it is available. Additionally, language barriers are still a significant challenge even when patient portals are adopted because they are not well-equipped with translative tools. At best, they offer a static translation of the base website content but no tools to enable communication (i.e.: patient-clinician messages, customized content for diseases or even lab explanation). Many providers or health systems are left to translate and provide their own content and somehow provide translative services for patient messages, and most are unable to do so. This language barrier only increases disparities of care.

Finally, public perception of a national patient identifier remains a challenge in advancing health through technology. As demonstrated in recent discussions of "COVID Passports," the public is leery of a national patient identifier which would benefit the population but could be a concern for patient privacy.

Trends from the Pandemic:

Over the past two years, COVID-19 has challenged medical provider's workflow and patient volume, bringing a slowdown of patient visits at times and a tidal wave of patients at others. Throughout, providers have noted that COVID recommendations and best care practices have changed quickly as the medical community has learned more about how the COVID-19 virus spreads and affects different segments of the population. Subsequently, updating and revising work tools in EHR systems has often been difficult and slow to implement.

Additionally, as has been stated previously, the pandemic has demonstrated the importance of telemedicine. While this is a positive step overall, effort must be made to address disparities of care in marginalized populations that may not be able to take full advantage of or enjoy comprehensive care with telehealth services.

User Experience:

Many health systems and individual medical practices have fully embraced patient portals that allow patients to ask questions, request records, or make appointments. Anecdotally, families that use these tools appreciate them and use them more frequently. Moving forward, it may be beneficial to patients and improve their user experience to encourage the development of patient accounts that are tied to the individual, not the organization, as patients

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need a way to transport their information from one system to another when circumstances change. As mentioned earlier, the Academy also suggests that there be more attention paid to increasing translative services or incorporating translative software into the EHR and patient portals so that more non-English speaking patients can have a better user experience with health care technology.

Proposed Government Actions:

To help address the privacy concerns of adolescents, the Academy encourages the federal government to develop ways to ensure an adolescent's confidential information, particularly information about sensitive issues such as reproductive health issues, mental health, or substance use is protected, particularly because of the 21st Century Cures Information Blocking rules. The Academy encourages the federal government to promote and incentivize the development of EHR systems that allow true data segmentation to better allow for protection of sensitive patient data. In addition, the AAP also encourages the federal government to allow information to be withheld not only when there is an imminent threat of physical harm to a patient if the information is shared with others, but to also include possible mental and emotional harms that can come from direct or inadvertent release of confidential personal health information.

Health Equity:

The availability of telehealth care during the COVID-19 pandemic has enabled greater access to care for many children and adolescents, but gaps in digital infrastructure persist because of poverty, systemic racism, and other inequities, creating a barrier to equitable technology-enabled care. Health equity is a major concern with digital health technologies because marginalized communities have less access and familiarity or trust with technology. The Academy encourages continued investment in broadband expansion efforts in rural and underserved communities.

In addition, as with privacy concerns of adolescents, many patients in marginalized communities may have sensitive health care information they do not want shared broadly but find included when their entire EHR is shared when exchanging information between providers and health systems. Many patients of color already mistrust the health care systems due to past experiences of prejudice, unequal treatment and systemic racism, so unintended exposure of medical information they do not want shared could increase this mistrust. As such, granular segmentation of data that allows individuals to shield certain sensitive elements is, therefore, key to improving trust with medical providers and health care systems and achieving equitable interoperability for everyone.

The Academy once again appreciates the opportunity to provide this feedback for consideration in response to OSTP's RFI on Strengthening Community Health Through Technology. We hope it can be used to inform future efforts to improve the health and well-being of our nation's children. If you have any questions regarding these comments, please contact Patrick Johnson in our Washington, DC office at █████████████████████

Respectfully yours,

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Moira Szilagyi, MD, PhD, FAAP
President

MAS/new

February 23, 2022

White House Office of Science and Technology Policy
SUBMITTED VIA EMAIL: █████████████████████

Re: Connected Health RFI

On behalf of the American Academy of Sleep Medicine (AASM), we are submitting comments in response to the request for information (RFI) on Strengthening Community Health Through Technology. The AASM is a professional society that represents a membership of 11,000 physicians, scientists, allied health professionals, and accredited sleep centers. The AASM is committed to advancing sleep care and enhancing sleep health to improve lives.

Sleep clinicians have decades of experience with using sleep technologies for patient engagement and online education, diagnostic testing, and therapeutic purposes with success. Additionally, we appreciate that telehealth improves patient access to care by providing interim care when there are logistical and/or financial face-to-face visit challenges. While we enthusiastically support the use of many sleep-related consumer and clinical technologies, we recognize important considerations of access and health inequities, data security concerns, and especially **the validity of remotely monitored data**.

The use of remote data monitoring (RDM) for individuals and for large datasets promises possibilities for earlier disease detection, improved peri- and post-hospitalization care, and clinician and patient alerts of abnormal data trends at and between telehealth or office visits. Sleep medicine has used technology to advance patient care by incorporating successful RDM care models into urban, rural, and community settings. Further, sleep medicine efforts have shown that remote data access by patients and online patient education and data alerts improve therapy compliance and disease outcomes.[1] Home sleep apnea testing is an example of a successful RDM model. RDM of continuous positive airway pressure (CPAP) modem data at or between visits, and online cognitive behavioral therapy for insomnia (CBT-I), are examples of successful therapeutic models using technology to improve care access and quality. However, these models were not implemented until both (1) confidence in the data validity and (2) society practice guidelines and standards of practice for specific populations were verified.

Our primary concern is **the paucity of evidence for the claimed uses and data outputs of many applications (apps) and nearable and wearable devices that are used by consumers and clinicians**. Requested topics for this RFI include successful models, barriers, pandemic trends, user experience, tool and training needs, governmental actions, and healthy equity. However, assurance and confidence first require that the remote data are reliable, valid, and appropriate for diverse community applications before building, implementing, and disseminating technologies in communities for health purposes.

Google searches of the increasing and many thousands of available devices/apps often results in confusing information for readers, even for academic specialists such as the AASM Emerging Technology Committee (ETC), which develops assessments of consumer and clinical sleep technologies.[2-4] The ETC has found that many marketing claimed uses are not evidence-based and are lacking FDA clearance or approval for the claimed use of the device and/or well-done peer-reviewed studies of large and diverse

subject populations. The FDA and rigorous, unbiased studies are "the guardrails" that prevent misinformation regarding — and misuse of — these data technologies.

We appreciate the challenges that the FDA faces in validating the data outputs and uses of many new and evolving technologies. We also recognize the importance of the need to maintain a high level of evidence for FDA designations including software as medical device (SaMD), FDA Breakthrough Device Designation, 510(k) marketing clearance, and premarket approval (PMA). FDA clearance or approval should ensure that large and diverse populations are included in well-designed prospective studies. Additionally, it should be made clear if FDA clearance/approval is for only one aspect of a device/app, as many devices/apps utilize multiple sensors and specific proprietary artificial intelligence/machine learning/deep learning (AI/ML/DL) algorithms based on limited and nontransparent population datasets. Because of the technological and proprietary device/app development, **SaMD or sensor validation can never be generalized across different population groups or for expanded claimed uses. Each device/app in its entirety must be validated individually.** If clinicians are provided with Application Programming Interfaces (APIs) for remote data access, it is of concern that best practices and standards for abnormal data alerts and responsibilities are not yet developed or available to clinicians.

A familiar example of a photoplethysmography (PPG) sensor that has gained medical and home use during Covid-19, and that is added to many wearables, is a **pulse oximeter**. The accuracy of a pulse oximeter depends on the type and location of light type and collection, motion artifact, skin pigmentation, signal filters, and proprietary AI/ML algorithms that may be derived on *limited subject datasets*. While over-the-counter pulse oximeters are not intended for medical purposes,[5] even medical grade (FDA cleared) pulse oximeters have accuracy limitations. For FDA clearance, the current standard is that 66% of pulse oximeter SpO2 values must be within 2-3% of blood gas numbers, and ~95% must be within 4-6% of blood gases. In other words, in a healthy adult, *a medical grade pulse oximeter with an SpO2 of 90% may have an acceptable range of 86-94%.*[6] Yet an individual using a pulse oximeter at home may have to rely on this data when determining whether to go to the hospital. This simple example highlights **the critical importance of data validity before dissemination in the community for health purposes**.

If nearable or wearable data validity for specific purposes and populations is assured, then community models can be developed. Models will likely differ across various communities due to variable internet/Bluetooth access and connectivity, acceptance of personal data monitoring and technology biases, health literacy, and other community-specific variables (such as a community with higher than normal rates of hypertension, diabetes, obesity, or other specific diseases). Based on these community-specific health concerns, one or two wearables or nearables may be trialed. Costs of the devices/apps, staff and user training for the devices/apps, and clinical reimbursement for RDM medical management require consideration. Parameters for who accesses, owns, and monitors the data are needed. As remote data may sit on servers or in integrated electronic medical record (EMR) systems without review, consumers/patients may benefit from learning how to monitor their personal data for abnormal data trends. AI/ML/DL algorithms could leverage vast and diverse community datasets to then validate normal data ranges for the specific device/app and community or specified population, with the intention to provide text or email alerts (of abnormal data trends) to the patient and/or clinician. Additionally, development of standards of practice for integration of individual and community RDM into clinical workflows requires collaboration with clinical, research, and IT or EMR teams. Another invaluable potential use of technology is to provide communities with verified patient educational resources and/or teaching community users how to discern facts from marketing.

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In general, technology has outpaced the evidence for purported claimed uses for many currently available devices/apps. Every effort should be made by governmental agencies and medical groups to confirm that technologies, remote data, and educational resources have been verified for individual and community health uses. Before implementation and dissemination of technologies into the community, there must be confidence that the acquired data are valid for the claimed health uses and specified populations or communities.

Sincerely,

Maryann Deak, MD, and Sharon Schutte-Rodin, MD, on behalf of the American Academy of Sleep Medicine's Emerging Technology Committee

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February 14, 2022

TO: White House Office of Science and Technology Policy: **Connected Health RFI**
COMMENT from **AACVPR**

We are writing to provide recommendations on strengthening community health through technology on behalf of the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR). AACVPR is a multidisciplinary professional association dedicated to reducing morbidity, mortality and disability from cardiovascular and pulmonary disease. Our comments are regarding the use of technology to improve access to cardiac, intensive cardiac, and pulmonary rehabilitation (CR/ICR/PR) services which include individualized and personalized treatment plans, including evaluation and instruction on physical activity, nutrition, stress management, and other health related areas. These underutilized services reduce the relative risk of adverse health events, while improving functional capacity and quality of life.

During the COVID-19 public health emergency (PHE), AACVPR member programs have been able to improve patient access to cardiac and pulmonary rehab services through technology by utilizing the virtual delivery for CR/ICR/PR services and virtual direct supervision while participating in the Hospitals without Walls waiver to delivery rehab sessions in the beneficiary's home. These successful models are presented below and reflect on how digital health technologies have facilitated the expansion of needed services. We further propose government actions that could take place in the immediate future. Specifically, we recommend:

1. Virtual direct supervision

Direct supervision of CR/ICR/PR programs by a physician has been expanded to include an immediately available virtual presence via real-time audio-visual technology until December 31, 2022 due to the existing public health emergency (PHE). Virtual direct supervision has improved access for patients during the PHE and allowed the relocation of CR/ICR/PR from the hospital to satellite locations where there is not an MD or DO physically available. Rural and critical access hospitals (CAHs) have benefited from the direct supervision waiver by allowing the expansion of program hours as these services cautiously and gradually re-open to full capacity without having the restriction of a physician required to be physically available to serve in the direct supervision role. Some CR/ICR/PR programs are utilizing the virtual direct supervision while participating in the Hospitals without Walls waiver to delivery rehab sessions in the beneficiary's home, temporarily serving as the provider-based department. This flexibility has benefited rehabilitation patients throughout the nation, regardless of geography, through enhanced access to care.

The safety of CR/ICR/PR is well-substantiated. Furthermore, no serious adverse safety issues have been reported to date from programs utilizing virtual direct supervision.
- In a recent study where training intensities were equivalent in center-based sessions and telehealth sessions, there were no serious adverse events or falls in either group.[1]
- The safety of pulmonary rehabilitation was examined with rates of reported adverse events very low at 0.4%.[2]
- One early study found 1 cardiac arrest per 111,996 patient-hours, 3.4 myocardial infarctions per 293,990 patient-hours, 1 death per 783,972 patient-hours.[3]
- Pavy et al reported 1 event per 49,565 patient-hours of exercise training.[4]
- In higher-risk patients with heart failure, there were similar rates of adverse safety events in patients randomized to cardiac rehabilitation, compared to patients randomized to usual care.[5]

A recent AACVPR program survey evaluated utilization of virtual direct supervision and remote delivery of CR/ICR/PR services. Results specific to virtual direct supervision demonstrated:

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- 42% of respondents are using virtual direct supervision,
- 81% indicated their programs would continue or expand to include virtual supervision if made permanent.

Additional feedback offered was:
- "We're now able to provide expanded hours of operation that were not previously available, accommodating patients with various situations and it has reduced the rehab program expense of paying for a physician who is physically and immediately available during hours of operation."
- "While moved off site to make room for a community surge, it has enabled our program to remain open."
- "The virtual presence has provided the same care and guidance. Patients have not had to suffer program closure due to lack of a physician physically present."

2. Virtual delivery of CR/PR services

Early data suggests virtual delivery of these services is effective in providing similar outcomes to center-based rehabilitation, including:
- High levels of patient satisfaction and improvements in quality of life and exercise tolerance,[1]
- Significant reduction in 30-day readmission rates for COPD patients, including those discharged from the hospital after a COPD exacerbation,[6]
- Significantly improved exercise endurance and self-efficacy of patients and a positive trend towards improvements in health-related quality of life (HRQoL) when compared with usual medical care, [7,8, 9]
- Feasible, safe, and equivalent short-term clinical gains,[10]
- High degree of adherence and improved self-management abilities.[11]

The previously mentioned AACVPR program survey responses to virtual remote delivery of sessions showed:
- 34% of programs surveyed are delivering CR/ICR/PR virtually,
- 77% of programs who responded indicated their programs would continue or expand to include virtual delivery if it was an option for Medicare beneficiaries.

Survey feedback from programs that have implemented use of virtual direct supervision and/or real-time synchronous delivery of CR/ICR/PR is reflected in the following comments:
- "These resources have been invaluable to the facility not just when working around COVID but in the clinic's sustainability overall. It has helped to … expand access to more patients making the facility more profitable and sustainable in the long-term."
- "The option for virtual supervision and virtual delivery is instrumental in allowing our small program to continue to deliver CR services. Without this option, our program would not be financially viable and potentially close. It is important to note that we are one of two CR centers that remained open in our metropolitan area during 2020 into 2021. Without virtual options, CR access would be drastically reduced."
- "This is a valued service in our area as our hospital serves a large area and we are the only CR in the area. It is offering a service to patients that otherwise would not be able to take advantage of the benefits that we offer."

3. Proposed government actions

AACVPR recommends the extension of <u>virtual direct supervision</u> and <u>virtual delivery</u> for CR/ICR/PR services beyond the current PHE with strong consideration of a permanent option for virtual delivery of these services. This will expand the opportunity for these services to provide rehab to beneficiaries currently being underserved.

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February 28, 2022

White House Office of Science and Technology Policy (OSTP)
Submitted via email to ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

To whom it may concern,

The American Association of Nurse Practitioners, representing more than 325,000 nurse practitioners (NPs) in the United States, appreciates the opportunity to provide comment on the notice and request for comment on the RFI on Strengthening Community Health Through Technology. Throughout the COVID-19 Public Health Emergency (PHE), nurse practitioners have utilized telehealth and other remote technologies to provide care to patients who otherwise may have been unable to receive medically necessary health care, particularly in rural and underserved communities. We look forward to working with OSTP regarding utilization of digital technologies to transform community health, individual wellness, and health equity.

As you may know, NPs are advanced practice registered nurses who are prepared at the masters or doctoral level to provide primary, acute, chronic and specialty care to patients of all ages and backgrounds. Daily practice includes assessment; ordering, performing, supervising and interpreting diagnostic and laboratory tests; making diagnoses; initiating and managing treatment including prescribing medication and non-pharmacologic treatments; coordinating care; counseling; and educating patients and their families and communities. NPs hold prescriptive authority in all 50 states and the District of Columbia (D.C.) and perform more than one billion patient visits annually.

NPs practice in nearly every health care setting including hospitals, clinics, Veterans Health Administration and Indian Health Services facilities, emergency rooms, urgent care sites, private physician or NP practices (both managed and owned by NPs), skilled nursing facilities (SNFs) and nursing facilities (NFs), schools, colleges and universities, retail clinics, public health departments, nurse managed clinics, homeless clinics, and home health care settings.

As of 2019, there were more than 163,000 NPs billing for Medicare services, making NPs the largest and fastest growing Medicare designated provider specialty.[1] Approximately 40% of Medicare patients receive billable services from a nurse practitioner[2] and approximately 80% of NPs are seeing Medicare and Medicaid patients.[3] NPs have a particularly large impact on primary care as approximately 70% of all NP graduates deliver primary care.[4] In fact, they comprise approximately one quarter of the primary care

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[1] https://www.cms.gov/files/document/2019cpsmdcrproviders6.pdf
[2] *Ibid.*
[3] NP Fact Sheet (aanp.org)
[4] https://www.aanp.org/about/all-about-nps/np-fact-sheet.

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workforce, with that percentage growing annually.[5] Research also shows that NPs are more likely to practice in rural areas and areas of lower socioeconomic and health status.[6,7,8]

Telehealth and other digital technologies are important modalities of care for patients who face barriers to access, which can include, among other things, physical distance from a health care facility or limitations to accessible transportation. The utilization of these technologies has increased during the COVID-19 PHE and they will remain as important modalities after its conclusion. Below are our comments on specific prompts within this RFI. We look forward to further engagement with OSTP on improving health care delivery through digital technology.

Successful models within the U.S.

Successful treatment models for improving community health should utilize all available options to increase patient access to health care and other resources. This includes utilizing all members of the health care workforce, including NPs, to the full extent of their education and clinical training, leveraging available technology (e.g. telehealth and remote patient monitoring) to increase access, empowering patients in the management of their health care needs and incorporating community resources. NPs are particularly skilled in whole-person centered interventions and helping patients manage their conditions through this approach to health care delivery. NPs were early adopters of the Patient Centered Medical Home model, which successfully incorporates care coordination, care planning and consistent patient outreach. Additionally, nurse-managed health clinics are vital sources of primary care, prenatal, postpartum and pediatric care in rural and underserved communities.

One example of a successful care model that utilizes innovative technologies and addresses issues of health equity was the Mississippi Diabetes Telehealth Network pilot program. This program aimed to improve care coordination and access to care for patients with diabetes in the rural Mississippi delta. The program successfully utilized telehealth and remote patient monitoring to improve medication compliance and aid patients in behavior modification through health coaching and education, leading to substantial improvements in patient health and reductions in unnecessary hospitalizations and complications.[9] For additional examples of NP-led models of care that have successfully provided innovative health solutions for communities, we encourage OSTP to review the American Academy of Nursing Edge Runners Program.[10]

Barriers

Our members have reported that one of the most significant challenges to increasing patient adoption of telehealth during the COVID-19 pandemic has been patient access to audio-video technology, an issue which is exacerbated in rural and underserved communities. In an AANP membership survey, the three

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[5] Rural and Nonrural Primary Care Physician Practices Increasingly Rely On Nurse Practitioners, Hilary Barnes, Michael R. Richards, Matthew D. McHugh, and Grant Martsolf, Health Affairs 2018 37:6, 908-914.
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[9] https://365 himss.org/sites/himss365/files/365/handouts/550235296/handout-264.pdf.
[10] https://www.aannet.org/initiatives/edge-runners/profiles.

most significant barriers to telehealth adoption identified by our members were patient connectivity issues, patient access to technology and the internet, and patient comfort with technology.[11] According to the FCC, as of 2017 60% of rural Americans lived in "double burden" counties, which they defined as "counties with high burden of chronic disease (e.g. diabetes) as well as a need for greater broadband connectivity." For chronic conditions such as diabetes, many of the counties with the highest prevalence of chronic disease also had the lowest broadband access.[12] For patients experiencing these issues, audio-only telehealth services have been an essential modality to ensure they receive the care they need.

Trends from the Pandemic

Overall, NPs have made great efforts to implement virtual care visits into their practices since the onset of the pandemic in March 2020. When asked whether NPs had transitioned patients from in-person to virtual or telehealth care, almost 3 out of 4 (73.2%) said "yes". Prior to the beginning of the pandemic, about 78% of NPs indicated that all of their patient visits were completed in person (i.e. no telehealth) and by the end of 2020 only 23% of NPs reported that all of their patient visits were conducted in person.[13] NPs participating in the 2020 AANP national sample survey also indicated the following types of services were being frequently provided via telehealth: diagnosis and management of chronic conditions (87.4%), education and counseling of patients (97%), coordination of care (96.4%), ordering and interpreting diagnostic studies (80.2%), pain management (84.5%), medication reconciliation (96%), and mental health counseling (94.2%).[14]

Proposed Government Actions

As mentioned above, during the pandemic utilization of telehealth and other remote technologies increased substantially and was essential in increasing patient access to care. This was in part due to CMS program waivers that removed barriers to telehealth adoption. Below are some of the examples of telehealth waivers and flexibilities that were enacted during the pandemic which we recommend making permanent to maintain patient access to care.

Audio Only Services: We believe that coverage of audio-only telehealth services is necessary to achieve equitable access to care for all populations. In areas where patients do not have access to broadband, or for patients who do not have access to interactive two-way audio-visual technology, audio-only telehealth provides necessary and equitable access to care. Audio-only telehealth is important for patients **and providers** who may not have access to broadband capable of supporting two-way, audio/video telehealth services.

The expanded coverage of certain services throughout the PHE, including audio-only care, have enabled NPs and other clinicians to reach patients who otherwise may have been unable to receive medically necessary health care, particularly in rural and underserved communities. This is also true for patients with behavioral health needs. Coverage of audio-only telehealth has been critical for NPs and patients who do not have access to adequate broadband or technological devices capable of synchronous two-way audio video technology.

Geographic Restrictions and Originating Sites: The removal of the geographic restrictions on patients will remain an important component of telehealth moving forward. As noted by CMS in the agency's

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[11] https://www.aanp.org/practice/practice-related-research/research-reports/nurse-practitioner-covid-19-survey-2
[12] https://www.fcc.gov/sites/default/files/connect2health key_findings.pdf.
[13] Nurse Practitioner COVID-19 Survey (aanp.org)
[14] Percentages indicate the percent of respondents who replied that they had provided a type of service via telehealth.

telehealth snapshot, 55% of telehealth users between March 1, 2020 and February 28, 2021 were located in urban areas.[15] This data demonstrates that regardless of a patients' geographic location, there is a strong demand for telehealth.

Along with the geographic flexibilities, adding patients' homes as originating sites, and flexibilities within definition of 'home', will be important changes moving forward. Ensuring patients can access their providers in a safe and secure environment is an important component of telehealth. Throughout the COVID-19 PHE, patients have been able to access telehealth from their home to maintain continuity of care. This will be important beyond the duration of the PHE. We agree with CMS' expansion of this for mental health telehealth services, and strongly encourage the permanent adoption of this change for all telehealth services.

Category 3 Codes: In the 2022 Physician Fee Schedule, CMS retained all services added to the Medicare telehealth services list on a Category 3 basis until the end of CY 2023 to allow for additional time for stakeholders to collect, analyze and submit data on those services to support their consideration for permanent addition to the list on a Category 1 or Category 2 basis.

AANP supported this proposal, as the expansion of covered telehealth services under the Category 3 codes has been beneficial for nurse practitioners and their patients, and encourages the agency to continue to expand the codes covered when provided via telehealth*.* Expanded coverage of telehealth policies will be an integral component of providing care moving forward, and these decisions will have a direct impact on clinicians and their patients. Permanent expansion of telehealth services will provide for more equitable access to care for patients.

Implementation of Funding Programs: As providers of care nationwide, including those in rural and underserved communities, it is essential that nurse practitioners are included in all components of funding programs which support increased adoption of health technologies. It is important that OSTP and other state and federal partners are aware of the vital role that nurse practitioners play in providing health care to patients in communities across America.

Health Equity

The COVID–19 pandemic has exposed and exacerbated severe and pervasive health and social inequities in America,[16] and has highlighted long-standing vulnerabilities in the American health care system. Issues of health equity are extremely import to NPs, and as mentioned above, they provide a substantial portion of health care in rural areas and areas of lower socioeconomic and health status. For example, a recent study found that NPs "are significantly more likely than primary care physicians to care for vulnerable populations. Nonwhites, women, American Indians, the poor and uninsured, people on Medicaid, those living in rural areas, Americans who qualify for Medicare because of a disability, and dual-eligibles are all more likely to receive primary care from NPs than physicians."[17] NPs are the second largest provider group in the National Health Services Corps[18] and the number of NPs practicing in community health centers has grown significantly over the past decade.[19]

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[15] Medicare Telemedicine Snapshot (cms.gov)
[16] https://www.govinfo.gov/content/pkg/FR-2021-01-26/pdf/2021-01852.pdf
[17] https://www.aei.org/research-products/report/nurse-practitioners-a-solution-to-americas-primary-care-crisis/
[18] https://www.hrsa.gov/sites/default/files/hrsa/about/budget/budget-justification-fy2021.pdf
[19] https://www.nachc.org/wp-content/uploads/2020/01/Chartbook-2020-Final.pdf

Many of the issues discussed above, such as access to broadband or remote technology, has a direct implication for health equity as the barriers are increased in underserved communities. As OSTP develops an action plan to utilize health technology to address issues of health care inequity, it is important that OSTP utilizes the clinicians serving these communities, such as NPs, as resources and ensures that they are included in any government programs or funding opportunities targeted at their communities.

We appreciate the opportunity to comment on this RFI on strengthening community health through technology. We look forward to working with OSTP on this initiative. Should you have comments or questions, please contact MaryAnne Sapio, V.P. Federal Government Affairs, ██████████████ ███████.

Sincerely,

Jon Fanning, MS, CAE, CNED
Chief Executive Officer
American Association of Nurse Practitioners

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Long standing disparities in care, driven by institutional barriers which have exacerbated inequities in access and health outcomes, can be addressed through equitable technology use and strengthen community health. While technology alone cannot overcome existing disparities, the ACC believes that successful policy development which incentivizes the use of digital health tools can contribute to the advancement and improvement of community health.

One area the College specifically believes technology can strengthen community health is through a renewed emphasis on the Surgeon General's 2020 Call to Action to Control Hypertension and the application of digital health technologies to address this health crisis. The Surgeon General's report correctly characterizes the devastating impact hypertension has on individuals, stating, "

American College of
Emergency Physicians®

ADVANCING EMERGENCY CARE

March 25, 2022

Dr. Alondra Nelson
Director, White House Office of Science and Technology Policy
1600 Pennsylvania Ave
Washington, DC 20500

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Director Nelson:

On behalf of our 40,000 members, the American College of Emergency Physicians (ACEP) appreciates the opportunity to provide comments on the "Request for Information (RFI) on Strengthening Community Health Through Technology." In the RFI, the White House Office of Science and Technology Policy (OSTP) is seeking information and comments about how digital health technologies are used, or could be used in the future, to improve community health, individual wellness, and health equity. Community health, defined as the collective influence of socioeconomic factors, physical environment, health behaviors, and availability of quality clinical care services, serves as one of the most important drivers of health and wellness for all Americans.

Though we as emergency physicians have integrated telehealth and other digital health technologies into emergency care delivery more substantially over the past several years, the COVID-19 pandemic has accelerated our utilization of these technologies as supplemental tools for providing care. Having more regulatory and legal flexibility to use telehealth, for example, has enabled emergency physicians to provide essential services to patients during this pandemic without patients having to travel or risk exposure. Beyond the pandemic, digital health technologies have a lasting place in health care, and certainly should be explored as a key component of community health strategies.

With that context in mind, ACEP provides the following responses to the request for information.

Successful Models in the U.S.

As emergency physicians, we have been using digital technologies for years to help manage care for patients with complex needs. One such tool that ACEP supports is the Collective Medical Technologies' (CMT) Edie™ (a.k.a. PreManage ED) software. Edie™ is an information exchange that provides critical information on patients, such as how many emergency department (ED) visits patients have had in the last year, where they presented, their drug history, other providers who are involved in patients' care,

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and finally, whether there is a patient-specific care management plan that could guide treatment. The platform improves patient care by allowing emergency physicians to make more informed clinical decisions and better direct a patient's follow-up care. It also lowers health care costs through a reduction in redundant tests and better case management that reduces hospital readmissions. Through a partnership with CMT, ACEP has seen this system mature in approximately 17 states. In the first year alone, the state of Washington experienced a 24 percent decrease in opioid prescriptions written from EDs, a 14 percent reduction of super-utilizer visits, and state Medicaid savings of more than $32 million.[1]

Some EDs across the country are attempting to create care coordination and case management programs that help improve follow up appointment scheduling from the ED and target social interventions and primary medical care to high ED utilizers. One such program in Maryland applies mobile technology to use paramedics in a community health worker role to follow up on discharged patients at risk for readmission.[2] Many of these patients are Medicare beneficiaries. Another program in the East Bay, California has a help desk for health-related social needs with four integrated medical-legal partnerships, called Health Advocates, to help patients navigate housing and transportation challenges, immigration challenges, and benefit eligibility.[3]

Further, emergency telehealth programs have used technology to help ascertain key clinical information from patients, ensuring that emergency physicians are able to rapidly diagnose patients during a telehealth encounter. Emergency physicians are able to provide examinations using video communications systems and have found to be able to provide key elements of the physical exam. It also is useful to measure blood pressure, heart rate, and oxygen saturation, if available, but those tools are typically only needed for higher acuity patients. Wireless medical telemetry systems (WMTSs), such as those offered by VIOS, GE Healthcare, Edan, Medeia, and Philips, can be used for real-time monitoring of patients.

ACEP is also continuing to explore other innovative ways our physicians can help coordinate care for high-risk patients, including through participation in alternative payment models. We have developed a physician-focused payment model (PFPM) called the [Acute Unscheduled Care Model (AUCM)](), which the Physician-Focused Payment Model Technical Advisory Committee (PTAC) recommended to the Secretary of the U.S. Department of Health and Human Services (HHS) for full implementation in 2018. The AUCM provides incentives to participants to safely discharge Medicare beneficiaries from the ED by facilitating and rewarding post discharge care coordination. Under the model, a Medicare beneficiary who presents to the ED will undergo a safe discharge assessment (SDA) concurrent to receiving clinical care to identify socioeconomic factors and potential barriers to safe discharge back to the home or community, needs related to care coordination, and additional assistance that may be necessary. If the participating emergency physician, in collaboration with the primary care physician or designated specialist, determines that the patient is a candidate for discharge, the information captured during the SDA will be used to generate unique patient discharge instructions, including identifying symptoms that would require rapid reassessment and return to the ED. After the initial ED visit, the patient will receive appropriate follow-up care from the ED physician, his or her primary care physician, and other specialists as needed. One method for this follow-up care that is particularly emphasized in the model is telehealth, and we envision that the model would include a telehealth waiver similar to the waivers used

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[1] https://www.acepnow.com/article/emergency-department-information-exchange-can-help-coordinate-care-highest-utilizers/2/

[2] For more information on the Maryland Mobile Integrated Health Care Programs, please go to
https://www.miemss.org/home/LinkClick.aspx?fileticket=w-K7gG-8teo%3D&tabid=56&portalid=0&mid=1964

[3] For more information on the Health Advocates Program, please go to http://www.levittcenter.org/ed-social-welfare-in-collabor/.

in other Centers for Medicare and Medicaid Innovation (CMMI) models. ACEP is excited about the limitless possibility this model has in terms of improving care for Medicare beneficiaries and is eager to work with HHS on implementation.

Uses of Telehealth During the Pandemic

The COVID-19 public health emergency (PHE) has changed the landscape of telehealth. While the Centers for Medicare & Medicaid Services (CMS) has made substantial changes to telehealth policies, there are a few that particularly affect emergency medicine. The most significant policy, which applied to all telehealth services, was CMS' use of its 1135 waiver authority to temporarily waive the Medicare originating site and geographic restrictions, allowing health care practitioners to provide telehealth services to patients regardless of where the clinicians or the patients are located—in both urban and rural areas. Congress, in the *Consolidated Appropriations Act, 2022*, recently extended this waiver for 151 days past the end of the PHE. Further, CMS clarified that the medical screening exams (MSEs), a requirement under Emergency Medical Treatment and Labor Act (EMTALA), could be performed via telehealth. Finally, CMS temporarily added all ED evaluation and management (E/M) codes, the observation codes, and critical care codes to the list of approved Medicare telehealth services through the end of 2023. These are the codes that emergency physicians typically bill.

With these flexibilities granted during the pandemic, emergency physicians provided telehealth services in the following three different clinical situations-- all of which added clinical value to patients:

1. *Helping patients distinguish between urgent and acute care needs.* Individuals who had urgent medical needs, but were unsure if they were having a medical emergency, were able to contact their EDs and have a telehealth visit with an emergency physician to assess whether the patient could stay at home, go to an urgent care clinic, or visit the ED. Emergency physicians are trained in rapid diagnosis and evaluation of patients with acute conditions, so they are particularly capable of providing these type of telehealth services. We are able to provide treatment to patients with minor illnesses and injuries completely via telehealth.

2. *Providing MSEs to patients who came to the ED.* As stated above, CMS released guidance stating that physicians (or other qualified medical persons) can perform MSEs via telehealth and where appropriate meet the MSE requirement without an in-person examination. Hospitals are temporarily allowed to set up alternative locations "on campus" for patients to receive an MSE other than in the ED. For example, patients presenting with possible symptoms of COVID-19 and meeting certain criteria (i.e., vital sign parameters) can be sent to a negative-pressure tent, where they are seen by an in-person nurse and a physician via telehealth (video and audio) who determines if the patient can be discharged from the tent or needs to be seen in the ED. After completing this process, a low percentage of patients need ED evaluation.

3. *Ensure appropriate follow-up care after ED discharges.* Emergency physician groups have set up systems and protocols to follow up with patients once they are discharged from the ED, ensuring that patients are taking their medications appropriately or are seeing their primary care physician or specialist if needed. These follow-up services have helped enhance care coordination efforts and avoid trips back to the ED or inpatient admissions. In addition, for patients under investigation for COVID-19, the treating ED group has been able to follow up with the patient to make sure their COVID symptoms are not progressing. Some groups have

sent patients home with portable pulse oximeters and followed up to check their general status and oxygen levels.

Being able to provide emergency services via telehealth initially helped preserve personal protective equipment (PPE) when supplies were limited and has helped reduce unnecessary exposure to COVID-19 for physicians and patients alike. Emergency physicians in particular have been at increased risk of contracting COVID-19 due to frequent and close physical interactions among patients and other health care workers. Having the ability to provide telehealth services has reduced face-to-face contact without compromising care, and patients have been able to safely receive services either from their home, the ED, or an alternative location within the hospital.

EDs across the country have also integrated their telehealth programs into their existing quality improvement initiatives, setting targets and metrics to ensure that the quality of care that is delivered is maintained and improved over time.

ACEP is still gathering data on the effectiveness of providing emergency telehealth services during the pandemic, but we expect to see improved health outcomes. For example, telehealth has the potential to improve care coordination and limit avoidable trips to the ED or hospital. Further, it allows for screening examinations that do not need to be done in person, thereby reducing the chance of exposure to COVID-19. Finally, it improves access to care for beneficiaries, a clear clinical benefit, by connecting patients with clinicians from any location in a timely manner. Some EDs have been able to track data that could be used to evaluate clinical outcomes, such as monitoring whether a patient required an additional medical visit after the telehealth visit and determining the percentage of patients who avoided an ED or urgent care visit for the illness or injury.

Barriers and Proposed Government Action

As hospitals and emergency physician practices have invested in new telehealth platforms to serve patients during the pandemic, one concern many emergency physicians share is how to sustain these investments if the underlying funding and reimbursement for telehealth services do not continue. As noted above, starting in 2024, the codes that emergency physicians typically bill—including the ED E/M codes, some observation codes, and critical care codes— may be removed from the list of approved Medicare telehealth services. It is also unclear whether Congress will continue to extend or make permanent the originating site and geographic restrictions beyond the 151-day extension it just provided. While CMS does not have the legal authority to lift the originating site and geographic restrictions, it does have the regulatory authority to extend certain telehealth policies past the end of the PHE without congressional action. We urge the Biden Administration to explore all these policies and extend those that will allow telehealth to remain a financially viable method for providing high-quality care going forward.

Another significant barrier is state licensing. Currently, there are regulatory barriers that restrict the ability for physicians to get licensed and credentialed in multiple states so they can provide telehealth services to patients across state lines. During the PHE, CMS issued a temporary waiver to allow physicians who are licensed in one state to provide services to a patient another state. This waiver only applies to Medicare and Medicaid patients. Further, for the waiver to be effective, the state where the physician is performing the telehealth service must also waive its licensure requirements. While many states have allowed this flexibility during the PHE, it is not clear whether they will continue doing so once the PHE ends.

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Finally, ACEP believes that telehealth should continue to be available to treat patients with opioid use disorder (OUD). The Drug Enforcement Administration (DEA) adopted protocols to allow DEA-registered practitioners to prescribe controlled substances to their patients without having to interact in-person with their patients. Under the DEA's policy (which became effective on March 31, 2020), authorized practitioners can prescribe buprenorphine over the telephone to new or existing patients with opioid use disorder (OUD) without having to first conduct an examination of the patient in person or via telehealth. This flexibility is scheduled to be terminated once the PHE ends.

Health Equity

While there is significant potential to help improve access to care for vulnerable populations using digital technologies, unfortunately, in the short-term, telehealth may not be an effective tool by itself to reduce health care disparities. There are many structural barriers in place—particularly the lack of access to broadband in lower-income and rural communities and the disparities in smartphone and compatible device ownership—that should be addressed when discussing advancement in telehealth. According to a Pew Research Center survey, while 79 percent of suburban households and 77 percent of urban households reported having broadband internet connection, only 72 percent of rural households reported having broadband internet connection. This disparity is even more pervasive in terms of race and ethnicity – while 80 percent of white adults report having broadband internet at home, only 71 percent of Black adults and 65 percent of Hispanic adults say they have broadband internet at home. Further, 89 percent of suburban and 84 percent of urban American adults own smartphones, whereas only 80 percent of survey respondents in rural areas reported the same.[4] Americans over the age of 65 are approximately 24 percent less likely than the general population to own a smartphone.[5] As decreased access to technological devices correlates with lower "tech readiness," vulnerable populations who experience inequities in access to technology may also experience difficulties in access to, comprehension of, and proper usage of telehealth innovations. All in all, we must grapple with and attempt to correct the unfortunate reality that those in most significant need of these services are the ones who have the most trouble accessing them.

ACEP therefore supports efforts, such as the Federal Communication Commission's (FCC's) Connected Care Pilot Program, that cover the costs of broadband connectivity, network equipment, and information services necessary to provide telehealth and other remote care services to patients in rural and underserved communities, as well as other efforts to reduce and eliminate existing gaps in access for other vulnerable or in-need populations.

We appreciate the opportunity to share our comments. If you have any questions, please contact Jeffrey Davis, ACEP's Director of Regulatory and External Affairs, at ███████████.

Sincerely,

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Gillian R. Schmitz, MD, FACEP
ACEP President

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[4] https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/
[5] https://www.pewresearch.org/internet/2017/05/17/technology-use-among-seniors/

Alondra Nelson, PhD, Director
White House Office of Science and Technology Policy (OSTP)

Re: Connected Health RFI, Document number 2021-28193
Submitted via email to: ████████████████████

February 28, 2022

Dear Dr. Nelson:

American Epilepsy Society (AES) is the professional society for approximately 4,000 healthcare professionals committed to epilepsy research and the care of individuals afflicted with epilepsy. AES membership is composed of physicians, nurses, advanced practice providers, pharmacists, psychologists, social workers, and basic scientists focused on epilepsy and committed to research and delivery of evidence-based care to individuals with epilepsy.

In response to the above-referenced OSTP RFI, attached please find the AES Telehealth Position Statement in which the society outlines its recommendations and rationale related to the role of telehealth in advancing care for people with epilepsy.

In short, because flexibility in telehealth care delivery options enables optimal care for people with epilepsy, AES supports:

- Continuation of telehealth as an option for epilepsy care following the COVID-19 pandemic.
- Reimbursement parity for care provided via in-person visits, via video-audio telehealth, and via audio-only telehealth visits, and equitable reimbursement for unscheduled care via telephone call or email.
- Continued ability for epilepsy care providers to write prescriptions for controlled substances used as epilepsy treatments based on a telehealth visit, without a prior in-person visit between the prescriber and the patient.
- Telehealth reimbursement for multi-disciplinary epilepsy care team providers who collaborate to provide the most efficient and effective care (physicians and non-physician providers, including nurse practitioners, clinical nurse specialists, clinical pharmacists, physician assistants, neuropsychologists, clinical psychologists, social workers, dietitians, genetic counselors)
- Streamlined provider licensing among states and medical liability insurance covering telehealth services to facilitate care across state lines.
- Education to enable providers to optimize use of telehealth technologies in epilepsy care.
- Continued development of telehealth workflows and technologies that incorporate epilepsy care tools such as psychosocial and quality of life assessments, stimulator technologies, wearable devices for seizure detection or forecasting, and other remote monitoring/ mobile health technologies.

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Care for people with epilepsy often involves a team of multidisciplinary providers who address the often numerous co-morbid medical and psychosocial needs. In addition to complex care needs, people with epilepsy may face transportation challenges, if seizures are not fully controlled and driving is restricted. Transportation barriers are compounded for patients residing long distances from epilepsy specialty care centers and those in rural areas or areas experiencing physician shortages. These challenges are further exacerbated for those patients and family caregivers who are economically disadvantaged and must forego work and income when required to travel for in-person epilepsy specialty care.

Specifically, telehealth options that do not include video may be the only access to epilepsy care providers for patients living in rural, remote, or technology-deficient areas or otherwise impacted by the "digital divide" (socioeconomic, educational, and other inequalities between those who do and those who do not have opportunities or skills enabling them to benefit from the internet and online resources). The use of telehealth cannot increase disparities of care and should represent an opportunity to improve equity for epilepsy care.

In summary, the epilepsy care experience underscores the great potential value of telehealth, via both video and telephone, for those with limited access to technology. Telehealth is a tool that can bridge gaps in care, facilitate equity in access to quality care, and mitigate many of the challenges faced by patients with epilepsy and their families and caregivers.

AES is dedicated to improving the lives of people with epilepsy. We believe that, as demonstrated during the COVID-19 pandemic, and with technological advancements enabled by telehealth on the near horizon, facilitating use of telehealth in epilepsy care has great potential to effect significant improvements in epilepsy care and enhance the lives of people with epilepsy.

Extension of the COVID-19 provisions for flexible options and reimbursement support for providing care via telehealth is particularly critical for patients with epilepsy and their health care providers, as outlined here and detailed in the AES Position Statement.

AES appreciates the opportunity to provide comments. We remain available to answer questions, provide additional information, offer clinical or scientific expertise, or otherwise serve as a resource to the OSTP. Please feel free to contact me or AES Executive Director Eileen Murray at

Sincerely,

R. Edward Hogan, MD, FAES
AES President

Attachment: AES Telehealth Position Statement

cc:
AES Board of Directors
Eileen Murray, MM, CAE, AES Executive Director
David G. Vossler, MD, FAES, AES Council on Clinical Activities Chair

American Epilepsy Society Telehealth Position Statement

September 29, 2020

Background Information

The American Epilepsy Society (AES) is a medical and scientific professional society comprised of approximately 4,500 members committed to research and evidence-based clinical care for people with epilepsy. The membership is composed of physicians, nurses, pharmacists, psychologists, social workers, and basic and clinical scientists focused on epilepsy. For more than 75 years, AES has provided a dynamic global forum where professionals from academia, private practice, not-for-profit, government, and industry can learn, share, and grow. AES is dedicated to improving the lives of people with epilepsy (PWE).

Description of Issue

With the onset of the coronavirus 2019 (COVID-19) global pandemic caused by the SARS-CoV-2 virus, telehealth has emerged as a highly valuable method for patient care delivery, particularly for PWE. Therefore AES supports continuation of telehealth as an option following the Public Health Emergency (PHE) and related policies that 1) address access to care for PWE, 2) provide equitable reimbursement for care providers, 3) reimburse telehealth care provided by multi-disciplinary epilepsy care team members, 4) reduce issues related to liability and licensing across state borders, and 5) allow for ongoing future improvements in telehealth technology to optimize access for patients and providers.

Definition of Telehealth and Background

For the purposes of this statement, AES defines telehealth as delivery of patient care that involves electronic communication with or without a synchronous video component to enable providers to practice medicine, and patients to receive care, from remote locations separate from the typical in-person clinical setting.

Telehealth has been a part of medical care for years, but its use and related regulations have rapidly evolved in 2020. Care provided via telehealth is high-quality and cost- and time-efficient for both patients and providers, facilitates prompt patient care delivery, and improves access to specialty care for patients. These telehealth benefits are particularly applicable to PWE,

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many of whom are unable to drive due to effects of medications or physical and intellectual disabilities which are prevalent in this population. PWE may be vulnerable to job loss due to risk of seizures or transportation challenges, so minimizing lost work time is a priority. Transportation challenges are further compounded for those PWE who live in rural or remote areas where specialty resources such as comprehensive epilepsy care are not available.

AES Position

Telehealth availability and reimbursement considerations

Telehealth should be a health care delivery option available to all people with epilepsy. While telehealth cannot replace all in-person clinical assessments, it is a valuable service and should be offered and reimbursed by all subscriber benefits and insurance plans including commercial and government payors at rates that are at parity with in-person clinic visits. The Centers for Medicare and Medicaid Services (CMS) should support these efforts.

During the COVID-19 pandemic, CMS allowed for time-based evaluation and management (E/M) billing for both video and audio-only telehealth. Time-based telehealth reimbursement should continue after the PHE. In addition, medical personnel and facility needs for providers of telehealth are similar to those for in-person medical care, and these necessary costs should be factored into reimbursements for care provided by telehealth.

During the COVID-19 pandemic, epilepsy providers reported effective use of telehealth.[1] Preliminary data indicate that safe and effective care for new PWE can be provided via telehealth.[2-4] Although additional studies are needed, the ability to see new patients via telehealth should remain an option available to providers and patients after the PHE. For example, a model employing a mixture of telehealth and in-person clinic visits may use initial video telehealth visits to screen which patients need in-person care for future visits, for optimal quality of care and efficiency for patients and providers alike.

Use of telehealth provides a viable option for patients who are not able to be seen in person for routine care. In addition to virtual visits involving a video component, the use of audio-only telephone visits and other electronic communication methods have value in medical practice, should be included in the discussion about reimbursement, and should remain a viable option for providers to utilize to improve epilepsy care. Specifically, telehealth options that do not include video may be the only access to epilepsy care providers for patients living in rural, remote, or technology-deficient areas or otherwise impacted by the "digital divide" (socioeconomic, educational, and other inequalities between those who do and

those who do not have opportunities or skills enabling them to benefit from the internet and online resources). The use of telehealth cannot increase disparities of care and should represent an opportunity to improve equity for epilepsy care.

Medications and prescribing considerations for epilepsy care

During the COVID-19 PHE, the Drug Enforcement Administration (DEA) is allowing prescriptions for controlled substances to be written based on a telehealth visit without requiring a prior in-person session between the prescriber and the patient which enabled providers to ensure access to much-needed medications for new patients with epilepsy. The ability to continue prescribing the full range of antiseizure medications (ASMs) to patients during a telehealth visit, including a first visit, should remain an important treatment option for providers to ensure quality care for PWE after the PHE. A number of traditional and newer ASMs used in epilepsy care, both ongoing care and emergency or "rescue" care, are DEA scheduled drugs,[5,6] so AES supports extension of regulatory flexibilities initiated during the PHE in particular for medications used in epilepsy care.

Multi-disciplinary epilepsy care model considerations

Optimal care of PWE involves a multi-disciplinary care team.[7-8] Epilepsy care providers, including physicians and non-physician providers (nurse practitioners, clinical nurse specialists, clinical pharmacists, physician assistants, neuropsychologists, clinical psychologists, social workers, dietitians, and genetic counselors) should be reimbursed equitably for services provided via telehealth, as currently authorized during the COVID-19 PHE. Telehealth reimbursements for these providers should be maintained after the PHE in accordance with these professionals' scope of practice and licensure.

Reimbursement should be provided for all billable providers even when two or more specialty care providers participate in the same telehealth visit concurrently. Separate E/M billable codes that allow for collaborative care should be created and utilized for telehealth visits.

For example, care of PWE is significantly dependent upon medications with complex pharmacology. Clinical pharmacists, working under collaborative practice agreements with physicians and other provider types via telehealth visits can coordinate medication management (e.g. medication selection and dose adjustment, laboratory and adherence monitoring, and refill approval) with a net result of streamlined patient access to care, improved efficiency in the care delivery process, and enhanced quality of care.[7]

Licensure and liability considerations

All types of care providers, as delineated in the prior section, should have access to a streamlined licensure process that is not state-dependent, allows easy portability, and tracks individuals who are impaired or not competent. Comprehensive malpractice insurance policies are important, and providing care via telehealth should be covered under existing policies. These changes to professional licensure processes and liability insurance policies to enable provision of epilepsy care across state lines via telehealth and in-person are important especially for timeliness and continuity of care for PWE living in rural or remote areas.

Patient Care Benefits

Direct economic benefits

Epilepsy care via telehealth has been demonstrated to improve access, costs, medication safety, adherence to Healthcare Effectiveness Data and Information Set (HEDIS) measures, in one study that compared care by audio-only telephone calls to in-person care.[9] Telehealth technology in patient care has been utilized effectively for years within the Veterans Affairs (VA) system.[10] Telehealth has been demonstrated to improve patient satisfaction, decrease patient costs, and decrease patient travel time and the need for patients to rely on a companion to travel to an in-person clinic visit.[11] A recent survey of PWE and their caregivers demonstrated benefits in many areas including patient support, less lost work and school time, decreased costs, and improved access to care.[2] Other providers caring for patients with various neurological illnesses have also seen similar advantages with telehealth.[12-16]

Improved access and quality of care

Decreasing the need for transportation is a major benefit for patients with active seizures, as they cannot legally or safely drive, which affects their access to quality epilepsy care. The economic benefit in decreased time off from jobs, school, etc. for travel exists for both patients and their caregivers. In addition, seeing patients in their home settings and interacting with family and caregivers more readily enable providers to identify and reduce possible barriers to epilepsy care. Thus, both patients and providers benefit, and epilepsy care is improved, when patients are able to participate in telehealth visits from their homes.

Access to specialty expertise and reduced health disparities

For PWE, the use of telehealth improves access to comprehensive epilepsy centers in rural or remote areas or in states where Level III and IV epilepsy centers

accredited by the National Association of Epilepsy Centers (NAEC) are few in number or do not exist. Access to such centers is an important gap in epilepsy care and is a current American Academy of Neurology (AAN) epilepsy quality measure supported by AES.[17]

Especially for patients with rare epilepsy syndromes, telehealth can facilitate access to national experts in those specific conditions. Medication evaluations for those on ASMs and more frequent evaluations for PWE can occur. Coordination of multidisciplinary comprehensive care via virtual care teams addressing comorbidities and quality of life may be easier with greater telehealth flexibility that no longer requires care team members to be in one location. In addition, telehealth enables virtual consultations for complicated epilepsy cases or patients in need of urgent, emergent, or transfer of care during the inpatient or emergency room setting.[18] Finally, telehealth can be particularly beneficial in providing timely care of adolescent patients with epilepsy in transition from pediatric to adult care.[19]

Addressing Potential Barriers

Educational resources for providers on performing effective neurological examinations via telehealth will help ensure ongoing advancements in delivery of a high level of quality care. Moving forward, definition and refinement of the ideal telehealth platform and tools to optimize virtual care of PWE is needed, and AES can take a lead role in these efforts.

Limitations in broadband internet access and other necessary equipment available to patients, part of the "digital divide," need to be addressed and improved to ensure access to telehealth exists for all PWE. Adult and older patients have decreased access to and fluency with advanced technology such as smartphones and equipment needed for a video appointment and may also have challenges utilizing such tools, as documented by a 2015 Pew survey and other research (Table 1).[20-23] Due to technological limitations, audio-only visits or other electronic forms of clinical visits may be the only telehealth options available to some PWE, reinforcing the need to maintain reimbursement of these services as well as video telehealth visits. Proper translation resources need to be available for patients that do not speak English as their primary language, and translation services may be more readily available via telehealth than at in-person clinic visits.

Table 1. Patient access to technologies typically used for video telehealth

US households with a computer	86.8%[20]
US adults who use the internet	89%[21]
Smartphone ownership, by generation[22]	
Millennials (23-38 years old)	92%
Gen Xers (38-53 years old)	85%
Baby Boomers (54-72 years old)	67%
Silent Generation (73+ years old)	30%
Americans >65 years old comprise 15% of the total population[23]	
42% own smartphones	
67% use the Internet	

Future Advancement of Epilepsy Care through Telehealth

Many technological and operational investments have been made by providers and their institutions to enable delivery of care via telehealth during the PHE. With this expanded use of telehealth and payer support for it, innovations, improvements and collaborations between technology companies and health providers have substantially improved the content and quality of health care. Ongoing payer support will continue this trend of enhanced capabilities and encourage advances toward optimal utilization of telehealth in health care. AES supports regulatory and statutory policies that facilitate flexibility in care delivery options for providers and patients and enable ongoing advancements in the use of telehealth technologies to optimize care for PWE.

To this end, AES supports proactive steps to address potential gaps in implementation of next generation technology such as 5G service and adoption of remote stimulator technology, wearable technology for seizure detection and forecasting, and other advances in remote monitoring for PWE. Workflows should incorporate technologies that enable accurate assessment of seizure frequency, adverse effects of medications, cognitive disorders, psychosocial concerns, quality of life, and other important patient-reported outcomes. Such ongoing developments in technology to assist with patient care will help overcome some geographic and technological barriers that exist for patients.. Comfort and training in utilizing telehealth and other technology must occur for both PWE and providers that have a limited knowledge or ability to navigate the technology. Continued attention to improvements in technologies, along with policies that enable flexibility in use of video and audio-only telehealth services, will continue to minimize potential technology-related disparities in care.

Summary

One of the many lessons learned from COVID-19 is the need for improved processes to advance patient care and continuity of care for those with epilepsy. In this unique situation, AES epilepsy care providers have collaborated to embrace change and develop innovative solutions, as described in this statement.

Given the strong patient care benefits of telehealth experienced by patients and providers alike during the COVID-19 PHE, and the potential for telehealth-related continuing advancements of future care of PWE,[4] AES supports policy that enables continued use and reimbursement of epilepsy care via telehealth following the current pandemic. All aspects of telehealth, including care delivered via audio-only and other electronic technologies, as well as video technology, should be reimbursed by payers. Legislative and regulatory action is needed at both state and federal levels to ensure continuation of access to telehealth care for all PWE at home, regardless of geographic location or insurance coverage. Healthcare providers and institutions should continue to address technological needs to optimize telehealth as a tool for patient care. Proper telehealth technological implementation and reimbursements will continue to build on telehealth experiences during COVID-19 and continue to advance the quality of care experienced by people with epilepsy.

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March 30, 2022

To: The White House Office of Science and Technology Policy
RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Thank you for the opportunity to respond to this RFI. The American Foundation for the Blind (AFB) is a national nonprofit that advocates for a world of no limits for people who are blind or have low vision using research and data. We will focus on people with disabilities who have used and would like to use digital health technologies and telehealth services.

AFB has conducted two research surveys that examined the experiences of blind and low vision adults during the COVID-19 pandemic. We also conducted a handful of focus groups on hospital care and produced resources for healthcare providers. These studies illustrate some barriers that blind and low vision people face in accessing healthcare through digital health technologies and suggest the need for policies to improve digital health accessibility and inclusion.

Barriers:

Most of the barriers that we will identify result from a failure to design and implement the respective technologies in a manner that is accessible to people with disabilities. Because these products are not designed to work well with assistive technology, people with disabilities are excluded from using them and discriminated against in accessing healthcare services, products, and facilities as both patients and healthcare workers.

Telehealth

Telehealth platforms are frequently inaccessible. Conducted in spring 2020, the *Flatten Inaccessibility* study found that of 285 blind and low vision participants who had used telehealth to meet with their healthcare provider, 21% reported the telehealth platform was not accessible with their assistive technology.[i] The *Journey Forward* study, conducted in summer 2021, found that of 330 people who used telehealth, 57% reported that they found telehealth to be inaccessible in some way. Participants had difficulty: independently logging in; navigating the platform to make an appointment; reading information provided through the system, including by chat; privately communicating with their provider; and using buttons that were not properly labeled to be read by a screen reader.[ii]

EHRs and online ordering

Patients encounter many digital health interactions that may be inaccessible, not only telemedicine. Electronic health record accessibility has been the subject of concern for both consumers and health workers with disabilities.[iii] Furthermore, in the *Journey Forward* study, 38 participants could not use their pharmacy or provider's app or website to order their medical supplies or prescription because the app or website was not accessible.[iv]

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Digital medical devices

Digital home medical devices are commonly used for diagnostics and monitoring chronic health conditions. Although we have not recently researched on this issue, we know that blood glucose, cardiac activity, and blood pressure monitors are just a few examples of common medical devices that may be inaccessible and present significant difficulties for blind users.

Access to Health Information

In the 2021 *Journey Forward* study, we found that 14% of respondents did not agree that they had full access to COVID-19 pandemic information (e.g., the number of cases in their community) at the time of the survey. 19% did not agree that testing information has been accessible. 26% of screen reader users did not agree that vaccine information was accessible while 9% of screen magnification users disagreed.[v]

Some examples of public health information that may not be accessible to a blind or low vision reader include maps and flowcharts representing a community's risk level with color only and social media posts conveying testing locations in image format. Additionally, accessibility challenges may differ by the type of assistive technology (e.g., screen reader or magnification).

Online Vaccine Scheduling

Vaccine scheduling inaccessibility presented significant barriers.[vi] In *Journey Forward,* we found that about 47% percent of those who received a vaccine had had someone else schedule the vaccine for them while 34% scheduled the vaccine for themselves. This discrepancy suggests that many people faced or anticipated facing accessibility or usability barriers with scheduling their vaccine. One participant articulated what many blind people frequently experience: "I think it is assumed that someone else is available […] to help/look out for us. […] I would rather not have to ask someone to help me but sometimes it is just easier/quicker. It doesn't solve the bigger problem."[vii] It is imperative that websites and digital platforms be accessible, so that people can be independent.

Of 97 screen reader users who attempted to schedule a vaccine appointment, 22% reported that the method they used to schedule the appointment was inaccessible and another 21% neither agreed nor disagreed. About 25% of 32 screen magnification users reported inaccessibility, with an additional 6% neither agreeing nor disagreeing. These numbers are not insignificant, and the Department of Justice (DOJ) has already settled with several large pharmacies that offered vaccines through inaccessible scheduling websites.[viii] It is unacceptable that so many providers failed to prioritize making vaccines accessible during a global pandemic.

Trends from the pandemic:

Conducted in spring 2020, the *Flatten Inaccessibility* study found that approximately 30% of the participants who responded to questions about healthcare reported having used telehealth services. Conducted in summer 2021, the *Journey Forward* study suggested that more blind and low vision people had tried to used telemedicine services, with approximately 70% of the

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participants having used telemedicine during the pandemic. We anticipate this trend continuing if the platforms used to deliver telemedicine are accessible.

User Experience:

Accessibility is an integral component of the user experience. Designing for and implementing accessibility would resolve barriers to access and increase willingness to use these technologies. A current international standard for website accessibility is the Web Content Accessibility Guidelines.[ix] The principles in these guidelines apply to building telehealth platforms, mobile apps, EHRs, scheduling and ordering websites, online information sources, and more. The addition of audio output or vibrotactile features could make many medical devices accessible. In all cases, involving blind and low vision users in the user experience design as designers and paid testers would help medical device developers improve the usability of these products for patients and health workers with disabilities.

Proposed Government Actions:

Immediate actions:

- The White House must incorporate digital accessibility when discussing digital inclusion and equity. For people with disabilities, accessibility complements broadband access, device ownership, and digital skills to ensure we achieve digital equity and inclusion.
- The National Telecommunications and Information Administration (NTIA) should target accessibility and access to digital accessibility skills. People with disabilities should be actively served through the $2.75 billion from the Bipartisan Infrastructure Law for digital equity and inclusion programs to help communities take advantage of broadband connections.

Actions that can be taken within 3 years:

- DOJ should issue enforceable website and application accessibility regulations, clarifying how and when public entities and businesses, including most healthcare providers, must make websites and applications accessible and provide effective communication.[x]
- The Department of Health and Human Services (HHS) should issue regulations on digital accessibility when it updates the Section 504 regulations on programmatic accessibility and effective communication for providers receiving federal funding.
- The Food and Drug Administration (FDA) should provide guidance and standards for medical devices to be accessible nonvisually. A bill introduced in Congress offers a framework for requiring the FDA to enforce accessibility standards for medical devices.[xi] FDA and the Access Board should go as far as possible under their current authority to make devices accessible.
- The Centers for Medicare and Medicaid Services should permanently cover audio-only telemedicine visits, which provide options for patients without accessible platforms, devices, or broadband. However, audio-only visits should not replace fully accessible digital platforms.

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[iv] Rhoads et al, Table 47.

[v] Id. Tables 16, 20, 28, and 29. Note: Each question received a different number of responses.

[vi] Messenger, H. (March 13, 2021). Blind Americans face roadblocks booking online vaccine appointments. NBC News. https://www.nbcnews.com/business/consumer/blind-americans-face-roadblocks-booking-online-vaccine-appointments-n1260954

[vii] Rhoads et al, p 12.

[viii] See Department of Justice settlements with Hy-Vee, Inc., The Kroger Co., Meijer, Inc., and Rite Aid Corporation.

[ix] See WCAG 2.1, https://www.w3.org/WAI/standards-guidelines/wcag/glance/

[x] AFB and 180 other national, state, and local organizations sent a letter to the Department of Justice on February 28, 2022, seeking website accessibility regulations. https://afb.org/research-and-initiatives/public-policy/advocacy-letters-comments-statements/sign-letters/letter-doj

[xi] H.R. 4853, Medical Device Nonvisual Accessibility Act of 2021. https://www.congress.gov/bill/117th-congress/house-bill/4853

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March 29, 2022

Allister Martin, MD
White House Fellow
Office of the Vice President/Office of Public Engagement
The White House
Via email

Dear Dr. Martin:

Thank you for the opportunity to participate in the White House Health Equity Forum: Broadband Access and Telehealth Equity on Wednesday, March 16, 2022. The American Foundation for the Blind (AFB) is a national nonprofit that advocates for a world of no limits for people who are blind or have low vision by mobilizing leaders, advancing understanding, and championing impactful policies and practices using research and data. We appreciate this Administration's commitment to equity; however, at AFB, we firmly believe that we cannot truly work toward equity without including people with disabilities, and as this pandemic has highlighted, digital accessibility in healthcare is essential for equitable access to care. With the data outlined in this letter, we urge the White House to prioritize accessibility within its health equity and inclusion agenda and take actionable steps toward improving digital health equity for people with disabilities.

Summary of Actions

We call on this administration to act for digital inclusion in healthcare through the following actions:

- Incorporate digital accessibility into inclusion and equity messages and priorities.
- Issue new enforceable digital accessibility regulations.
- Update existing accessibility regulations, such as those implementing Section 504 of the Rehabilitation Act, to include digital accessibility.
- Make medical devices accessible nonvisually.
- Permanently reimburse telehealth expenses, including audio-only telemedicine.
- Actively serve people with disabilities in digital skills, equity, and inclusion programs.

The Scale and Impact of Inaccessible Digital Healthcare Delivery

AFB has conducted two research surveys that examined the experiences of blind and low vision adults during the COVID-19 pandemic. Prior to the pandemic, we also conducted a handful of focus groups with residents of West Virginia on accessible hospital care and produced resources for healthcare providers. These studies illustrate some of the barriers that people who are blind or have low vision face in accessing healthcare through digital means.

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Telehealth platforms are frequently inaccessible. Conducted in spring 2020, the *Flatten Inaccessibility* study found that approximately 30% of the participants who responded to questions about healthcare reported having used telehealth services. Of those 285 blind and low vision participants who had used telehealth to meet with their healthcare provider, 21% reported the telehealth platform was not accessible with their assistive technology.[1] Although the samples are not the same, data from the *Journey Forward* study, which was conducted in summer 2021, suggest that more people had tried to used telehealth services, with approximately 70% of the participants having used telehealth during the pandemic. Of the 330 who used telehealth, 57% reported that they found telehealth to be inaccessible in some way. Participants had difficulty:

- independently logging in;
- navigating the platform to make an appointment;
- reading information provided through the system, including by chat;
- privately communicating with their provider; and
- using buttons that were not properly labeled to be read by a screen reader.[2]

With more people who are blind or have low vision attempting to use telehealth, it is deeply concerning that over 50% find the telehealth experience to be inaccessible. Many of the issues reported could be solved through adherence to the Web Content Accessibility Guidelines, an international accessibility standard.[3]

We also found that about 2 in 3 participants who had used telehealth had communicated with their provider via a phone-call. Although we did not investigate why or when they used one method over another, this data point suggests that audio-only telemedicine is an important option for people who are blind. Even so, audio-only options must be considered a supplement to, not a replacement for, fully accessible digital telehealth platforms.

These experiences are not limited to blind people, of course. Deaf and deafblind people experience significant difficulties accessing qualified interpreters and captioners during telehealth visits, and many people with motor and cognitive disabilities also need digital platforms to be designed for accessibility and usability. Deaf patients frequently experience the inability to connect remote medical interpreters or real-time captioners through the secure telehealth platform, the inability to see the provider on video, and other technical issues,

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[1] Rosenblum, L. P., Chanes-Mora, P., McBride, C. R., Flewellen, J., Nagarajan, N., Nave Stawaz, R., & Swenor, B. (2020). Flatten Inaccessibility: Impact of COVID-19 on Adults Who Are Blind or Have Low Vision in the United States. American Foundation for the Blind. www.afb.org/FlattenInaccessibility.

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[3] See Web Content Accessibility Guidelines (WCAG) 2.1, https://www.w3.org/WAI/standards-guidelines/wcag/glance/

including insufficient audio or video quality.[4] Moreover, while there are few studies directly examining the telemedicine experiences of people with other disabilities, anecdotal reports suggest that the vast majority of DeafBlind people are completely unable to independently utilize telemedicine as it currently exists.[5]

These data focus primarily on online telemedicine visits between a patient and their provider, yet patients encounter many other digital health interactions as well. Electronic health record accessibility has been the subject of concern for both consumers and health workers with disabilities.[6] Furthermore, in the *Journey Forward* study, 38 participants could not use their pharmacy or provider's app or website to order their medical supplies or prescription because the app or website was not accessible.[7]

Another concern is the lack of available accessible digital home medical devices that are frequently used and related to effective telehealth. Although we have not recently conducted research on this particular issue, we have seen that blood glucose, cardiac activity, and blood pressure monitors are just a few examples of common medical devices that may be inaccessible and present significant difficulties for blind users. The addition of audio output or vibrotactile features could make most devices accessible while including blind and low vision users in the user experience design would help medical device developers improve the usability of these products.

Access to information about the pandemic, COVID-19 testing, and the vaccine were also frequent concerns:

- 14% of respondents did not agree that they had full access to COVID-19 pandemic information (e.g., the number of cases in their community) at the time of the survey.
- 19% do not agree that testing information has been accessible.
- 26% of screen reader users do not agree that vaccine information was accessible while 9% of screen magnification users disagreed.[8]

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[4] Mussallem, A., Panko, T. L., Contreras, J. M., Plegue, M. A., Dannels, W. A., Roman, G., Hauser, P. C., & McKee, M. M. (2022). Making virtual health care accessible to the deaf community: Findings from the telehealth survey. Journal of Telemedicine and Telecare. https://doi.org/10.1177/1357633X221074863. See also, Annaswamy, T.M., Verduzco-Gutierrez, M., & Frieden, L. (2020). Telemedicine barriers and challenges for persons with disabilities: COVID-19 and beyond. Disability and Health Journal. https://doi.org/10.1016/j.dhjo.2020.100973

[5] See Weber, L. & Kaiser Health News (March 10, 2022). People with disabilities left behind by telemedicine and other pandemic medical innovations. CNN. https://www.cnn.com/2022/03/10/health/pandemic-medical-innovations-disabilities-khn-partner-wellness/index.html

[6] Cohen, J.K. (March 6, 2019). Epic EHR software isn't accessible for blind hospital employees, suit claims. Modern Healthcare. https://www.modernhealthcare.com/technology/epic-ehr-software-isnt-accessible-blind-hospital-employees-suit-claims

[7] Rhoads et al, Table 47.

[8] Id. Rhoads et al, Table 47. 472 respondents answered the question about pandemic information, 344 answered about testing information, and 255 screen reader users and 117 magnification users answered questions about vaccine information.

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Information inaccessibility is significant because information generally can be presented in textual formats augmented with described graphics and properly formatted tables. A couple of examples of public health information presented visually that may not be accessible to a blind or low vision reader include maps and flowcharts representing a community's risk level with color only and social media posts conveying testing locations in image format. Additionally, the last data point suggests that accessibility challenges may be greater for individuals who use screen readers, which convert computer code into audio output, rather than screen magnification. Individuals' choice of assistive technology (e.g., screen reader or magnification) is often related to the type and degree of their disability, and someone who has more usable vision may be more likely to rely on magnification.

Vaccine scheduling accessibility was another topic of much concern once the vaccine was available.[9] In *Journey Forward,* we sought to better understand individuals' experiences. We found that about 47% percent of those who received a vaccine had had someone else schedule the vaccine for them while 34% scheduled the vaccine for themselves or another person. This discrepancy suggests that many people faced or anticipated facing accessibility or usability barriers with scheduling their vaccine. We also know that our sample population was more likely to have access to and use technology on a regular basis than the average person who is blind or has low vision.[10] One participant articulated what many people who are blind or have low vision frequently experience: "I think it is assumed that someone else is available (friend, family, whoever) to help/look out for us. Some of us have people to do that. Many people do not. I would rather not have to ask someone to help me but sometimes it is just easier/quicker. It doesn't solve the bigger problem."[11] It is imperative that websites and digital platforms be accessible, so that people can be independent.

Of the 97 screen reader users who attempted to schedule a vaccine appointment, more than one in five (22%) reported that the method they used to schedule the appointment was inaccessible and another 21% neither agreed nor disagreed that the method was accessible. About a quarter of the 32 screen magnification users reported experiencing inaccessibility, with an additional 6% neither agreeing nor disagreeing. These numbers are not insignificant. While some individuals found the system that they used to be accessible, there has been great discrepancy across the country, and the Department of Justice has already settled with several large pharmacies that offered vaccines through inaccessible scheduling websites.[12] It is simply

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[9] Messenger, H. (March 13, 2021). Blind Americans face roadblocks booking online vaccine appointments. NBC News. https://www.nbcnews.com/business/consumer/blind-americans-face-roadblocks-booking-online-vaccine-appointments-n1260954

[10] Only 4% of our sample did not use a computer, smartphone, or tablet. According to the 2020 5-year American Community Survey microdata, an estimated 18% of people who are blind or have serious difficulty seeing do not have a desktop, laptop, smartphone, or tablet in their home. https://data.census.gov/mdat/#/search?ds=ACSPUMS5Y2020&cv=SMARTPHONE(1,2),LAPTOP(1,2),TABLET(1,2)&rv=DEYE&wt=WGTP

[11] Rhoads et al, p 12.

[12] See Department of Justice settlements with Hy-Vee, Inc., The Kroger Co., Meijer, Inc., and Rite Aid Corporation.

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unacceptable that so many pharmacies failed to prioritize making vaccines accessible in the midst of a global pandemic.

Indeed, many of the barriers we are sharing with you are the result of different entities deprioritizing the digital inclusion needs of people with disabilities. As a result, inaccessible digital health information, platforms, and services create inequity for people with disabilities in accessing healthcare safely, quickly, and independently. It is imperative that coordinated efforts be taken to increase accessibility and equity in telehealth. We strongly encourage the Administration to take the following actions to improve telehealth equity:

- The White House must prioritize digital accessibility in its messaging and when discussing digital inclusion and equity. The COVID-19 pandemic made apparent the necessity for everyone to have broadband access, device ownership, and digital skills. For people with disabilities, accessibility is an additional need to ensure we achieve digital equity and inclusion.
- The Department of Justice (DOJ) should issue enforceable website and application accessibility regulations by the end of the current administration. These regulations would clarify how and when public entities and public accommodations, including most healthcare providers, must make their websites and applications accessible and provide effective communication.[13]
- The Department of Health and Human Services (HHS) should issue regulations on digital accessibility, including telehealth, if and when it updates the Section 504 regulations to ensure programmatic accessibility and effective communication for providers receiving federal funding and their patients with disabilities.
- The Food and Drug Administration (FDA) should provide greater guidance and standards for medical devices to be accessible nonvisually. The Medical Device Nonvisual Accessibility Act, which has been introduced in Congress, would require the FDA to promulgate and enforce accessibility standards for Class II and III medical devices, providing one framework for improving accessibility.[14] FDA and the Access Board should go as far as possible under their current authority to make devices accessible.
- The Centers for Medicare and Medicaid Services (CMS) should permanently cover audio-only telemedicine visits, which provide options for patients without accessible platforms, devices, or broadband. However, we urge providers and policymakers to remember that audio-only visits should not be an alternative to fully accessible digital platforms.

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[13] AFB and 180 other national, state, and local organizations sent a letter to the Department of Justice on February 28, 2022, seeking website accessibility regulations. https://afb.org/research-and-initiatives/public-policy/advocacy-letters-comments-statements/sign-letters/letter-doj

[14] H.R. 4853, Medical Device Nonvisual Accessibility Act of 2021. https://www.congress.gov/bill/117th-congress/house-bill/4853

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- In implementing the Bipartisan Infrastructure Law and its other authorities, the National Telecommunications and Information Administration (NTIA) should raise the profile of accessibility and access to digital accessibility skills. The NTIA has been entrusted with $2.75 billion for digital equity and inclusion programs to help communities take advantage of broadband connections. People with disabilities, including older adults with disabilities, should be actively served through that funding.

We appreciate your attention to healthcare equity through digital inclusion. We know that accessibility barriers have impeded access to care long before the pandemic, and the rise of telehealth has created both opportunities and additional barriers. If you have any additional questions about the information and actions presented here, please reach out anytime.

Sincerely,

Stephanie Enyart, J.D.

Chief Public Policy and Research Officer

cc:

Dr. Jacqueline Ward, Senior Policy Advisor for Health and Life Sciences, WH OSTP
Dr. Megan Ranney, Director of the Brown-Lifespan Center for Digital Health
Dr. Shuhan He, Instructor in Medicine, Massachusetts General Hospital/Harvard; Founder, ConductScience
Tiffany Swygert, Senior Policy Advisor for Medicare, OMB
Emily Voorde, Associate Director, Disability Community Engagement, WH Office of Public Engagement

James L. Madara, MD
CEO, EXECUTIVE VICE PRESIDENT

March 22, 2022

Dr. Alondra Nelson
Deputy Director of Science and Society
Office of Science and Technology Policy
Executive Office of the President
1650 Pennsylvania Avenue
Washington, DC 20504

Dear Dr. Nelson:

On behalf of the physician and medical student members of the American Medical Association (AMA), I appreciate the opportunity to respond to the Request for Information (RFI) from the Office of Science and Technology Policy (OSTP) regarding connected health. We encourage OSTP to support physician reimbursement for use of digital health tools, work with federal agencies to make certain telehealth waivers from COVID-19 permanent, enhance privacy controls to support equitable data governance, and promote greater investment in the development of digital health solutions aimed at historically marginalized communities.[1]

1. Successful models within the U.S.
    Telehealth is critical to effective, efficient, and equitable health care delivery in the U.S. Its usage expanded tremendously and with great success during the COVID-19 pandemic, helping Americans access health care services while maintaining physical distancing and reducing strain on hospitals and physician clinics. With this expansion of services has come recognition from patients, physicians, and others that telehealth services can be deployed to offer effective, equitable, and convenient health care in many circumstances.

2. Barriers to uptake of digital health technologies in community-based settings
    Lack of reimbursement, education, and regulatory flexibility
    There were numerous barriers to use of telehealth services before COVID-19. Many of these barriers are slated to return at the end of the public health emergency (PHE) absent policymaker intervention. Please see our response to RFI Question 6 below. Relatedly, clinicians need clear and concise training on technology platforms to use them effectively. They also need resources to educate their patients on the technology, the data sharing mechanisms involved, and data privacy. Policymakers should be mindful that physicians will increasingly be asked to spend time on counseling patients on use of digital health tools.

    Lack of privacy controls lead to discrimination, redlining, and risk scores
    In the current digital age, personal health information is not truly private. Social media platforms, wearable fitness trackers and apps to manage pregnancy and mental health all collect health data that can be shared for advertising purposes and, when combined with medical records and other consumer information, allow for profiling and discrimination. For example, the U.S. Department of

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[1] Please note that we have included multiple links in this response to direct OSTP to additional resources that could not be fully described within the response's page limit.

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Housing and Urban Development (HUD) sued Facebook in March 2019 for "encouraging, enabling and causing housing discrimination" when it allowed companies that use the platform to improperly shield who can see certain housing ads, including by excluding people based on ZIP code, essentially "drawing a red line around those neighborhoods on a map"—a digital translation of the redlining policies that have oppressed historically marginalized populations across the United States. These practices are only more harmful when combined with sensitive health information. As health information is shared, people must have meaningful controls over and a clear understanding of how their data is being used and with whom it is being shared; trust is critical to the use of health technology and equitable care.

3. Trends from the pandemic reflecting how the use of digital health technologies has changed
The COVID-19 pandemic has spurred a dramatic increase in virtual care adoption. The rise has been driven out of the necessity for social distancing and enabled by a wide range of policy flexibilities implemented by policymakers and payors. Many of these allowances are still temporary, creating uncertainty among clinicians, policymakers and payers on whether and how much to pay for virtual care services in the future. The AMA is actively advocating to retain many of the flexibilities that allowed clinicians to reach patients and provide care where they live, work, and play. We also note that the resistance of the public to use digital contact tracing apps and digital vaccine credentialing services should serve as a warning to policymakers that consumers take privacy very seriously and that privacy safeguards for consumer-facing technology is critical to preserving patient health and safety while promoting health equity.

4. User experiences – how technology can be better designed with user experience in mind
Improved health technology has the potential to improve outcomes and the patient experience—but it can also exacerbate the long-standing inequities found throughout our health system and our nation. Accordingly, it is imperative that digital health tools be designed with users—all types of users—in mind. Data show that Black, Hispanic/Latinx, women, LGBTQ+, and other innovators from historically marginalized communities have been drastically underfunded and underrepresented in solution design efforts, contributing to a health solution landscape that neglects and often harms these patient populations—exacerbating health inequities. To help drive investment in solutions designed by and for marginalized communities, the AMA is partnering with founding collaborator organizations to support a new In Full Health Learning & Action Community with content, tools, resources and opportunities to connect, engage and learn with and from each other to advance equitable health innovation. We encourage OSTP to incorporate the In Full Health Principles for Equitable Health Innovation into its policies.

5. Tools and training
AMA Playbook Series
From the role of augmented intelligence (AI) in enhancing patient care to the use of health care apps and determining best practices for EHR adoption and usability, the AMA is committed to developing tools and training resources to aid physicians who use digital health tools. We have developed several "Playbooks" related to telehealth implementation, remote patient monitoring solutions, and providing patients with access to their health information.

AMA resources on equitable data governance
Rapid growth in the range and volume of digital patient data beyond the confines of the HIPAA framework merits greater attention. While more direct action should be taken in the near-term,

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without clear legal guardrails around how patient data may be used and shared, public trust will crumble in the face of repeated scandals and so undermine the potential for digital health to facilitate an era of more accessible, coordinated, and personalized care. The AMA's Privacy Principles seek to provide guidance on what these guardrails should include. They are derived primarily from AMA House of Delegates policy, and address: (1) individual rights; (2) equity; (3) entity responsibility; (4) applicability; and (5) enforcement. Additionally, the Privacy Principles serve as a reference for technology developers navigating this space so that patients and clinicians can make informed choices about privacy. The AMA has developed Privacy is Good Business: A case for privacy by design in app development seeking to help developers and implementers of mobile health apps put the Privacy Principles into action—strengthening patient and physician trust in those apps.

Training and education
Clinicians need transparent resources to help determine whether a device used within their remote patient monitoring program (RPM) is validated for clinical accuracy. Publicly available lists, such as the US Blood Pressure Validated Device Listing™ (validatebp.org), can provide guidance on the clinical accuracy of devices. Without such listings, a health care organization would need to review the testing data, if available, for each device under consideration to make an informed decision. Unfortunately, it is unclear the extent to which health care organizations understand the variability in accuracy of some of the most well-known and purchased devices.

6. Proposed government actions (near-term, mid-term, and short-term)
   Efforts must continue to build capacity and support access to care centered on where the patient is located to the greatest extent it is clinically efficacious and cost-effective, and to ensure physicians and other health professionals have the tools to optimize care delivery. Specifically, we strongly urge the federal government to retain may of the waivers it introduced during the public health emergency (PHE) that prompted a dramatic increase in provision of telehealth services and to ensure payment for audio-only telehealth services.

7. How digital health tools can help to reduce health disparities and drive health equity
   The existing body of evidence regarding the value of virtual care has grown substantially in recent years. Building on existing research, the AMA and Manatt Health collaborated to develop a "Return on Health" framework to articulate the holistic value of digitally enabled care. The Return on Health report (PDF) includes case studies that explore the value of virtual care through the framework. Real-world examples and illustrative scenarios show how to apply the framework considering different environmental variables.

We appreciate the opportunity to respond to this RFI and welcome the opportunity to discuss our views. Please contact Laura Hoffman, Assistant Director, Federal Affairs, at █████████████████████.

Sincerely,

James L. Madara, MD

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February 28, 2022

Director Eric Lander
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Re: Strengthening Community Health Through Technology

Dear Mr. Lander:

I am writing on behalf of the American Psychological Association (APA). As requested by the Office of Science and Technology Policy (OSTP), APA is providing comments on the Request for Information (RFI) on Strengthening Community Health Through Technology. APA is the largest scientific and professional organization representing psychology in the United States. APA's membership includes over 133,000 researchers, educators, clinicians, consultants, and students. APA seeks to promote the advancement, communication, and application of psychological science and knowledge to benefit society and improve lives.

We appreciate OSTP soliciting information from a variety of interested stakeholders on how digital technologies can be used to improve, transform, and innovate community health. At no time in our history as a nation has this been more critical then now. The coronavirus pandemic has taken a toll on U.S. population's mental health and thus has expanded the need for mental health care. In April 2020, the average reported stress level for U.S. adults was 5.4 out of 10, compared with 4.9 of overall average stress level in the previous year (APA, 2020a). Six months into the pandemic, about three in ten psychologists (29%) reported seeing more patients, nearly three quarters (74%) reported increased demand for treating anxiety disorders, and 60% reported increased demand for treating depressive disorders (APA, 2021b).

Telehealth

The COVID-19 public health emergency (PHE) forced mental and behavioral health providers to find new ways to meet the needs of their patients as leaving home put patients and those with co-morbid conditions at risk of being exposed to the virus. In September 2020, about 96% of psychologists provided some or all services via telehealth and 33% worked with patients who lived in a different state than where they were licensed (APA, 2021b).

Without the waivers expanding the use of telehealth in Medicare, beneficiaries would have lost access to mental and behavioral health services at a time when their health, both physical and mental, was extremely vulnerable. APA thanks CMS for the flexibility extended under the waivers, such as making the home an originating site, adding more services to telehealth, and

allowing patients to use audio-only devices. APA believes the next step is to ensure that flexibility remains available to Medicare beneficiaries after the PHE comes to an end. CMS should continue its efforts to close gaps in access to mental and behavioral health services by continuing to allow patients from underserved communities—such as rural areas and communities of color—to access these services, often for the first time. For many patients seeking mental and behavioral health services, the availability of telehealth and audio-only services increases their ability to participate in treatment; for example, many people with disabilities either cannot drive and lack services to transport them to in-person appointments, or experience heightened anxiety during in-person appointments and require the familiarity of their own homes to fully engage in treatment. The availability of audio-only telehealth is particularly beneficial to many older patients who may lack the familiarity with or access to the technology necessary for an audio/video telehealth appointment.

Despite the rapid adoption of telehealth, many barriers to the delivery of mental health care remain to be addressed, including disparities in broadband access for older adults, marginalized racial/ethnic communities, and rural residents. While few are arguing that all telehealth restrictions should be permanently removed, at a minimum, ensuring that services can continue to be provided in the patient's home, that audio-only services are reimbursed, and that all appropriate telehealth services are being reimbursed at the same rate as in-person services are critical changes to law and policies needed to address the population mental health needs as a result of the pandemic.

Mobile Mental Health Apps

The rapid growth of the mental health app space holds promise for addressing access to care and equity gaps, including stigma, cost, and lack of providers; however, the technology has, to date, outpaced the research in determining whether a product is effective and safe for consumers. APA advocates for the development and implementation of an evaluation framework, such as the one proposed recently by AHRQ, that could be used by mental health organizations and advocacy agencies, consumers and families, health care providers, employers and payers, and app developers to better inform the utilization of these innovative treatment interventions. From a consumer protection standpoint, it is important that such apps not only demonstrate an evidence base but also have appropriate data privacy and security protocols, interoperability features and usability/accessibility consistent with the Federal Health IT Strategic Plan. Further, adoption of effective, evidence-based mobile mental health apps is likely to continue to be stymied due to the lack of a clear regulatory body overseeing these products, and inconsistent, or even non-existent, payment models to reimburse for their use. APA recommends that mobile mental health treatments products and services should be reimbursable to support integration into the U.S. health care landscape.

Digital Therapeutics

Increasing access to mental and behavioral health care via digital therapeutics is a priority for APA, as well as ensuring that psychologists and other non-physicians have access to utilize these innovative interventions with their patients. Mental health digital therapeutics involve the use of software programs to deliver evidence-based and validated interventions to treat or manage mental and behavioral health disorders, such as chronic insomnia and substance use disorders. They can be used independently or as an adjunct to medications or other therapies to optimize patient care and health outcomes. Digital therapeutics are not typically direct-to-consumer mental health apps you can download on your own.

By definition, digital therapeutics meet classification for Software as a Medical Device and, therefore, fall under FDA oversight. However, confusion abounds regarding what this oversight means, and a pervasive, but false, belief that a prescription digital therapeutic product can only be made available to patients through physicians, dentists and veterinarians who have prescribing authority under state law. Additional health care professionals have the ability to order the use of prescription medical devices including psychologists, speech language pathologists, and physical therapists.

We recommend that CMS and the FDA provide some clarity to manufacturers and other interested stakeholders by encouraging the inclusion of language that aligns with existing FDA statute for the device category (21 CFR Sec. 801.109(a)(2)) in new and existing FDA applications and any current or future federal legislation for digital therapeutics which provides in part that a device must be "sold only to or on the prescription *or other order of such practitioner* for use in the course of his professional practice." Failure to include language both 'ordered' and 'practitioner' could have several significant unintended consequences in Medicare coverage that will drive access constrictions at a critical time for patients. For example, psychologists, counselors, and licensed clinical social workers treat mental health and substance use disorders but would not be able to incorporate digital therapeutics into their practice if legislation and manufacturer applications limits prescribing and ordering status to physicians. Further, a digital therapeutic does not need to be labeled as "prescription" in order to demonstrate it is evidence-based and effective, but such labeling would limit all practitioners' treatment options, which only serves to amplify the existing workforce shortage in mental and behavioral health care and the need for more, not fewer treatment options for our patients.

APA wishes to thank OSTP for this opportunity to provide comments on the (RFI) on Strengthening Community Health Through Technology. If your staff have any questions, you are welcome to contact our Director of Operations and Innovation, Nicole Owings-Fonner, MA, PMP by email (█████████████████████).

Cordially,

██████████████████████

C. Vaile Wright, PhD
Senior Director, Health Care Innovation, American Psychological Association

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AMERICAN PSYCHOLOGICAL ASSOCIATION
SERVICES, INC.

March 31, 2022

Alondra Nelson, PhD
Deputy Assistant to the President
        for Science and Technology
U.S. Office of Science and Technology
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Submitted electronically to ▮▮▮▮▮▮▮▮▮▮▮▮

Dear Dr. Nelson:

The American Psychological Association (APA) appreciates the opportunity to respond to the Request for Information (RFI) on Strengthening Community Health Through Technology (87 FR 492).

APA is the leading scientific and professional organization representing psychology in the United States, comprised of more than 133,000 researchers, educators, clinicians, consultants, and students. Its mission is to promote the advancement, communication, and application of psychological science and knowledge to benefit society and improve lives.

As the White House Office of Science and Technology Policy is aware, digital technologies can enhance and transform health care infrastructure supporting communities. As a result, this technology alters how we live, work, and play. Further, innovative technology will have an increasing influence on health and the health care infrastructure. To this end, APA would like to follow up on an earlier submission from APA's Senior Director for Health Care Innovation, C. Vaile Wright, PhD, with three specific examples of models that have successfully impacted community health.

Remote Access to Court Clinic: To mitigate COVID-19 impacting the Boston-area communities, the Court Clinic, for two distinct periods, has operated remotely. Remote work allows the clinic to respond in real-time to mental health emergencies in the court and continue to serve clients and protect evaluators. It helps preserve the workforce from illness and avoid staffing shortages that would mean a lack of access to mental health evaluation services. Further, access allows on-call court clinicians to cover other rural and difficult-to-cover courts in the outer areas of the state, which has a shortage of forensically trained psychologists.

Barriers – (1) There is limited access to technology, including lock-up areas in courthouses with limited internet signal and courts ill-equipped to allow remote access. (2) Interagency disagreement is also a barrier. Remote access to mental health evaluation services has been done case-by-case, depending on the court. Remote access relies on court officers to facilitate the equipment, and some officers disagree with such facilitation. (3) There is limited data in this area, particularly at the intersection of mental health and the law.

APA.ORG
APASERVICES.ORG

Advocating for APA members and psychology

750 First Street, NE
Washington, DC 20002-4242

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Trends from the pandemic – Even within the described limitations, having some remote access has dramatically assisted with providing essential services that would otherwise be suspended or intermittently unavailable (e.g., if staff are sick and unable to perform their duties).

User Experience – There can be many problems, from handling the equipment to acoustics, among other issues. In addition, when individuals who are court-involved but not in custody require assessment services, it varies whether access to the internet is available to allow for a remote evaluation. As a result, they must rely on their attorneys or other community agencies.

Tool and training needs – There is a need for more equipment and training, but also interdisciplinary/systemic facilitation to encourage agency-wide embracement of the technology.

Proposed government actions – (1) Provide funding to provide courts infrastructure to support such access, including the equipment but also resources to train the staff and to compensate staff who now have extra duties. (2) Provide more community access to technology such as videoconferencing rooms where members of the community can reserve space in various agencies/public libraries, etc. (3) Provide free, low cost, or subsidized broadband access. (4) Provide community education and training for the elderly, children, and people with disabilities to learn how to use the technology.

Health equity – Digital access and training can improve outcomes for marginalized communities and increase access to services. It would also allow individuals without transportation access to mental health counseling.

For more information, contact: **Laura Guzman-Hosta**; Department of Mental Health, Massachusetts

Using Interactive Virtual Presence to Install Car Seats: Currently, the Installation of about 80 percent of car seats on American roads is incorrect. As a result, seat belts improve safety, but not optimally. The University of Alabama at Birmingham (UAB) researchers are currently studying interactive virtual presence to help parents install car seats properly in their vehicles. Access to certified car seat technicians is limited and primarily available in larger cities. Deliverance of interactive virtual presence by smartphone can help parents in rural and outlying areas get help installing car seats from certified technicians. The system is also valuable to low-income parents with busy lifestyles.

Published UAB's pilot data (a series of three studies) includes promising findings from a U.S. Department of Transportation (DOT)-funded grant helping parents in rural Southeast Montana. Researchers are currently conducting a multisite randomized controlled trial at seven locations to demonstrate effectiveness before broad dissemination. Additionally, a major car seat manufacturer integrates the system into its consumer helpline. The use of this technology is easily scalable to national outreach. Users are positive, and the system has initial evidence of efficacy. Community health providers can easily measure outcome through safe and proper car seat installation."

Barriers – Broadband access is the most prominent current barrier, especially in rural areas. Various strategies are available to overcome this. Another barrier is insufficient certified car seat technicians in the country.

Trends from the pandemic – The COVID-19 pandemic has made this technology more appealing.

User Experience – The research suggests a positive experience for expert technicians and families installing car seats. *HelpLightning*, the interactive virtual presence system used, is effective and well-liked. It is also commercially available and has a no-cost version available for free use worldwide.

Tool and training needs – Certified car seat technicians are trained through various programs; many of the programs are run by Safe Kids Worldwide. The technicians are given basic training on using interactive virtual presence (1–2-hour session). The technology is freely available. Internet access and speed are a priority.

Health equity – The program is valuable for rural populations, language minorities, low-income, and communities of color.

International model -- This model could work identically abroad. Australia is currently testing it.

For more information, contact: **David Schwebel;** University of Alabama at Birmingham

Digital Mental Health Interventions: Digital mental health products supported by coaching, delivered either by a trained layperson or licensed clinician, improvements may be equivalent in some cases to psychotherapy and pharmacotherapy. In addition, numerous scientific studies have supported the effectiveness of digital mental health interventions with robust evidence in treating depression, anxiety, and post-traumatic stress disorder. Fully automated digital mental health interventions are often effective; however, effect sizes are usually more modest, as fewer people remain engaged and benefit.

Barriers – Barriers to accessing mental health care include the lack of trained providers, the stigma associated with seeing a health care provider, cost of care, lack of transportation to appointments, and difficulties finding child or other dependent care while attending appointments. Even more pronounced are the issues associated with accessing care in underserved populations who typically suffer the poorest health outcomes and may have prior negative experiences in the healthcare system.

Proposed government actions – Digital mental health interventions are currently not widely reimbursable, limiting their use in healthcare systems and benefiting Americans experiencing mental health problems. Reimbursement mechanisms are required for both the product and the time necessary for coaching. Recently developed CPT (Cognitive Processing Therapy) codes are still insufficient as the patient must initiate communications, and the provider must be a physician or nurse. Similarly, while service codes exist for home technologies, none fit the tools commonly used for digital mental health services. The establishment of CPT codes for digital mental health would further expand reimbursement through other reimbursement mechanisms, such as risk- and value-based contracts or systems being developed in some states for Medicaid.

Establishing a national infrastructure for digital mental health services is needed, including supporting the development of reimbursement pathways. These include the institution of CPT codes, reimbursement under Medicare, technical assistance to states for reimbursement under Medicaid, and federal guidance for using statutory funding lines such as mental health block grant funds and action to create standards for regulating digital mental health products.

International model – Digital mental health interventions are already integrated into the healthcare systems of many other countries. For example, Australia has funded the MindSpot Clinic, a digital mental health clinic that provides digitally supported remote care for tens of thousands of Australians. The United Kingdom has approved digital mental health interventions as a reimbursable treatment. The treatments are being integrated into their national mental healthcare system through their Increasing Access to Psychological Therapies (IAPT) program. Unfortunately, the U.S. is lagging behind peer nations in promoting the strategic use of digital tools to increase access to and quality of mental health care.

For more information, contact: **Stephen Schueller**; University of California, Irvine

Again, APA appreciates the opportunity to provide input on a significant area related to improving community health. It is important that we leverage technology to extend the reach of healthcare to allow all communities to reap the benefit of innovation. Please do not hesitate to contact Joseph Keller, PhD ▓▓▓▓▓▓▓▓▓▓) if you have questions or need additional information.

Sincerely,

Katherine B. McGuire, MA

Chief Advocacy Officer
American Psychological Association

<p style="text-align: center;">March 31st, 2022</p>

Dr. Alondra Nelson
Director, White House Office of Science and Technology Policy
The White House
1600 Pennsylvania Avenue, NW
Washington, D.C. 20500

Dear Dr. Nelson,

On behalf of the American Society of Consultant Pharmacists (ASCP) membership, we are pleased to submit the following comments to the White House Office of Science and Technology Policy's (OSTP) request for information (RFI) on strengthening community health through technology.

ASCP is the only international professional society devoted to optimal medication management and improved health outcomes for older adults. ASCP's thousands of pharmacist members manage drug therapies and improve the quality of life of geriatric patients and others living in various settings, including sub-acute and long-term care facilities (LTCF), skilled nursing facilities (SNFs), assisted living facilities, psychiatric hospitals, hospice programs, correctional facilities, home and community-based care.

Specific to OSTP's RFI, ASCP will provide comments on barriers to care access, trends from the pandemic and proposed government action. To facilitate clarity, our letter outlines our recommendations followed by a narrative discussion of the need and benefits. To that end, ASCP recommends that the Administration, independently and/or in partnership with Congress, undertake efforts to:

1. Empower pharmacists to provide accessible and quality care, especially in rural and underserved communities, by recognizing them as health care providers under the Social Security Act. Congressman G. K. Butterfield has introduced the bipartisan *Pharmacy and Medically Underserved Areas Enhancement Act* (H.R. 2759) and Congressman Ron Kind has introduced the *Equitable Community Access to Pharmacist Services Act* (H.R. 7213.) We encourage the White House to publicly endorse these bills that will expand access to care and health equity by making pharmacists, the most accessible health care providers in the U.S., more accessible to Medicare recipients.
2. Support the permanent preservation of telehealth flexibilities currently allowed under the 1135 waivers associated with the COVID-19 Public Health Emergency (PHE) declarations, including allowing home-based telehealth visits, licensed pharmacists and pharmacy technicians to operate across state lines, audio-only visits and routine pharmacy tasks to be conducted remotely.
3. Remove operational barriers that limit the utilization of telehealth and technology in pharmacy practice.
4. Invest in interoperability and standard development/adoption to ensure pharmacies and pharmacists can access a patient's electronic health record (EHR,) transfer prescriptions as needed and communicate recommendations to prescribers. In particular, the Administration should closely examine opportunities for investment in practice settings not covered by the

Health Information Technology for Economic and Clinical Health (HITECH) Act, such as long-term care.
5. Require states with Immunization Information Services (IIS) systems to provide access to pharmacists beyond the end of the COVID-19 PHE.

Empowering Pharmacists:
Pharmacists were on the front lines of the COVID-19 pandemic providing testing, treatment and vaccines. In fact, more than ninety percent of vaccine doses were administered by pharmacists through the Federal Retail Pharmacy Program. When faced with the challenge of vaccinating all Americans, both the Trump and Biden Administrations turned to pharmacists because they are the most accessible healthcare providers in America. The vast majority of Americans live within five miles of a pharmacy.

The aforementioned, bipartisan legislation from Congressmen Butterfield and Kind would empower these pharmacists, who administered nearly 235 million vaccine doses, to address other pressing public health issues like tobacco cessation, chronic disease management, obesity management and infectious disease prevention and be reimbursed, like other providers, by Medicare.

Telehealth Flexibilities:
On March 17, 2020, CMS announced the expansion of telehealth services on a temporary and emergency basis under waiver authority provided by Congress. Starting on March 6, 2020, Medicare could pay for telehealth services, including office, hospital, and other visits furnished by physicians and other practitioners to patients located anywhere in the country, including in a patient's place of residence.

Now, distant practitioners can furnish and receive payment for covered telehealth services, subject to state law. Accordingly, we strongly urge these flexibilities be made permanent under the Executive Order, when possible.

In addition, the C*ARES Act* (Public Law 116-136) under Sec. 3703 "Expanding Medicare Telehealth Flexibilities" eliminated requirements in the *Coronavirus Preparedness and Response Supplemental Appropriations Act of 2020* (Public Law 116-123) and allowed the HHS Secretary to waive telehealth restrictions under 1834(m) to enable beneficiaries to access telehealth, including in their home, from a broader range of providers—including pharmacists. Given the significant burdens on the health care system posed by the pandemic and broader benefits of telemedicine in ensuing positive healthcare outcomes for patients, we urge the Secretary to use this new authority, under Sec. 3703, to specifically include pharmacists as practitioners for the Medicare Telehealth Benefit in order to fully utilize their expertise during this health crisis and beyond.

Furthermore, we encourage CMS to include pharmacists under existing and future telehealth flexibilities. Under Medicare, pharmacists already provide comprehensive medication reviews (CMRs), and medication regiment reviews (MRRs) and medication therapy management (MTM.) These services could be expanded through greater access to the telehealth technologies. Greater access and flexibility would increase the ability of pharmacists to assist patients and improve disparities in health outcomes often related to access to care.

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Pharmacist Access to State IIS:
As discussed above, pharmacists played a critical role in administrating hundreds of millions of COVID-19 vaccine doses. Some states denied pharmacists and pharmacies access to the state's Immunization Information Systems (IIS) which created significant reporting barriers during the earliest days of the vaccine rollout. It is critical that pharmacists, like all vaccinating health care providers, have access to these state systems and access to any federal system to facilitate accurate reporting.
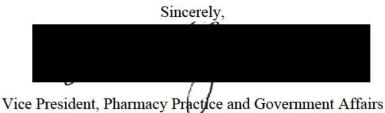
Conclusion:
In summary, ASCP strongly encourages the Office of Science and Technology Policy to incorporate these policy priorities into its planning related to health information technologies designed to strengthen America's public health system.

As always, ASCP and its members stand ready to assist the Biden Administration and this office with our expertise in senior and long-term care. Feel free to reach out to James Lewis at ████████████ with any questions or requests. We appreciate your careful attention to these points.

Sincerely,

█████████████████████

Vice President, Pharmacy Practice and Government Affairs
American Society of Consultant Pharmacists (ASCP)

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March 29, 2022

Marc F. Aidinoff, Chief of Staff
Office of Science and Technology Policy, Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information (RFI) on Strengthening Community Health Through Technology
Submitted electronically to ████████████████████

Dear Mr. Aidinoff:

Telehealth has increasingly become an essential component of health care in the 21st century, and the COVID-19 pandemic has made it even more critical for telehealth tools to be accessible for consumers in every American community. The American Telemedicine Association (ATA), the only organization exclusively devoted to advancing telehealth and committed to ensuring everyone has access to safe, affordable, and appropriate care, and ATA Action, the ATA's affiliated trade association focused on advocacy, appreciates the opportunity to provide comments on how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

The ATA and ATA Action commend the Office of Science and Technology Policy OSTP for broadly defining the term "digital health technologies" as any tool or set of tools that improve health or enable better healthcare delivery by connecting people with other people, with data, or with health information. The ATA and ATA Action agree that all modalities should be considered tools to improve access to care and services, including but not limited to virtual visits, chat-based interactions, remote patient monitoring, other technology-enabled modalities providing services such as patient education, consults, diagnostics, and therapeutics, and more. As OSTP considers influencing policy changes, it should keep this broad definition in mind and avoid policies that limit access to specific modalities when others could be effective. In response to the questions laid out in the OSTP RFI, the ATA and ATA Action would like to share the following detailed comments.

1. Barriers

While technology-enabled solutions have the potential to transform our health care system, barriers to adoption do remain. Chief among these barriers are policy limitations that arbitrarily restrict access to certain types of care or certain situations and an incomplete broadband infrastructure to support access to virtual services everywhere. While these two barriers overlap, it is important not to restrict access to services solely because they're not available everywhere; rather, we should work to ensure that technology and services are available equitably across the country.

Coverage and Reimbursement: Federal policy limitations on coverage and reimbursement of telehealth services, particularly in the Medicare program, remain some of the largest unnecessary barriers to access to virtual health care services. Prior to the COVID-19 pandemic, Medicare reimbursed telehealth services under extremely limited circumstances, restricting the services only to patients in physical facility locations in certain rural or provider shortage areas. Luckily, telehealth flexibilities allowed during the pandemic alleviated these barriers, with the number of Medicare beneficiary telehealth visits increasing by 63-fold in 2020 alone.[1] This uptick in utilization showcases the value and need for permanent telehealth policy going forward. The federal government should examine the policies within its jurisdiction, including the Medicare program and oversight of Medicaid programs,

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[1] https://www.aspe.hhs.gov/sites/default/files/documents/a1d5d810fe3433e18b192be42dbf2351/medicare-telehealth-report.pdf?_ga=2.263152908.1288477598.1638811694-1417522139.1637192937

ERISA plans, and high deductible health plans to ensure access is not unduly restricted post-pandemic. States should also examine the policies within their jurisdiction to do the same, including their Medicaid programs, oversight of the practice of medicine and other clinical practices, and commercial health plan policies.

As we saw during the pandemic, telehealth was used to reach patients in need of behavioral and mental health care. The COVID-19 pandemic has exacerbated the mental health crisis in this country, including the opioid overdose epidemic and pediatric behavioral health issues. Telehealth has the potential to break down barriers that have long existed in our fragmented health care system. Remote encounters for physical, mental, or substance use disorder in a collective community setting, such as group therapy or through community health centers, can be an impactful approach. During the pandemic, clinicians and researchers learned that telehealth-based opioid use disorder treatment is just as effective as in-person care, only further showing the need to ensure it can be made widely accessible.[2]

Technical (Including Broadband Access): The ATA and ATA Action supported broadband provisions included in the Infrastructure Investment and Jobs Act that dedicates $42 billion toward closing the digital divide. The ATA and ATA Action encourage OSTP to consider Americans in technology deserts. In addition to those in rural communities, there are people in urban areas, such as in public housing, who also lack the infrastructure to access health care information and services. Technology used not only for health care services, but for other remote services to address social determinants of health such as job training and education.

Other (Practice Across State Lines): The ATA and ATA Action would also highlight that state and federal regulations supporting licensure and certification of clinicians need continue to be streamlined and unified to allow qualified clinicians to make their services available more easily and quickly. Adoption of interstate licensure compacts, flexibility for online medical second opinions, cross-state follow-ups for continuity of care, and other related licensure portability policies ensure that clinicians can treat patients safely across state lines. Policy barriers that impose undue administrative burden or restrictions that do not promote patient access, continuity of care, and quality medical services should be reduced. State and federal policy should ensure efficient licensure, both during public health emergencies and after.[3]

2. User Experience

In a 2021 survey, both providers and consumers stated they valued telehealth and planned to use it in the future, with 8 out of 10 patients reporting their telehealth visit was of good quality.[4] The ATA and ATA Action support that the delivery of care should be determined by the clinician, in consultation with the patient. Telehealth visits should meet the same standard of care as services provided in person and should not be limited to any specific technology if it is safe, effective, appropriate, and able to be fully integrated into clinical workflows. Telehealth allows providers to quickly respond to issues experienced by patients and can support quicker education, treatment and prescribing. Technology should be designed to enable health care workers to do their best work and be centered around the needs of the community, which varies across the nation.

3. Tools and Training Needs

Tools – As more technological tools become available, from hardware devices to software and everything in between, the FDA has been grappling with which tools to regulate and how to regulate them in comparison to more traditional medical devices. The FDA has established a Digital Health Center of Excellence to support digital health innovation and has developed a framework for regulating what the International Medical Device Regulators Forum

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[2] https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2021/12/state-policy-changes-could-increase-access-to-opioid-treatment-via-telehealth

[3] https://www.americantelemed.org/wp-content/uploads/2021/10/The-ATAs-Recommendations-on-Enabling-Healthcare-Delivery-Across-State-Lines-10-27-21.pdf

[4] https://c19hcc.org/telehealth/patient-survey-analysis/

(IMDRF) has defined as Software as a Medical Device.[5] The ATA and ATA Action support the thoughtful consideration of regulating digital tools in a way that encourages innovation without compromising patient safety.

Training needs – Nursing schools are beginning to offer telemedicine labs, to provide opportunities for nurses to be trained in remote encounters. Telehealth training should be a mandatory component like clinical rounds, during which students experience the clinical and technical expertise in a patient setting. Providers should also have telehealth training as a part of their continuing education requirements. To support patient training the Centers for Medicare and Medicaid Services (CMS) should develop remote encounter technology training for patients that is based on demographic and clinical data, such as the Mapping Medicare Disparities Tool that CMS monitors.

4.   Proposed Government Actions

The ATA and ATA Action urge the federal government to ensure the telehealth flexibilities implemented during the public health emergency are made permanent, so millions of patients do not lose access to care and fall off of the "telehealth cliff".

Additionally, one of ATA's policy principle is to ensure program integrity. As solutions begin to be implemented at local and community levels it is also critical for the federal government and its agencies to actively adopt and expand telehealth services. The administration has made efforts to gather data from providers and insures on telehealth usage. As this data is collected it will be necessary to investigate and reconcile suspicious activity and investigate as warranted, just as authorities do for in-person care.

5.   Health Equity

The U.S. has entered a period where the subject of disparities is receiving a historic level of attention by government and market stakeholders. The ATA and ATA Action strongly believe telehealth can be used to eliminate health disparities and inequities for all underserved communities and populations. There are many factors that can prevent an individual from seeking or receiving healthcare services that must be addressed including structural competence, inclusiveness, history, culture, trust, structural anti-racism, affordability, connectivity/broadband, and health/digital literacy.

Notably, while broadband and connectivity are the focus of a vital investment in our nation's infrastructure, the ATA and ATA Action believe the broad availability and integration of telehealth into our healthcare system can drive the changes needed in order to achieve the nation's goals for health and well-being. For information see the ATA's framework for eliminating health disparities using telehealth.

We thank you in advance for your attention on this important matter. We welcome the opportunity to serve as a resource to you on how to promote and effectively leverage the use of technology to reimagine health care. To discuss further, please reach out to ATA Action's Executive Director, Kyle Zebley,

Sincerely,

Ann Mond Johnson
CEO
American Telemedicine Association

Kyle Zebley
Executive Director
ATA Action

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[5] https://www.imdrf.org/sites/default/files/docs/imdrf/final/technical/imdrf-tech-131209-samd-key-definitions-140901.pdf, https://www.fda.gov/medical-devices/digital-health-center-excellence/software-medical-device-samd

ATS American Thoracic Society

1150 18th Street, N.W., Suite 300,
Washington, D.C. 20036

thoracic.org

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*ATS 2022
International Conference*

February 28, 2022

Jacqueline Ward, Ph.D.
Senior Policy Advisor
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue, N.W.
Washington, D.C. 20504

Dear Dr. Ward,

I write to you on behalf of the American Thoracic Society (ATS) regarding the Request for Information (RFI) on Strengthening Community Health Through Technology. ATS is the world's leading medical society dedicated to accelerating the advancement of global respiratory health through multidisciplinary collaboration, education, and advocacy. Core activities of the Society's more than 16,000 members are focused on leading scientific discoveries, advancing professional development, impacting global health, and transforming patient care. The ATS is pleased to provide comments in response to the RFI.

Successful models within the United States

The U.S. Department of Veterans Affairs' (VA) iPad program, in collaboration with Apple, provides qualifying Veterans with cellular-enabled iPads to access telehealth. The VA began the Connected Tablet program in 2016. According to a VA study[1], Veterans who received tablets reported high levels of satisfaction with care, were less likely to miss appointments and found it easier and more convenient to access VA care.

Barriers

Shifting care online has the potential to exchange one set of barriers to care (transportation issues, time constraints) for another (internet access, device capability, digital literacy). Barriers faced by individuals and organizations to the use of digital health technologies include:

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[1] Donna M Zulman, Emily P Wong, Cindie Slightam, Amy Gregory, Josephine C Jacobs, Rachel Kimerling, Daniel M Blonigen, John Peters, Leonie Heyworth, Making connections: nationwide implementation of video telehealth tablets to address access barriers in veterans, *JAMIA Open*, Volume 2, Issue 3, October 2019, Pages 323–329, https://doi.org/10.1093/jamiaopen/ooz024

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- Technical: Barriers to broadband access exist in rural and urban communities as well as Native American reservations.
- Reimbursement policies: The ATS, in agreement with the American Academy of Family Physicians (AAFP),[2] recommends:
  - streamlined licensure processes for obtaining several medical licenses that would facilitate the ability of physicians to provide telemedicine services in multiple states;
  - states engage in reciprocity compacts for physician licensing, especially to permit the use of telemedicine;
  - that patients who are traveling outside their home states who have an established relationship with a physician should be allowed to be treated by their primary care physician, so long as the physician is licensed in the state in which the patient receives their usual care; and,
  - increased standardization among payers of current reimbursement policies, especially regarding eligible originating and distant sites, and use of asynchronous store-and-forward technology. The current variability in policies among payers leads to administrative complexity and burden for physicians and patients.

Trends from the pandemic

The pandemic has revolutionized the way in which patients access health care in the United States, including the use of telemedicine. All of this is happening in the context of severe workforce shortages and burgeoning workload on practice staff.

Digital care can help to reduce geographical barriers to care, while making access to specialist services (including, for example, mental health) easier. These important benefits should not be lost but built in as part of new flexible service models.

User experience

Community health workers and community-based health care providers should be aware that not all patient groups will book appointments online and that other routes of access need to be maintained to avoid widening health inequalities.

Tool and training needs

Information about the current technological tools available to community health workers should include the use of telephone interpreter service lines. Telephone interpreter service lines often offer speedy interpreting assistance in many different spoken languages. While telephone interpreters can be used in numerous situations, they may be particularly appropriate where the mode of communicating with an English proficient person would also be over the phone. Nuances in language and non-verbal communication can often assist an interpreter but cannot be recognized over the phone. Video Remote Interpreting (VRI) is another option for addressing linguistic and disability related barriers to care.

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[2] American Academy of Family Physicians, "Telemedicine," Updated December 2019.

Proposed government actions

Within the next five years, opportunities exist for the Federal Government to transform the United States' current health care delivery system, which relies on face-to-face consultations and providing data to physicians intermittently, to a system that allows technology to obtain relevant clinical data more continuously. The latter is beginning to occur in technical fields in health care, including, for example, home ventilation and mechanical cardiac support.

Health equity

Language is an important barrier to telehealth use. Patients who are limited English proficient (LEP) have documented disparities in care access, satisfaction, utilization, and quality.

Professional interpretation is a standard part of care for LEP patients. Federal law requires health programs that receive federal funds, such as Medicare and Medicaid, to provide language services to patients in their preferred language. The legal rights of patients with limited English proficiency have been protected as part of nondiscrimination laws for decades, such as Title VI of the Civil Rights Act of 1964. These rights were recently broadened under Section 1557 of the Affordable Care Act. Despite these mandates, about a third of the hospitals in the United States do not offer language services. The provision of linguistically appropriate care already presents a challenge to health systems, making it unclear how diligently hospitals would establish or maintain compliance when providing telehealth services.[3]

In addition, patients who are deaf or hard-of-hearing must also be included in telehealth accommodations. Federal law, the Americans with Disabilities Act, and the Affordable Care Act, require that people with disabilities be given effective communications to enable their participation in medical services and programs.

The American Thoracic Society recommends that what is needed now is a forensic focus on tackling inequalities in access to health care and technology – acknowledging that one size does not fit all – while at the same time maximizing the opportunities and benefits of technology and digital health care. Inclusion and personalization are key.

Sincerely,

Lynn Schnapp, M.D., ATSF

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[3] Disparities In Telehealth Use Among California Patients With Limited English Proficiency
Jorge A. Rodriguez, Altaf Saadi, Lee H. Schwamm, David W. Bates, and Lipika Samal
Health Affairs 2021 40:3, 487-495

Elizabeth Hall
Vice President, Public Policy and Issues Management
Anthem, Inc.
1001 Pennsylvania Avenue, NW, Suite 710
Washington, DC 20004
████████

Submitted via email: ████████████████████

March 31, 2022

Office of Science and Technology Policy

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Office of Science and Technology Policy (OSTP) Community Connected Health Leaders:

Anthem, Inc. (Anthem) appreciates this opportunity to comment on the OSTP Connected Health RFI, which asks how digital technologies are used, and can be used in the future, to transform community health, individual wellness, and health equity.

Anthem is one of the nation's leading health companies, serving more than 118 million people through its affiliated companies, including more than 45 million within its family of health plans. Delivering health beyond healthcare, Anthem is expanding from being a partner in health benefits to a lifetime, trusted health partner. In addition, National Government Services (NGS), a wholly-owned subsidiary of Anthem, has partnered with federal healthcare agencies for over 50 years to provide technology services, business process services, and clinical solutions. Anthem and HealthCore look forward to supporting the ongoing work of the OSTP initiative dedicated to Community Connected Health. In response to the RFI, we offer the following responses for consideration:

Successful Models within the U.S.:
Anthem employs a whole health model of care, which is driven by a robust, comprehensive identification and analysis of member data gathered through initial onboarding, new patient visits, and continued member engagement to address clinical, mental health and substance use disorder, and social needs. This includes placing equal importance on social care coordination and addressing Health-Related Social Needs (HRSNs) as a component within whole health, including through building trust with historically marginalized and underserved populations. We work closely with providers, who are key partners in helping Anthem understand and meet beneficiary needs via digital health. In addition to our focus on individual level health, we place attention on the health of the communities we serve as well as the broader ecosystem. By addressing whole health at the individual, community, and national level, we not only meet immediate HRSNs for our members, but also work to ensure the entire social support safety net, including community health providers, is resourced to support community health. As part of this collective effort to address whole health, digital health technologies are a key strategy

antheminc.com

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and tool in strengthening individuals and community health providers to advance wellness, community health outcomes, and health equity across the country. For example, our digital health tool, Sydney Community, connects users to local resources, thoughtfully curated information, and peer-to-peer support networks to address HRSNs. Our strategy includes promoting the availability of digital technology, including high-speed broadband, as consistent access allows for broader use of digital tools and, by extension, healthcare.

Barriers to Use of Digital Health Technologies:
We appreciate OSTP's request for respondents to share barriers that individuals or organizations experience in accessing and using digital health technologies in home and community-based settings – specifically technical, reimbursement and cost, and user education and uptake barriers. Below we highlight current recommendations to address these barriers.

- **Improve Interoperability through Data Standards and Connectivity.** Lack of standardization for both collection and use of data has led to incomplete, unrepresentative data and disjointed systems that create barriers in care coordination.
  - *Recommendations: Support the inclusion of all healthcare stakeholders, including payers, providers, consumers, and Community-Based Organizations (CBOs), in the U.S. Department of Health and Human Services' (HHS) interoperability initiatives and offer dedicated support and funding to enhance CBO's participation. Support and incorporate the ongoing work of standards development organizations, such as HL7. Assure that system certification for all stakeholders is completed to adhere to implemented data standards. Work with Standard Data Organizations to assist with education on improved standards and connectivity.*
- **Support the Expansion of Affordable Broadband, Device Access, and Digital Literacy.** The expansion of affordable broadband has the potential to improve health outcomes by connecting people to healthcare providers, digital health tools, and education. However, without investments to ensure nationwide access, affordability, and digital literacy, historically marginalized and underserved communities will not benefit from these advancements.
  - *Recommendation: Coordinate with Congress and the Federal Communications Commission to support nationwide expansion of affordable broadband and device access through sustainable funding along with digital education to engage diverse consumers, including through financial support programs. Encourage collaboration across federal agencies to expand access, financial support, and digital literacy programs for community health programs.*
- **Increase Funding to Support HRSN**. To support community health improvements and further health equity, sustainable funding is required.
  - *Recommendation: Coordinate with the Centers for Medicare & Medicaid Services to support explicit allowance of health plan expenditures that address HRSNs in the numerator of the Medical Loss Ratio for Medicaid, Commercial, and Medicare Advantage.*
- **Provide Education Addressing HRSN Data Privacy.** Addressing HRSN includes the collection and use of personal and sensitive data. It is important to adhere to existing privacy and

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security standards, as well as provide user-specific education on the use of this data, to engender trust and continue the use of digitals tools that leverage this information.

    ○ *Recommendation: OSTP, in collaboration with federal partners, stakeholders, and a diverse representation of community leaders, should discuss opportunities to enhance awareness and training specific to personal data collection, including for care providers, tool developers, and intended recipients.*

Trends from the Pandemic:

Throughout the pandemic, we found that the primary social referrals made by CBOs, such as for housing, food, and supplemental low-cost health and healthcare services, continued to be key areas of need for members. However, we note there was an overall increase in need for social care services during the COVID-19 pandemic. Given circumstances such as stay-at-home orders, there was also an increase in need for services such as home delivered meals and telemedicine. For example, a recent HHS report found that Medicare visits conducted through telehealth in 2020 increased 63-fold, from approximately 840,000 in 2019 to 52.7 million. Anthem played a key role in providing these services to members – to assist our Medicare and Medicaid members suffering from COVID-19 and experiencing food insecurity, we launched our "COVID Meals Program" in April 2020. Through this program, over 851,000 healthy, nutritious meals were delivered to Anthem members over a 21-month period. We are evaluating what we have learned throughout the pandemic to determine what activities we will continue post-pandemic.

Tools and Digital Access for Community-level Social Support Providers:
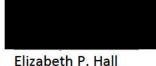
A diverse array of CBOs play a critical role in holistically addressing individual healthcare needs, but often lack bandwidth or resources for adopting and implementing new technology. To address these challenges, Anthem builds strong relationships with local CBOs to collaborate in innovative ways to advance digital access that, in turn, creates the foundation for high-quality data exchange. More consistent availability of high-speed broadband for local CBOs facilitates greater information exchange that advances stronger integration and synchronization of social care coordination with physical and mental health care delivery.

- *Recommendation: Increase utilization of digital tools by CBOs through OSTP support and implementation of enhanced funding and training for CBO technology investments. Promote existing interoperability standards to further advance efficiency and effective use of these tools.*

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We welcome the opportunity to discuss OSTP's initiative on Community Connected Health. Should you have any questions or wish to discuss our comments further, please contact Stephanie Fiore at ███████████ or ███████████████

Sincerely,

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Elizabeth P. Hall

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REQUEST FOR INFORMATION RFI-Strengthening Community Health Through Technology

Submitted to:
White House Office of Science and Technology

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Submitted by:
Neeraj Kak, PhD
Founder/Director,
AQUITY Global Inc., USA
6701 Democracy Blvd, Suite 300
Bethesda,
MD 20817.

Type of Organization: Working with frontline health workers to integrate programmatic and technological innovations

████████████████████████████

Website: https://aquity.global

Submitted on

February 28, 2022

AQUITY Global Inc. (AGI) and its not-for-profit sister group AQUITY4All (A4A-501(c)(3)) drive innovations through technology and programs to produce impact at individual and societal levels. We use artificial intelligence and other predictive analytic tools to identify gaps and opportunities. We also use innovative tools for improving the competencies and proficiencies of the workforce involved in the health and social sectors. AGI and A4A work together in empowering US and international communities, employers, and workers, among others, to improve their capacity to implement health and safety standards in the workplace, including the prevention of COVID-19, infectious diseases, proper ergonomics, and workplace violence prevention. The AQUITY group has been operating in South Africa, Cambodia, the Philippines and other countries through its affiliates since 2011. Over the years, we have established strong commitment to improve lives of people through programs using technologies and other programmatic innovations. Our strategies have built on bi-directional screening of various comorbid conditions as well as enhancing education and welfare of patients and caregivers.

AGI/A4A develops innovative and technology-driven tools and approaches that enable the public and private sectors to better address health and social challenges worldwide. AGI/A4A reflects an awareness that the future of health and social service delivery will be increasingly predicated on the use of technology to solve a host of issues, including reducing barriers to accessing services, improving data for decision making, and introducing high-impact tools and approaches at scale. Examples of such technologies include artificial intelligence, geospatial tracking and surveillance and other predictive analytic tools. We have also developed platforms for web-based training, information collection and dissemination. AGI/A4A uses behavioral marketing to help clients better understand the social and psychological influences that limit rational choices and drive participant engagement, decisions, and behaviors.

Successful Models: While, we have not implemented any digital innovations in the U.S., we have gained tremendous expertise working on integrating digital tools to enhance work performance of community health workers in various developing countries. Using these tools, health workers have successfully improved treatment adherence among rural and remote populations. We have also used digital tools for providing on demand consultations with healthcare workers using telemedicine tools. We have also harnessed geospatial technology in a cost-effective manner, to conduct remote program monitoring, and conduct diseases surveillance for various infectious diseases. These approaches have led to informed programs and policy decisions based on an increased understanding of existing and emerging challenges, gaps, and possible solutions. We recently received an OSHA grant, where we plan to use digital tools for disseminating knowledge among front-line workers on infection prevention and control including COVID-19.

Barriers and Use Experience: Access to technology (tablets/computers) as well as broadband cellular networks remains a challenge in rural areas for adapting new technologies for improving healthcare. COVID-19 has created an opportunity among communities and health workers to accept technologies. We see that the use of telemedicine has resulted in reducing foot traffic to facilities. However, the uptake of digital tools remains a challenge who continue to have limited or no health insurance coverage.

A major challenge remains in integrating various data sources, including records from various service providers, labs, as well as pharmacy networks. Patient/client ease with technology can

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overcome this challenge, but this requires motivated clients who are willing to take extra steps to integrate their health data from various sources. There are some tools available to integrate patient records, but many are concerned about data breaches that would expose their information to bad actors.

Tool and training needs: Based on our experience, there is a need to educate both service providers as well as clients in the efficient use of digital tools. Datamining to generate information about patient and provider level bottlenecks is critical. Developing appropriate algorithms and use of machine learning could help in identifying behavioral bottle necks that could be tackled through behavior change marketing tools.

International models: We have worked successfully in various low resource settings to integrate digital tools for improving population health. These include:

- Digital tools for consultations with health workers
- Digital tools and apps for patient adherence
- Digital tools for provider skills development

Our website providers additional information about our tools: https://aquity.global

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**Digital evidence based clinical resources must be considered essential pieces of
technology for improving health equity**

Health care providers leave most patient encounters with unanswered clinical questions
(the frequency of questions ranges from 0.16 to 1.85 per patient seen) and seek
answers only about 50% of the time[1]. Unanswered questions can lead to incorrect
diagnoses, poor treatment, and suboptimal care. Over time unanswered questions and
poor quality care cause misinformation, erode trust in health systems[2], cause disparate
health outcomes[3], and lead to a self-perpetuating cycle of poor health outcomes among
marginalized groups.

The fragmentation of care in the US, the pace of scientific discovery related to
COVID-19, rampant misinformation[4,5], and workforce shortages have led to an
unprecedented strain on providers, creating a greater need than ever for them to access
the best and most updated medical evidence. Some providers have even emerged from
retirement to support their communities and are getting re-trained to enter the clinical
workforce. These are the providers who could most benefit from access to
evidence-based clinical resources.

Digital, evidence-based clinical resources (EBCRs) like UpToDate and VisualDx bring
the most recent scientific evidence and medical discoveries to clinicians at the point of
care, making it easier for them to find the information they need, when they need it, so
they can make the best clinical decisions and best inform their patients. EBCRs improve
diagnostic accuracy and promote quality, efficient care by allowing providers to integrate
evidence-based information directly into clinical decision-making[6,7]. UpToDate was
shown to reduce risk-adjusted mortality rates at non-teaching hospitals in the US[8], and
VisualDx, which has the most diverse images of any tool, was shown to make
physicians more than 4 times more likely to suggest the correct diagnosis for patients
with serious infections.

While these tools hold great promise, there is work ahead to decrease their barriers to
uptake and usage among health care providers. Lack of reliable internet connection and
the high subscription costs of some of the most established commercial digital tools put
them out of reach for many health care workers[9], especially those providing services in
limited-resource health facilities such as Free and Charitable Clinics and Federally
Qualified Health Centers. There may be other explanations as well. Understanding

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barriers to access and use of digital tools among US health care providers may be the first step to breaking the cycle.

Therefore, further investigation is needed to understand where gaps exist in accessing the latest scientific information, specifically where there are gaps in the use of digital clinical decision support tools. We do not yet know where the use of EBCRs is limited in the US, what may be impeding their use, and what the potential benefits are of removing barriers and improving their access and uptake among health care providers.

Contributors:
Rebecca Weintraub, Director, Better Evidence, Ariadne Labs
Julie Rosenberg, Associate Director, Better Evidence, Ariadne Labs
Miina Juvonen, Delivery Specialist, Better Evidence, Ariadne Labs

Ariadne Labs is a joint center for health systems innovation at Brigham and Women's Hospital and the Harvard T.H. Chan School of Public Health. It is a nonprofit organization conducting academic research and public health programs.

In 2009, the Better Evidence team at Ariadne Labs designed and tested a program to remove the cost barrier of UpToDate for providers serving vulnerable communities in resource-limited health facilities outside the United States. For over 10 years, the team has been working to promote the use of digital tools among frontline health care providers to improve health. Over the years, requests have come in for help accessing digital tools in the US as well. This provided the spark for investigating access gaps domestically.

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9. Mazloomdoost D, Mehregan S, Mahmoudi H, Soltani A, Embi PJ. Perceived barriers to information access among medical residents in Iran: obstacles to answering clinical queries in settings with limited Internet accessibility. *AMIA Annu Symp Proc*. 2007;:523–7.

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From:	
To:	
Subject:	[EXTERNAL] Connected Health RFI - Arkansas 211
Date:	Monday, March 28, 2022 5:20:07 PM
Attachments:	image001.png
	image003.png
	image005.png
	image007.png
	image009.png
	image011.png
	image013.png

To Whom It May Concern:

Forward progress on community health outcomes and improving health equity demands community-oriented solutions. Technology is a vehicle to achieve this, but it is not the sole solution. The future of this work should be a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange.

211 Strengths and Assets to Support Health Outcomes and Health Equity

211 currently provides four unique assets which can't be replicated at scale across the country by any individual technology vendor:

1) 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. This is essential to individuals who can't self-serve information due to access, ability or preference. It's also essential that a human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2) 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3) 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s share their community needs data on public dashboards such as NC 211 Counts

4) The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

Arkansas 211 is a relatively young statewide Information and Referral system. We have forged partnerships with local, regional, and statewide partners to help augment our impact. Locally, we have collaborated with Hark, a nonprofit in Northwest Arkansas that creates care plans to connect community members with resources to help resolve their life challenges and ensuring that the

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correct connections are made. We also participate in the Northwest Arkansas Continuum of Care as they endeavor to find solutions for homelessness. Arkansas 211 has engaged with regional and statewide   offices of the Arkansas Division of Emergency Management in order to assist community members experiencing the onset of a disaster. In addition, we have leveraged grants to assist Arkansans resolve transportation barriers they encounter in attempting to access education, healthcare, employment, food resources. We are pursuing building systems to collaborate more closely with community providers in order to coordinate the services we provide to the help seekers we serve in common.

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

In states impacted by natural disasters such as hurricanes, wildfires, or tornadoes, state and local leaders have come to rely on 211 as an important partner in emergency preparedness and response planning. Many statewide 211 systems in areas prone to natural disasters maintain Memorandum's of Agreement with 211 partners in other parts of the country to ensure readiness and plans for support when disasters occur. Because Arkansas 211 expanded statewide as the pandemic restrictions were implemented, we established a hybrid contact center with cloud-based platforms that are available anywhere in the country. Thus, regional disruptions would not stop our provision of information and referral services. In order to bolster our emergency readiness further, we have a contractual agreement with a sister 211 for after-hours coverage. Our colleagues have assisted during times of disasters.

It is common for 211 to provide guidance to citizens seeking pre-event shelter refuge, aid help seekers during the actual storm event (211 coordinate accordingly with local 911 officials) and to provide navigating support to impacted individual and families suffering losses as a result of a disaster event. Often 211 provides critical information to FEMA teams as they seek to understand the needs facing specific communities post disaster; however, no systematic agreement is in place nationally between FEMA and the US 211 network.

Important Considerations for Success

When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward, and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week

and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and child care deserts.

To facilitate successful data-sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors.

211 Background

In 1996, the FCC designated 2-1-1 as a simple 3-digit dialing code for the public to access health and human services resources. Today, 211 information and referral systems maintain a community-based presence in 96% of the United States. The majority of 211's provide 24/7/365 accessibility to information and resources available through a free and confidential contact from an individual to a 211 Community Resource Specialist. Nationally, 211 systems provide the service in more than 150 languages and meet the needs of deaf and hard of hearing individuals. Leadership and staff of 211 systems are members of the communities they serve.

Each hour of the day, Americans turn to 211 to locate available help in their local communities to meet critical needs, including social determinate related to health needs, pandemic economic recovery needs and recovery solutions after a natural disaster impact. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. The promise is to answer the call for help and to provide equitable access to all. The 211 backstage preparations to deliver on this promise are largely rooted in systematic technology tools and grassroots community collaborations.

The US 211 Network reports that more than 41,425,273 Americans leveraged 211 to secure help and information in 2020 and 2021. The top five nationwide needs presented to 211 over the last two years were consistently related to Housing, Food, Health Care, Utilities, and COVID-19. As a result of these personal interactions with help seekers, it is estimated that 51,000,000 connections were made to needed help and information during this time period.

Thank you for your kind consideration of our response.

Living United,

Carlos Garbutt
Director, Arkansas 211
United Way of Northwest Arkansas
100 Parkwood Street | Lowell, AR 72745

>www.unitedwaynwa.org< / Arkansas211.org

ABHW
Advancing Health Care Policy
for Mental Health and Addiction

March 31, 2022

Dr. Alondra Nelson
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue, NW
Washington, DC 20502

Re: Request for Information on Strengthening Community Health Through Technology

Dear Director Nelson,

The Association for Behavioral Health and Wellness (ABHW) appreciates the opportunity to comment on the White House Office of Science and Technology Policy's request for information on Strengthening Community Health Through Technology (RFI). Our comments are outlined below.

ABHW is the national voice for payers that manage behavioral health insurance benefits. ABHW member companies provide coverage to over 200 million people in both the public and private sectors to treat mental health (MH), substance use disorders (SUDs), and other behaviors that impact health and wellness.

Successful models within the U.S.
Several years ago, CMS approved the Collaborative Care Model (CoCM), which provides specific billing codes for an evidence-based mode of care to deliver mental health and SUD services in primary care. The CoCM provides for patients to be treated by their primary care physician in conjunction with a behavioral health care manager and a consultant psychiatrist. It has been proven to be an effective model that integrates care, expands access, and improves outcomes.

ABHW believes the CoCM is an important model not only because of its ability to provide integrated care, but because it makes primary care providers more comfortable with talking about behavioral health issues with their patients, thus creating a larger workforce capable of treating SUDs and mental health disorders. It also allows behavioral health providers to see more patients by practicing at the top of their license. We continue to support CMS in its efforts to expand the use of CoCM and welcome the opportunity to partner with CMS to advance this important initiative.

Barriers.
Given that telehealth became a necessity during COVID-19, it is understandable that there were unforeseen barriers to this modality. As you contemplate policy changes and recommendations, we urge you to consider the following:

1. **Cross-state licensure**. ABHW supports state and federal efforts to foster state licensure reciprocity to improve access through telehealth services. For example, other healthcare professions, such as nurse practitioners, have compacts which allow them to practice across state lines. ABHW supports compacts that allow providers to deliver services across state lines.

Association for Behavioral Health and Wellness
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2. **Broadband access**. While telehealth has become more prominent for mental health services, access to telehealth has highlighted health disparities since not all populations have equal access to broadband.[1] We urge that broadband access be appropriately funded for all communities and that the expansion is sustained.

3. **Workforce shortages**. Currently, over one third of Americans live in areas lacking adequate mental health services.[2] While policy changes to allow cross-state licensure and broadband are needed, it is prudent to recognize those changes alone are not enough. There must be a concerted effort to increase the mental health workforce, both in the long and short term. While long term strategies, such as increased funding, loan repayment, and robust recruitment, are in progress, we must also move swiftly on short-term solutions. Specifically, we urge you to work with Congress to expand eligible Medicare providers to include marriage and family therapists (MFTs), mental health counselors (MHCs), and certified peer support specialists.

4. **Adoption of electronic health records by behavioral health providers**. To date, many community-based mental health and substance use treatment providers have not adopted electronic health records (EHRs) at the same rate as the rest of the medical system and continue to share information by paper, phone, or fax. This is partly due to a lack of financial incentives. Unlike the rest of the healthcare system, substance use and many mental health providers are not eligible for financial incentives under the Health Information Technology for Economic Clinical Health Act.[3] The lack of support from incentive programs has led to mental health and substance use treatment providers lagging behind on the adoption of EHRs, ultimately impacting both their ability to integrate care and the quality of care they can provide to their patients.

   We propose two areas for consideration to propel EHR adoption among behavioral health providers. First, the Centers for Medicare and Medicaid Innovation (CMMI) should, as recommended by Section 6001 of the SUPPORT Act, finance a demonstration furnishing health IT incentive payments to behavioral health providers, including but not limited to, psychiatric hospitals, community mental health centers, and addiction treatment providers. Second, we advocate for statutory amendments to Section 6001 to require CMMI to finance the much-needed incentives.

5. **Access to Medication-Assisted Treatment**. ABHW strongly supports opportunities to expand access for opioid use disorder and SUD treatments. Specifically, we believe the biggest opportunity expanding access to SUDs is through increasing access to medications for Opioid use Disorder (MOUD)First, we ask CMS to work with the Drug Enforcement Administration (DEA) to promulgate the long overdue rule for the telemedicine special registration process, and to urge DEA to ensure that the rule allows providers to prescribe MOUD to SUD patients by employing telemedicine.

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[1] Janessa M. Graves et al., Disparities in Technology and Broadband Internet Access Across Rurality: Implications for Health and Education, Fam. Community Health. Oct-Dec 2021; 44(4); 257-265.
[2] Over one-third of Americans live in areas lacking mental health professionals. USA Facts, June 9, 2021, https://usafacts.org/articles/over-one-third-of-americans-live-in-areas-lacking-mental-health-professionals/, last visited March 17, 2022.
[3] Medicaid and CHIP Payment and Access Commission (2018), Public meeting transcript at pp. 11, https://www.macpac.gov/wp-content/uploads/2017/07/January-2018-Meeting-Transcript.pdf, last visited December 9, 2020.

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In conjunction with the DEA rule, we also urge CMS to work with Congress to eliminate the in-person evaluation requirement currently mandated by the Ryan Haight Act before a provider can utilize MOUD. This requirement is difficult for many individuals with SUDs due to a physical inability to leave the house or to a lack of provider in their geographic area. This requirement was suspended during COVID-19, which greatly increased access to care. We believe a permanent removal will significantly help address the ongoing opioid epidemic.

Lastly, we also advocate for removing the DEA X-waiver requirement for practitioners before prescribing buprenorphine. We appreciate the practice guidelines[4] that the U.S. Department of Health and Human Services published last year to alleviate some of the administrative burden around the X-waiver but we do not believe the practice guidelines go far enough. As such, we urge CMS to work with Congress to pass the Mainstreaming Addiction Treatment Act of 2021, which would eliminate the X-waiver and increase the workforce of providers prescribing MOUD.

User Experience.

Our members have seen a number of positive outcomes from the use of telehealth for mental health services. First, in the community health setting, the number of missed appointments has decreased dramatically because of the ability of patients to be at home and utilize audio-only. ABHW has supported the use of audio-only as a modality during the COVID-19 pandemic and recognizes its importance in delivering mental health services. However, we continue to encourage regulators to conduct more research on the efficacy of these services; quality should not suffer when increasing access to care.

Additionally, telehealth has decreased the need for ancillary services such as lab work that may be unnecessary, which has led to saved time and cost for all parties. Lastly, telehealth visits for repeat diagnosis have also decreased, allowing resources and services to be more efficiently utilized while maintaining access to care.

It is prudent to note here that the data may not directly demonstrate that telehealth improved outcomes because of the workforce shortage. Since so many behavioral health providers have left the workforce during COVID-19, their departure may be minimizing the effects of telehealth, underscoring the need for urgent action to increase behavioral health providers in this country.

Conclusion.

Thank you for the opportunity to comment on this important proposed rule. Please feel free to contact Deepti Loharikar at ███████████ or ███████████ with any questions.

Sincerely,

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Pamela Greenberg, MPP
President and CEO

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[4] Practice Guidelines for the Administration of Buprenorphine for Treating Opioid Use Disorder, 86 FR 22439 (April 28, 2021).

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Submitted Electronically to ▮▮▮▮▮▮▮▮▮▮

March 31, 2022

Alondra Nelson
Acting Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
725 17th Street NW
Washington, D.C.

Re: Connected Health RFI

Dear Acting Director Nelson,

I am pleased to submit these responses on behalf of the Association for Clinical Oncology (ASCO) in response to the Request for Information (RFI) on Strengthening Community Health Through Technology published in the Federal Register on January 5, 2022.

ASCO is a national organization representing more than 45,000 physicians and other health care professionals specializing in cancer treatment, diagnosis, and prevention. We are also dedicated to conducting research that leads to improved patient outcomes, and we are committed to ensuring that evidence-based practices for the prevention, diagnosis, and treatment of cancer are available to all Americans.

* * * * *

To advance the goals within our affiliate, the American Society of Clinical Oncology's, Equity, Diversity, and Inclusion Strategic plan,[1] ASCO is implementing a pilot project in Montana demonstrating potential for the hub and spoke model to enhance access and quality of cancer care in rural settings—bringing care closer to the patient's home. This initiative establishes a collaborative partnership between Bozeman Deaconess Hospital Cancer Center (the hub) and Barrett Hospital and HealthCare (the spoke), allowing patients to receive cancer care in the communities where they live with access to their oncology physician via telemedicine. An

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1 https://www.asco.org/sites/new-www.asco.org/files/content-files/advocacy/documents/2021-ASCO-EDI-Action-Plan.pdf

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integral part of this program includes leveraging community health resources and utilizing telemedicine to facilitate care at the spoke sites.

Many rural and small community hospitals do not deliver on-site cancer care services. Challenges include a lack of infrastructure, shortage or absence of specialty physicians and oncology-trained support personnel (i.e., nurses, advanced practice providers, and pharmacists) to deliver infusion services, insufficient administrative support, and uneven access/use of telemedicine services, especially in the older, rural population. For these reasons, patients with cancer must often travel lengthy distances to receive treatment and supportive care. Longer travel distances have been associated with worse outcomes in patients with cancer, including later stage at time of diagnosis, less timely receipt of chemotherapy, and delaying or declining treatment.[2,3] Increased travel distance has also been associated with a lower likelihood of receiving radiation therapy.[4] Patients with cancer from rural areas also incur greater financial burden associated with travel and lodging costs.[5,6]

To address these barriers to care, this program enables rural and community sites to serve as primary points of contact for patients with cancer by situating cancer care delivery teams at remote hospitals and clinics. Telemedicine further supports this hub-and-spoke approach as it enables physicians in the hubs to directly serve patients seeking care at the community spoke sites.[7] A recent pilot in Utah demonstrated the sustainability of using telehealth services to extend care delivery at local medical centers.[8] In this study, on average, patients saved 4 hours and 40 minutes and 332 miles roundtrip per encounter, and in total patients' savings were estimated to be $333,074.[9]

Relationships with community-based organizations help with cancer screenings and connection to needed services to address the social needs of patients in the identified rural, community-

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[2] Taylor, John C., et al. "Addressing the variation in adjuvant chemotherapy treatment for colorectal cancer: Can a regional intervention promote national change?." *International Journal of Cancer* 148.4 (2021): 845-856.

[3] Levit, Laura A., et al. "Closing the rural cancer care gap: Three institutional approaches." *JCO oncology practice* 16.7 (2020): 422-430.

[4] Lin CC, Bruinooge SS, Kirkwood MK, et al: Association between geographic access to cancer care and receipt of radiation therapy for rectal cancer. International Journal of Radiation Oncology* Biology* Physics 94:719-728, 2016

[5] Odahowski CL, Zahnd WE, Zgodic A, et al. Financial hardship among rural cancer survivors: An analysis of the Medical Expenditure Panel Survey. *Prev Med*. 2019;129S:105881. doi:10.1016/j.ypmed.2019.105881

6 Nass SJ, Cogle CR, Brink JA, et al: Improving cancer diagnosis and care: Patient access to oncologic imaging expertise. J Clin Oncol 37:1690-1694, 2019

[7] Govindarajan V, Ramamurti R: Delivering world-class health care, affordably. Harvard Business Review November, 2013. https://hbr.org/2013/11/delivering-world-class-health-care-affordably

[8] Thota, Ramya, et al. "Telehealth is a sustainable population health strategy to lower costs and increase quality of health care in rural Utah." *JCO Oncology Practice* 16.7 (2020): e557-e562.

[9] ASCO State of Cancer Care in America Report, August 2020: Key Trends in Tracking the Supply of and Demand for Oncologist. Available at: https://www.asco.org/sites/new-www.asco.org/files/content-files/practice-and-guidelines/documents/2020-workforce-information-system.pdf

based clinics across Montana. Community-based organizations can also be a source of additional information to help patients navigate and better understand their cancer diagnosis and care. As such, this project will engage community agencies and partners for support and referrals to services that can assist patients in overcoming non-medical barriers to care. Aligning with the Montana Cancer Coalition's goal of enhancing survivorship and quality of life for every person affected by cancer[10], this initiative will foster and establish relationships to enhance capacity and extend collaborations with local community health workers and other community leaders. Patients will receive support services and community resources specific to their individual needs and preferences.

Telemedicine plays an important role in the success of this program; however, other technologies and infrastructure are also key components. Seamless communication between the hub and spoke sites depend heavily on electronic medical record interoperability. To ensure quality patient centered care and care coordination between sites, interoperability is necessary to ensure that the entire care coordination team has access to the same medical and patient care information. ASCO has submitted numerous comment letters and responses to the Office of the National Coordinator of Health Information (ONC) on ways to enhance the interoperability of oncology records, including input on the US Core Data for Interoperability (USCDI) and the Trusted Exchange Framework and Common Agreement (TEFCA). We have also urged ONC to consider the use of mCODE®, an open language standard for cancer data, for interoperable exchange of oncology records.[11] ASCO also recently submitted a response to ONC's RFI on electronic prior authorization (ePA), encouraging the agency to adopt a recommendation from its *Electronic Prior Authorization RFI Task Force* that smaller practices and practices in underserved areas be given additional support from HHS as ePA becomes a reality and practices begin to invest in this technology. We have also submitted feedback to CMS on a variety of its interoperability rules, highlighting the challenges that these practices face and their need for additional support when adopting new technology.

Cancer outcomes could be improved dramatically with consistent application of evidence-based care. This pilot will enable patients to receive their cancer care in the communities where they live while meeting the same quality standards expected from tertiary cancer care centers. Non-oncology providers will demonstrate increased capacity and comfort with treating cancer patients for side-effects and long-term survivorship needs and, in doing so, enhance care capacity in spoke communities.

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[10] https://mtcancercoalition.org/wp-content/uploads/2020/04/2016-2021-MCCP-Goals-Objectives.docx
[11] Please see https://confluence.hl7.org/display/COD/CodeX+Home for additional details on mCODE.

ASCO thanks the OSTP for the opportunity to share how partnerships and digital health technologies are used to enhance community health, health equity, and cancer outcomes. Please contact Gina Hoxie at ███████████████ for questions or further information.

Sincerely,

███████████████████████

Howard A. Burris III, MD, FACP, FASCO

Chair of the Board

Association for Clinical Oncology

March 31, 2022

Dr. Alondra Nelson
Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Re: Request for Information on Strengthening Community Health Through Technology

The **Association for Health Information Technology State Leaders** (AHITSL) is a public sector leadership collaborative focused on health information technology, interoperability, and strategy for cross-cutting health IT priorities. Formed from the New England States Consortium Systems Organization ([NESCSO](#)) State Health IT Learning Community, AHITSL is a multi-state learning collaborative of state health IT officials. AHITSL provides a neutral, shared space to collaborate, create a collective voice, and obtain technical assistance related to health IT policy, technology, and implementations. AHITSL appreciates the opportunity to respond to this RFI.

The comments provided represent collective comments from the perspective of Health IT state leaders, including those that may have inter-agency responsibilities for Health IT coordination, collaboration, and initiatives within state and territorial governments and or may work in Medicaid programs, State Departments of Health, State Departments of Behavioral Health, or other state agencies.

1. ***Successful models within the U.S.*** *and* ***3.Trends from the Pandemic:***
   - States, delivery system providers, and the public implemented and used numerous new digital health technology solutions during the pandemic. Two examples are noted below:
     - **Exposure Notification Tools** leveraging Bluetooth technology via smartphones to alert people if they were exposed to COVID-19 without sharing any personal information. *State example:* WA Notify has had 3.12 million activations, as of 3/30/2022.
     - **COVID-19 Vaccine Verification** required by businesses, events, and employers was met through multiple technical solutions, such as the Vaccine Smart Health Cards for and the Digital COVID-19 Verification Record portals. The United State Digital Service (USDS) supported state development and implementation efforts, which enabled timely access to vaccine data records by the public and community providers. State example: Washington had almost one million requests for QR codes from the public.

2. ***Identified Barriers:***
   - **Gaps in Test and Results Data –** Public health jurisdiction's ability to access and share lab testing results has been challenging throughout the COVID-19 public health emergency. Specifically, public health has had difficulties getting access to test and reporting results specifically specially point of care tests and non-traditional lab partners (such as jails, schools, other community sites, and public health partners.
   - **National and State Technical Solutions -** Digital health tools for state response are important for state and local public health jurisdictions. National solutions such as Association for Public

Health Laboratories Informatics Messaging Service (APHL AIMS) Electronic Case Reporting (eCR) tool, is useful, but national-level solutions still have issues and may not need local and state public health epidemiology needs. In addition to having technical solutions for states and communities that can be leveraged when and where they are needed, technical assistance is imperative for ongoing awareness and training needs.

- **Standards Use** – Health IT leaders noted issues on technology vendors' inability or unwillingness to align with with the Office of the National Coordinator for Health Information Technology (ONC) standards when reporting data. Digital health tools relying on proprietary standards that are not endorsed by the Interoperability Standards Advisory (ISA) decreases data quality and usability, while increasing the need for normalization.

- **Digital Vaccine Locators and Scheduling Services** – Locating available vaccines and administration sites was problematic throughout the COVID-19 vaccine roll-out, especially when there was a higher demand for vaccinations for new populations and booster doses. This led to inequities in accessing COVID vaccines, especially if access to digital tools were problematic due to lack of broadband, computer access, inability to access digital tools during working hours, and digital literacy.

- **Cross-State Provider Licensure** – As communities transitioned to delivering health services virtually, provider licensure for telehealth services was cumbersome and challenging to meet workforce demands and access to telehealth and broader services. To expand on these rapid technical innovations, developing a sustainable, digital, national Interstate Compact for Provider Licensing would benefit cross-state licensure and support dynamic workforce demands and access to qualified workforce enabling more communities to have rapid access to providers.

- **Health IT Workforce** – State Health IT leaders identified the need for a state Data and Health IT Leader position to orchestrate state data and technology needs and modernization activities. The Health Information Technology for Economic and Clinical Health Act (HITECH) a part of the American Reinvestment and Recovery Act of 2009 (ARRA) required each state to designate a Health IT Coordinator to coordinate federal funding distributed to states for electronic health record (EHR) adoption and interoperability implementations. Many states do not have this central leadership position or coordinated data, technology, and infrastructure offices needed to align technical services and modernization efforts. Additionally, there is a need to enhance the skillsets related to understanding and evaluating enterprise approach to digital platforms, use case development, analytics, cybersecurity, organizational and data governance (i.e., statewide, public health, community), interoperability of electronic health data, and use of existing and emerging standards (e.g., HL7 FHIR).

- **Technology Gaps and Disparate Information Exchanges** – Many communities have technology gaps in core systems with a wide range of technical maturity and digital tool adoption in various health care and community settings (e.g., behavioral health settings especially with recent increased needs). Additionally, there is a proliferation of community health information exchanges supporting cross-sector data sharing, such as Resource Directories and Closed Loop Referrals. These platforms are not widely interoperable with each other or with the health sector EHR platforms causing wider data gaps for vulnerable populations needing services to address social risks and broader community social determinants of health (SDOH). While the Trusted Exchange Framework and Common Agreement (TEFCA) and qualified health information networks (QHINs) are available, it is unclear how, when, or if the national framework and networks can meet the local community digital health needs.

- **Funding Sustainability** – It is important to recognize the appreciated large influx of one- time use funding to support COVID-19 response and recovery. These funds have a short-term limited period that can result in longer-term challenges with staffing (i.e., temporary hires), sustainability, and the reuse of existing implemented digital technology available to states and communities. Longer term funding to states and communities for aligned data, technology, and infrastructure modernization across all sectors is needed to create digital tools and access to data for community and statewide health priorities.

6. *Proposed government actions:*
   - **Use of Open Source** – Promote tools for open-source consent management and other needs. The use of community-driven open-source tools is helpful for ensuring standards and cost management. However, applying open-source technology in certain health care settings, such as rural geographic areas, behavioral health (BH) and substance use disorder (SUD) populations can be challenging because of limited IT staff with no technical assistance and training.
   - **Create and Fund a Health and Social Technology Regional Extension Centers** that can help states and communities align their digital health and social needs investments, as well as assist with broader funding strategies, alignment with all data modernization efforts, knowledge sharing, and cross-sector and community governance.
   - **Cost Allocation Flexibility** - Broaden and better define Medicaid cost allocation methodologies to support digital health needs for a broader range of health care and social needs providers serving Medicaid beneficiaries.

7. *Health Equity:*
   - **Socio-Demographic, Needs, and Risk Data Standards** - In order for digital health technology to support health equity and to inform community, population health, and public health, it is important to obtain more granular data elements especially when addressing health equity and health disparities. Specifically, there is a large need for race, ethnicity, language, sexual orientation, gender identify (RELSOGI) data collection standards. Additionally, it is important to disseminate and incentivize the adoption and use of RELSOGI and social risks and needs data standards by clinical and community partners. Training and technical assistance with a usability and implementation focus can support the standards based digital tool without contributing additional burden to providers, patients, and end-users.

On behalf of State Health IT Leaders, AHITSL appreciates the opportunity to provide input on how to strengthen community health through technology. We look forward to continuing to work with the White House Office of Science and Technology Policy and Department of Health and Human Services Agency in advancing digital health in states and communities.

Sincerely,

Kate Ricker-Kiefert, MS, PMP
Founder, AHITSL

Amy Zimmerman, MPH
Founder, AHITSL

March 17, 2022

Evidence-Based Psychological Treatments Are an Effective Tool for Digital Mental Health Interventions

Thank you for the opportunity to inform the White House Office of Science and Technology Policy deliberations on connected health. The mental health consequences of the pandemic are overwhelming. The number of people who are experiencing a mental health challenge is steeply growing, and **there is a serious mental health crisis**. This response is intended to help inform and guide policies and actions related to strengthening community mental health through digital health technologies.

There are effective treatments. Evidence-based psychological treatments (EBPTs) can be differentiated from other forms of treatment as they are short-term, focus on assisting people to learn specific skills, and have been developed and tested via rigorous scientific methods. The advantages of delivering EBPTs to treat mental health problems are threefold: (1) the positive effects of EBPTs endure well after the course of treatment is completed, (2) EBPTs give people skills they can use to reverse reoccurrences of symptoms, and (3) EBPTs have few to no adverse side effects. Cognitive behavior therapy (CBT) is an example of one EBPT that focuses on examining the vicious cycles that can occur among negative thoughts, negative emotions, and the things we do to cope. The goal of CBT is to assist the individual to build skills to intervene at different points in the cycle. Effective EBPTs are available for most mental health problems, including depression, all forms of anxiety, trauma, suicidal thoughts and behaviors, sleep problems, schizophrenia, and bipolar disorder.

While there are specific indications for the use of medications to treat mental health problems, it is noteworthy that the past director of the National Institute of Mental Health observed, "While psychosocial interventions have received much less marketing attention than pharmacological treatments, the results are arguably more encouraging" (p. 129).[1]

Indeed, progress toward establishing EBPTs for most mental disorders has been excellent.[2] There are a range of rigorous reviews that have published lists of effective EBPTs, including the APA's Division 12 and the National Institute for Health and Care Excellence (NICE). NICE is particularly remarkable because a panel of experts including clinicians, researchers, and consumers is formed to carefully review the scientific evidence on the best treatment(s) available for each physical and mental health problem. NICE has concluded that EBPTs are frontline sole or adjunctive interventions for a broad range of conditions.[3]

EBPTs are difficult to access. More than half of the individuals who need mental health care do not receive the care they need. For many of those who do receive a treatment, the quality of the treatment delivered is poor.[2] In fact, there is a concerning move away from the provision of EBPTs toward medication. This is of concern because (1) the outcomes from some widely used medications are not encouraging;[1] (2) there is evidence that some medications, often off-label and with serious side effects, are being used to treat disorders for which the evidence base for EBPTs is well-established; (3) in some circumstances, prescribing a medication may even send an unhelpful message—for example, instead of building skills and habits, a medication might serve to maintain or cover up the symptoms; and (4) there is evidence that EBPTs are more acceptable to patients relative to medication treatments.[2]

Digital health technology can deliver EBPTs. The use of digital health technology is an extremely active area within psychological science.[4] The potential for providing more accessible platforms for delivering EBPTs is enormous. There will likely always be a role for the delivery of face-to-face in-

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person EBPTs. However, if it is the dominant or the only approach, the burden of mental health problems will not change. Here are four examples of the immense potential for digital health technology for the delivery of EBPTs:

1) Wearable and smartphone technology. The ability to assess mental health moment by moment can be realized through wearable and smartphone technology. For example, the ability to regulate emotions in response to stress is central to mental wellness and can be tracked with these technologies.[5] This information can be used to assess mental health and determine when an EBPT is appropriate, as well as to guide the selection of the specific targets for an EBPT.

2) Online delivery. EBPTs delivered via the Internet are effective.[6] Internet-delivered interventions may include an adjunctive app or support from a live or online therapist.[7] Also, just-in-time EBPTs are being developed. These have the potential to provide an intervention at exactly the time that a prompt is needed. This approach is already promising across disorders such as schizophrenia, smoking cessation, sleep problems, and alcohol use.[5]

3) Telehealth. Telehealth is effective for the delivery of EBPTs and reduces costs while improving access to care.[8] Knowing that comfort with interactive video conferencing is lower among specific groups and that there is a "digital divide" of very low rates of Internet use among low-income, disabled, and house-bound adults,[9] there is an important role for telephone delivery of EBPTs. This mode of delivery of EBPTs yields similar outcomes relative to face-to-face delivery[10] and has been associated with lower rates of discontinuing treatment.[11]

4) Use of text messaging. Text messaging has great potential for delivering or supporting the delivery of EBPTs.[12] Texts are popular, particularly among youth. Mobile phones are personal, intimate, and constantly accessible. Texts are likely to be read within minutes of being received. Texts catch an individual's attention and tend to be carefully considered. Also, there is evidence that texting yields positive results when used to deliver or complement the delivery of EBPTs. There is also evidence that text messages can identify suicide risk in real time.[13]

Successful model. An economic analysis conducted in 2007 concluded that the costs of providing EBPTs for the millions of people in England with an anxiety disorder or depression "would be fully covered by the savings in incapacity benefits and extra taxes that result from more people being able to work" (p. 90).[14] Based on this analysis, between 2008 and 2011, the UK government invested £173 million per year above existing spending to establish the Improving Access to Psychological Therapies (IAPT) program. Because of the success of IAPT, the UK government has expanded its investment so that 1.9 million adults can access EBPTs each year. The IAPT program includes the delivery of EBPTs via digital health technology within their stepped-care approach.[15] IAPT has become a model for the rollout of EBPTs across many other countries and could be adopted as a model for the U.S. More information about IAPT is available here: https://www.england.nhs.uk/mental-health/adults/iapt/

As we face the overwhelming challenge of addressing the mental health crisis that grips the world, digital health technologies hold great promise for substantially improving access to EBPTs and thereby improving community mental health, individual wellness, and health equity.

Working Group on Mental Health and COVID-19
Association for Psychological Science Global Collaboration on COVID-19

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Submitted electronically via ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
March 30, 2022

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue NW
Washington, DC 20504

Re: Request for Information on Strengthening Community Health Through Technology

The Association of American Medical Colleges (AAMC)[1] and the AAMC Center for Health Justice (AAMC CHJ)[2] appreciate the opportunity to comment on the Office of Science and Technology Policy's (OSTP) request for information on *Strengthening Community Health Through Technology* and commends the OSTP on its interest in the use of digital technology to improve community health, individual wellness, and health and health care equity. The digital health ecosystem is rapidly evolving, and the COVID-19 pandemic has reinforced the need for digital technologies to support health care. While the proliferation of technology has transformed health care, these advancements have also amplified the disparate impacts of technology on certain communities.[3]

We are pleased that the OSTP is taking steps to better understand how technological innovation can minimize barriers to quality health care and recognize these topics are substantial both in scope and impact. We are hopeful this comment opportunity (with a limitation of 3 pages to address all referenced topics) represents only one avenue for the OSTP to get direct feedback from impacted communities as many local groups are unaware of comment opportunities proffered via the Federal Register. We encourage additional outreach from the OSTP to receive feedback on these issues through working groups, stakeholder calls, additional RFIs, or by working directly with local organizations to gather on-the-ground wisdom and perspective.

I. Incorporation of Community Feedback
The AAMC agrees that the eight issues the OSTP has identified in the RFI are of great importance, and recommends the inclusion of ongoing bi-directional community feedback and clear evaluation mechanisms to inform related policies and future activities. One area where the OSTP should take *immediate* action is through the OSTP *Community Connected Health Initiative,* established to explore the impact of technological innovations on access to health care utilizing feedback from this RFI. We recommend the creation of a permanent role for "Community Anchors," trusted individuals or organizations from a specific community that would help build meaningful relationships between the Federal Government and community partners. Notably, the Initiative intends to fulfill its objectives by "meeting people where they are in their communities." Establishing a role for Community Anchors ensures this goal is achieved in an ethical, equitable, and efficient manner, as "meeting people where they are" means going where they are.

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[1] The AAMC is a nonprofit association dedicated to transforming health through medical education health care, medical research, and community collaborations AAMC members are all 155 accredited U S and 17 accredited Canadian medical schools; approximately 400 teaching hospitals and health systems, including Department of Veterans Affairs medical centers; and more than 70 academic societies Through these institutions and organizations, the AAMC leads and serves America's medical schools and teaching hospitals and the millions of individuals employed across academic medicine, including more than 186,000 full-time faculty members, 94,000 medical students, 145,000 resident physicians, and 60,000 graduate students and postdoctoral researchers in the biomedical sciences Additional information about the AAMC is available at www aamc org
[2] The AAMC CHJ was founded in 2021 with the primary goal for all communities to have an equitable opportunity to thrive — a goal that reaches well beyond medical care AAMC Center for Health Justice partners with public health and community-based organizations, government and health care entities, the private sector, community leaders, and community members to build a case for health justice through research, analysis, and expertise Additional information about the Center for Health Justice is available at www aamc org/healthjustice
[3] See, National Academies of Sciences, Engineering, and Medicine, *COVID-19 and the Digital Divide: Implications for Policy and Equity*, https://www nationalacademies org/event/03-03-2022/covid-19-and-the-digital-divide-implications-for-policy-and-equity#sectionEventMaterials (last visited, March 15, 2022)

"Meeting people where they are" also requires cultural humility in addition to a holistic understanding of the shared values and experiences that shape community beliefs and practices. The [AAMC Center for Health Justice], in partnership with diverse community stakeholders, developed the *Principles of Trustworthiness* and a corresponding toolkit to help organizations and government entities equitably partner with communities and assess their own trustworthiness in those communities.[4] These Principles could buttress any community engagement strategy, and the AAMC would be happy to provide guidance on how they could be incorporated into the *Community Connected Health Initiative*. The Center for Health Justice also has well established multi-sector relationships with organizations and community leaders,[5] many of whom would be eager to serve as a Community Anchor.[6] Efforts to mitigate systemic racism, classism, and misogyny in digital health technology requires the inclusion of all groups facing inequities.[7]

II. Key Priority Areas

The OSTP is well positioned to conceptualize a solutions-based strategy to enhance the use of digital technology and deliver precise interventions to close inequities. In this approach, there are several issues we believe deserve priority attention:

Telehealth and Digital Access

Teaching hospitals, faculty physicians, and other providers have responded to the public health emergency (PHE) and the related waivers and flexibilities provided by Congress by rapidly implementing telehealth in order to provide continued access to medical care for their patients. For March and April 2020, faculty practices on average were providing approximately 50% of their ambulatory visits via telehealth, a dramatic increase from the use of telehealth prior to the pandemic.[8] Although the use of telehealth has declined from its peak in March and April 2020, the use of telehealth services remains high at roughly 20% of ambulatory visits.

Throughout the PHE, the expansion of telehealth has afforded patients access to care without risking potential exposure to COVID-19. Telehealth services have also improved access to care for those in vulnerable populations who, because of their job, lack of others to help care for their dependents, transportation issues and other limitations, are not able to attend an in-person visit. Critically, telehealth has also improved access to care for those in racial and ethnic minority groups that have been historically disadvantaged by health systems. Audio-only visits have improved access to virtual care for patients who do not have access to the devices or broadband for audiovisual calls, are not comfortable with digital technology, or do not have someone available to assist them. Patients in rural areas or those with lower socioeconomic status are more likely to have limited broadband access and may not have access to the technology needed for two-way audio-visual communication.

The AAMC believes that in order to ensure patients continue to receive the increased access to care through telehealth, the patient location restrictions and rural site requirements imposed by Medicare must be removed to allow patients to receive telehealth in any geographic location, including in their home. Improvements must also be made to broadband technology in order to sustain telehealth usage throughout

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[4] AAMC Center for Health Justice, https://www.aamc.org/healthjustice; Also see, *AAMC Principles of Trustworthiness*, https://www.aamc.org/trustworthiness *Principles of Trustworthiness Toolkit*, https://www.aamc.org/trustworthiness#toolkit; (last visited February 28, 2022)

[5] See AAMC Collaborative for Health Equity: Act, Research, Generate Evidence (CHARGE); CHARGE cultivates the health equity community by advancing collaborative research, policy, and programmatic solutions to health and health care inequities https://www.aamchealthjustice.org/get-involved/aamc-charge (last visited February 28, 2022)

[6] Assessing Meaningful Community Engagement: A Conceptual Model to Advance Health Equity through Transformed Systems for Health *NAM Perspectives*. Commentary, National Academy of Medicine, Washington, DC https://doi.org/10.31478/202202c (February 14, 2022)

[7] AAMC Comments to OSTP and NSF on *Implementation Plan for a National Artificial Intelligence Research Resource* (September, 2021) 86 FR 39081; https://www.aamc.org/media/56226/download?attachment

[8] The Clinical Practice Solutions Center (CPSC), owned by the Association of American Medical Colleges and Vizient, is the result of a partnership that works with member practice plans to collect data on provider practice patterns and performance This analysis included data from 65 faculty practices

the country. Payment for audio-only services must continue for patients who do not yet have access to quality broadband or do not have the ability to use video platforms. State licensing laws have been a significant barrier to the expansion of telehealth. Telehealth should be permitted across state lines, with appropriate safeguards, to address workforce shortage issues and increase patient access to providers. Finally, telehealth must continue to be reimbursed at the same level as an in-person visit to support the infrastructure needed to provide this level of telehealth services.

Algorithmic Bias and the Digital Divide
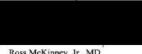
The AAMC is deeply concerned about the disproportionate impact of structural bias in machine learning algorithms, often developed from flawed, incomplete, or homogenous data.[9] We strongly recommend the OSTP take a unified inter-agency approach to tackling this issue, leveraging feedback from communities closest to injustice and inequity. Executive Order 13985, *Advancing Racial Equity and Support for Underserved Communities Through Federal Government* requires the establishment of an *Interagency Working Group on Equitable Data* (Data Working Group), tasked with developing shared practices and identifying inadequacies in federal data collection programs. In the AAMC's comments to the Office of Management and Budget on implementation considerations for EO 13985, we supported the establishment of the Data Working Group, recommending coordination with the White House Domestic Policy Council to ensure interagency coordination.[10] The work of the Data Working group is quickly progressing[11] and we recommend the OSTP's participation in these efforts. This could include sharing feedback from this RFI and aligning the work of the Community Connected Health Initiative and other agencies working on health technology issues (e.g., ONC, NSF, FCC, HHS/SACHRP).

Additional Issues for Consideration

The AAMC recently attended two meetings hosted by The National Coordinator for Health IT and the OSTP's Innovation Community Roundtable on the use of digital health technologies in community-based settings. There was notable overlap in the topics discussed and issues that deserve attention, including: EHR interoperability and standardization of data elements across systems; increased funding for community-based organizations; and the incorporation of the "patient experience" in the design and development of health technology (e.g., increase ease of usability across populations).[12]

The AAMC would appreciate the opportunity to work with the OSTP in furtherance of any issues discussed in our letter, including potential opportunities for inclusion of the AAMC Center for Health Justice Principles of Trustworthiness in the OSTP's Community Connected Health Initiative. For questions, please contact our colleagues Philip Alberti (███████████), Daria Grayer ███████████), or Gayle Lee (███████████)

Sincerely,

Ross McKinney, Jr., MD
Chief Scientific Officer

Janis M. Orlowski, MD, MACP
Chief Health Care Officer

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[9] The AAMC has commented extensively on equitable data collection and use of racial and ethnic data across Federal agencies to ensure the validity and utility of the information captured *See*, AAMC Comments to OMB on *Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity*, Docket No 2016-23672 (October, 2016) https://www.aamc org/media/11646/download
[10] AAMC Comments to the OMB: *Methods and Leading Practices for Advancing Equity and Support for Underserved Communities through Government*, OMB-2021-0005 (July, 2021)
[11] White House Press Release, *An Update from the Equitable Data Working Group* (July 27, 2021)
[12] The use of technology to improve maternal health and minimize inequities was discussed at both meetings Maternal health equity is a current priority for the AAMC Center for Health Justice; See: Maternal Health, https://www.aamchealthjustice org/our-work/maternal-health-equity *Maternal Health Incubator* May 2022 meeting, https://www.aamchealthjustice org/our-work/maternal-health-equity/incubator (last visited February 28, 2022)

Response to RFI - Connected Health RFI

From – Karan Arora, Chief Commercial Digital Officer, AstraZeneca

Date – 02/11/2022

1. Successful models within the U.S.: Descriptions of innovative examples or models of how community health providers within the United States successfully use digital health technology to deliver healthcare, enable healthier lifestyles, or reduce health disparities. This can include: the key features of the organizations and the digital health technologies that have been most successful, what is needed to support the scale-up beyond individual organizations, examples of best practices, examples of important user protections to institute (e.g., privacy best practices), examples of positive user experiences, metrics or measurement strategies of how community health providers measure outcomes or success, and creative ideas or models that may be in nascent stages.

AstraZeneca launched the AMAZE disease management platform intending to close the gap between patient and clinician outside of the clinical setting to drive improved clinical outcomes at a reduced cost. Pre-pandemic 95% of a patient's healthcare journey and care was delivered outside of the clinic; this only increased during the pandemic, which led to inefficient, fractured care with a significant lack of quality and continuity. In addition, chronic disease drives 75% of annual healthcare spending in the U.S., with 60% of adults in the U.S. diagnosed with one chronic illness and 40% of adults in the U.S. diagnosed as comorbid. This is a significant burden to the U.S. healthcare system as most of the cost is tied to episodic care, i.e., heart failure patients crashing into the emergency room requiring hospital readmission within 30 days of previous discharge.

The AMAZE platform was designed to be patient-centered: one-app across multiple diseases, device-agnostic, and integrated into the patient's healthcare system's electronic health record. The patient's clinician prescribed the tool to drive adoption and engagement. It combined the "at-home" patient-reported outcome and device data with existing clinical data in the electronic health record, providing a longitudinal view of the patient's health at the point of care. In addition, to minimize clinician and health system burden, the tool was offered at no cost to the provider or patient. Finally, its design was integrated into the clinical workflow minimizing extra time/resources by the clinical care team.

The vast majority of digital health tools in the market have taken the approach of driving user adoption either via direct-to-consumer or via payers. These channels often provide a quick increase in user-ship; however, long-term engagement fails. Therefore, these tools have added a "provider" infrastructure to support the patient's engagement outside of the healthcare system to combat this. Unfortunately, these models are short-lived because patients end up returning to their healthcare provider network when they require advanced care. Thus, AMAZE was designed as an integrated tool prescribed by the provider and managed by the patient's clinical care team. As a result, the adoption and engagement seen in the AMAZE platform was twice the industry average and sustained over several months. In addition, patients received proactive engagement from their clinical care team, leading to improved clinical care and providing efficiency to the delivery system.

Healthcare technology has seen an explosion of investment over the past decade, which only accelerated during the COVID pandemic. However, there is a significant lack of clinical evidence proving the efficacy of these tools in clinical care. This lack of clinical rigor has been a barrier to the clinical

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adoption of these tools. AstraZeneca established a strategic partnership with Mass General Brigham to clinically validate the AMAZE platform across two use-cases (asthma and heart failure) by conducting interventional clinical trials to prove the tool effectively drove improved performance clinical outcomes. Upon completing these studies, MGB requested to adopt the AMAZE platform in clinical practice and scale across their enterprise.

2. Barriers: Specific descriptions of the current barriers individuals or organizations face to using digital health technologies in community-based settings. It would be very helpful for respondents to indicate how these barriers may align to the following broad categories: technical (including broadband access), training, costs, reimbursement/policies, buy-in across organization or community, user education/comfort, or others. In the case of barriers that include user comfort/willingness to use the technology, it would be useful for respondents to detail any concerns users might have, such as privacy, security, discrimination, the effectiveness of the technology, or other such concerns.

- ➤ Patients:
    - o Lack of understanding/education regarding their disease and management
    - o Lack of resources to invest in digital tools/technology in addition to existing medical care cost
    - o Clinician engagement drives patient engagement. Patients will engage when they know someone is on the other end reviewing the data. If there is no bi-directional communication/accountability, then adoption/engagement suffers
    - o Multiple apps/devices across various diseases. Patients are comorbid and want one user interface for all of their healthcare needs
    - o SDOH: the CDC states five key topic areas:
        1. neighborhood and physical environment (affordable and quality housing, access to reliable transportation, and access to nutritious, affordable food);
        2. health and health care (lack of access to quality health care, health insurance, and linguistically and culturally responsive health care);
        3. occupation and job conditions (the disadvantaged tend to work in jobs that can have more health risks);
        4. income and wealth (financial challenges that make it difficult to pay medical bills and access affordable quality housing and nutritious food); and
        5. education (inequities in access to high-quality education, limiting job and career options).
- ➤ Healthcare Systems:
    - o Lack of clinical evidence demonstrating that digital tools drive improved clinical outcomes
    - o Resource burden: digital tools that require additional resources (time, $$, people) will fail. Health systems are operating on fragile margins.
    - o Market noise: there are too many point-of-care solutions, which only burden the system. Platform approaches that streamline solutions into one user interface will succeed
    - o Reimbursement: requires resources to support and reimbursement is not widespread; thus, the cost/benefit of establishing auditing/personnel to support often doesn't prove valuable

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- o Fee-for-service vs. value-based-care: As the U.S. healthcare landscape transitions from fee-for-service to value-based care, value is misaligned. Value-Based is motivated to identify patients early in disease progression and drive improved clinical outcomes, thus increasing the margin of reimbursement. However, fee-for-service models do not address prevention or health equity. In addition, these models are tied to increased volume, driven by episodic care and costly procedures, which dramatically reduced the pandemic; thus, these models are under duress. Without a faster shift to value-based care, the cost of health care in the United States will continue to rise. That is not sustainable for both provider institutions and patients.
- o Integration of digital tools into the HERD - Data integrations are becoming easier / more standard. However, proper workflow integrations are lacking and constitute a primary driver of clinician utilization.
- ➢ Payers:
  - o Motivated to keep patients healthy thus are keener to adopt digital tools. However, they are poor channels of recruitment and engagement for patients
  - o Reluctance for private payers to compensate clinicians for digital health.
- ➢ Solution Design:
  - o All stakeholders involved in the new care model need to be brought together to co-design the solution in partnership.
  - o Providers can't mandate a technology or working method that patients don't want to use.
  - o Patients can't engage with providers in a way that payors don't want to reimburse, and payors can't ask providers to act in a way that doesn't fit within the practical limitations of existing processes.
  - o Interoperability is key. One solution to rule all is impractical and only limits innovation in this space. EPRs hide behind 'data privacy' to hide behind their technical inadequacies. The financial sector has shown how innovation and integration can work with sensitive data in a highly regulated sector.

3. Trends from the pandemic: Impressions or data reflecting how the use of digital health technologies (including telemedicine) has changed over the course of the pandemic by individuals, community-based organizations, and community-based health settings. This includes impressions of what is likely to continue or not after the end of the public health emergency or COVID-19 pandemic.

Telemedicine soared at the beginning of the pandemic (Nearly half (43.5%) of Medicare primary care visits were provided via telehealth in April 2020, according to the federal government, compared with less than 1% in February 2020 (0.1%), however, saw a sharp decline as the pandemic waned. Telemedicine provides just one angle for connection to the patient outside of the clinical setting, but it lacks a longitudinal data view of the patient. Telemedicine offers a valuable triage tool. However, the most-complicated and most-costly patients require more advanced connections to their clinical care teams.

A platform approach that integrates telemedicine, remote patient monitoring, devices, data, A.I. algorithms will be critical to the success of digital health technologies in the ecosystem. Healthcare providers are overwhelmed by the volume of point-of-care solutions in the marketplace and do not have the resources to support them. As a result, providers have a large appetite for the platform approach,

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which streamlines the data across disease states, devices, etc., and delivers insight to the clinical care team at the point of care.

Patients expect a consumer-centric healthcare experience. Unfortunately, some have developed a negative opinion of using technology for remote patient monitoring and digital health due to sub-standard user experience.

4. User experience: Descriptions of how technology developers, community-based healthcare providers, or other community-based stakeholders consider and/or assess the patient and client experience in the use of health technologies. This includes direct experiences from individuals and patients who have used digital health technologies. We welcome descriptions of how digital health technologies could be better designed with the user experience (e.g., community health workers, healthcare providers, or patients) in mind, as well as aspects of the user experience that could be changed to help remove barriers due to willingness to use (e.g., privacy protection).

While many digital health solution developers do a good job of utilizing design thinking and engaging both patient and clinician users upfront in the design process, it is a challenge to get it 'right' on the first try. The healthcare ecosystem is complex, and feedback will often not reflect that complexity. In addition, the SaMD standards make it difficult to iterate the user experience quickly in real-time to identify the user experience that works.

Digital health solutions in communities could be better designed by acknowledging that not all users (patients in the community & clinicians in various care settings) can or will engage with these digital services to the same degree. The service still needs to 'work' for those individuals who prefer a hybrid way of engaging (physically in the clinic and virtually) people who are happy to receive information through digital service but won't input as well as fully-fledged digital natives.

5. Tool and training needs: Information about the current technological tools, equipment, and infrastructure needs of community health workers and other community-based health providers. Descriptions about what is needed to train and/or certify community health organizations and workers on using digital health technologies for their work are also welcome.

- ➢ Proper funding
  - ○ Backfill: Clinicians need to be adequately paid for attending training and adapting their existing process to incorporate new digital aspects. This ensures proper commitment and full attention. (It's easy for new methods to get deprioritized in favor of what is already working.)
  - ○ Software walkthroughs: Walkthroughs and rehearsals are invaluable. Before digital services are connected to direct care, the protocols must be reviewed and deemed safe. Ensuring these protocols are adhered to in practice is the next big challenge.
  - ○ Standard Operating Procedures: Essential to document that breaks down the role of each clinician so that protocol is followed, akin to an instruction manual.
  - ○ Service specification and reimbursement: The service specification describes the expected standards for the service, the clinical and operational targets regarding the patient population in this disease area, and how providers are reimbursed for their

performance. Without funding or fitting into existing funding structures, providers are unlikely to sustain a newly adopted digital service.

- Tiered versions of the service.
    - Digital services should have enough flexibility in their design to work for different providers. All health systems are unique, even if the digital aspect of the service functions, in the same way, the clinical teams will have other processes and structures. You can't expect clinical teams to change their working methods to fit the technology's requirements. Think, gold silver bronze iterations of the service.
- Objectives and Good (enough) evidence.
    - Measurement that reflects the primary challenge (KPIs) should be precise and reported regularly (e.g., reduced readmission increased, increased number of patients seen by one clinician, reduced waiting lists, etc.)
    - When it comes to improving the operations of care settings, this data is adequate 'business intelligence,' and so (as long as safety is accounted for) data doesn't need to be *significant* in order for it to support changes long term. In addition, Clinician POV and feedback can also be significant indicators of an improved way of working.
- Proper support from peer group
    - Hearing from and contacting other clinicians who have worked in a new, digital way.
- Continued feedback
    - Clinicians are experts in delivering care. Therefore, they are the best resource for improvement and must feel like they can enhance or edit the experience.

6. Proposed government actions: Opportunities for the Federal Government to support the transformation of community health settings through the uptake of innovative digital health technologies and telemedicine at the community level. Please specify whether these opportunities could take place in the immediate future (i.e., 0 – 2 years), in the next 5 years, in the next 10 years or beyond.

Provide a 'carrot' to adopt RPM/Digital Health technologies. In the same way that Meaningful Use drove the adoption of EHRs, the healthcare ecosystem needs a nudge to adopt technologies to improve patient data. Today, providers are penalized for adopting new technologies, often making a resource investment of dollars or people-hours, only to be denied compensation for that investment by private payors. If some of the risks could be removed for the providers, it would move adoption along via incentives.

Streamline the process for reimbursement to community health providers to drive adoption and continued engagement. The existing resource model in these healthcare settings does not allow for the adoption of new technology that requires time, dollars, and expertise. For providers to adopt these, they need to have clear visibility into the return on investment, which will not require additional personnel to manage and secure.

7. Health Equity: Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies

There is a widespread misconception that 'everyone has a smartphone. However, many on the low end of the socio-economic spectrum either have government-issued cell phones that only call and text, or others have a smartphone but can only afford a data plan for part of a month. If we remove the technology gap, we will make headway on health equity. Once practical working solutions are identified, we need to generate the data that could be used to show payers that the investment in technology on a per-patient basis for those in need is an excellent financial strategy – leading to lower health expenditures – especially for the chronically ill.

8. International models: Examples from outside of the United States, particularly from low or middle-income countries, that exemplify innovation at the intersection of healthcare delivery and technology. This can include: the key features of the organizations and/or the digital health technologies that have been most successful, what is needed to support the scale up beyond individual organizations, examples of best practices, examples of important user protections to institute (e.g., privacy best practices), examples of positive user experiences, metrics of how community health providers measure outcomes or success, and creative ideas or models that may be in nascent stages. We encourage responses that extrapolate to how these international models could be applied within the United States healthcare system.

- Remote Monitoring
  - Acting promptly
- Operating at the top of license
  - When technology is designed and appropriately deployed, it can relieve pressure on D.R.s and specialists by empowering other clinical staff. For example, nurses, pharmacists, and different types of clinical staff (coaches, therapists, etc.) can be involved in a lot more of a patient's care without complex clinical decisions requiring D.R.s.
- Closing the feedback loop (empowering patients)
  - By asking for data from patients while they're at home, you actively engage them in their care and have much more productive conversations when they do meet with physicians. Patients feel heard and involved with their care, so they're more likely to stick to their care plans, making it easier for physicians to treat.
- Patient Peer Groups
  - Pairing patients into virtual peer-support groups have been proven to improve their clinical outcomes and reduce the burden on care providers.
- Standardizing process (providing accurate, timely, relevant data)
  - Digital services, particularly those that focus on providing utility to clinical staff, support clinicians to be at their best. Decision-making on essential points of care sits with the clinician. Still, technology can provide the correct data at the right time and support the clinician with timely access to the proper guidelines protocols, signposts to specialists, etc. Conversely, admin leads to unnecessary clinical burden and subprime decision-making as physicians come under pressure.

March 25, 2022

Dr. Alondra Nelson
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Comments submitted via e-mail to ███████████████████

Dear Dr. Nelson,

Over the past 25 years, athenahealth has built a network of approximately 385,000 healthcare providers in both the ambulatory and acute settings in all 50 states. We provide electronic health record (EHR), practice management, care coordination, patient engagement, data analytics, revenue cycle management, and related services to physician practices and hospitals. More than 140,000 providers utilize our single instance, continuously updated, cloud-based platform. We also support on-premise software solutions. In both hosting paradigms, athenahealth seeks out and establishes connections with partners across the care continuum, enabling our clinicians to improve the quality of care they deliver.

athenahealth currently supports 180 Federally Qualified Health Centers (FQHC) and more than 350 Rural Health Clinics (RHCs). The impact of the COVID-19 pandemic on these communities cannot be understated. The staff and healthcare providers that serve these patients in these communities are on the ground floor of healthcare challenges in our country. They confront issues ranging from access to basic care, broadband internet, and health equity, to complex medical scenarios, all while running a business in a highly complex industry.

It is our experience that the past two years reinforce two important realities in community based health centers; local clinicians understand the needs of their patient community better than anyone else, and when given the resources and flexibility to adapt and innovate, community based health providers regularly exceed expectations for improving public health in a meaningful way.

It is with that context that we offer the following three primary focus areas that the White House Office of Science and Technology Policy (OSTP) should consider at the intersection of improving community health and technology.

First, increasing connectivity and interoperability is the greatest opportunity to improve the experience and outcomes for every participant in the healthcare system.

Patients seek care in multiple settings. Subsequently, there is an ever-expanding amount of patient data points across the care continuum. Staff members in community based health centers spend a significant amount of time tracking down missing paperwork, recently completed labs and tests, and notes from care received in other locations. Additionally, the integration capabilities of many state and regional public health registries leaves much to be desired by providers. Technology must do more than merely transition a manual process from paper to a computer. It should automate processes to free up clinician time to focus on delivering care.

Interoperability is not a technology problem. Limited interoperability remains a business incentive and resource allocation obstacle that Congress has addressed in the HITECH Act and the 21st Century Cures Act. The Administration should continue to let the 21st Century Cures Act rules be implemented and allow time for the market to adapt. Technology vendors and healthcare providers require time to innovate and build. The focus of government in this area should be on breaking down the remaining barriers to information access through rule implementation and addressing bad actors standing in the way of a more connected ecosystem.

Second, virtual care via telehealth audio and video must be a permanent part of the healthcare ecosystem. Virtual care has recaptured the spirit of the physician house call. Telehealth, so long on the verge of becoming mainstream, got a boost from the COVID-19 pandemic, forever transforming the way healthcare is delivered across America. Under the Public Health Emergency (PHE), the current flexibilities and waivers governing virtual care establish telehealth as an irrevocable medium for the doctor patient relationship to flourish. This transformation that puts providers back in the patient's home has become vital for our physician customers and the patients they serve. We are working closely with Congress to ensure that telehealth provisions and flexibilities issued in response to the COVID-19 pandemic remain in place beyond the PHE, and we believe this is a vital tool for all community based health centers.

Specifically, we ask policymakers to harness the collective potential of technology for greater convenience, efficiency, and improved quality of care by promoting a predictable regulatory and reimbursement framework. We strongly support legislation in the House and Senate that would:

- Provide HHS with the permanent authority to waive telehealth restrictions;
- Create an appropriate reimbursement structure for telehealth that compensates providers for their clinical expertise regardless of whether it is delivered on a video call or in person;
- Permanently remove all geographic restrictions on telehealth services;
- Expand originating sites to include the home and other sites; and
- Allow health centers and rural health clinics to provide telehealth services
- Expand access to high-speed broadband internet to improve patient access

Third, community based health centers are still plagued by outdated and administratively burdensome "check the box" requirements. The pace of technological innovation is rapid and these providers have more than proven their

ability and willingness to adapt to meet patient needs. The regulatory environment they navigate is further complicated by regulations with varying and overlapping timelines for implementation. This is all in addition to local regulations, such as navigating state to state requirements for providers serving patients across state lines. We encourage the administration, specifically the CMS Office of Burden Reduction, to act as partners to providers by removing outdated requirements and aligning regulatory program timelines across multiple agencies.

The potential for technology to increase access to care, lower costs, improve outcomes, and address disparities in health equity is without limit if given the proper environment. We look forward to partnering with your office and community based healthcare providers to work towards our shared goals of a better healthcare ecosystem for all. Please do not hesitate to contact me directly at ███████████ .

Regards,

█████████████

Greg Carey
Director, Government Affairs

1. *Successful models within the U.S.:*

In 2017, Atrium Health and BCBS—NC partnered to pilot a cutting-edge new telemedicine offering, School Based Virtual Care (SBVC), a program specifically designed to target the greatest obstacles to pediatric rural healthcare access in the state. Barriers for pediatric primary care include lack of transportation, difficulty navigating the health care system, lack of care providers, limited or no insurance, and parental job commitments that conflict with routine doctor office hours. Because of these barriers, many children in rural settings struggle with delayed medical care, increased school absenteeism, and inappropriate utilization of the emergency room for routine primary care medical needs. Improving access to healthcare depends in part on ensuring that children have a usual and ongoing source of care; a medical home where the child receives regular care. Children with a medical home have better health outcomes, fewer health laities, and overall lower healthcare costs. It was clear a new program was needed to creatively offer access to rural populations within our service area.

SBVC was carefully designed and developed as an innovative solution to the disparity in primary healthcare access among rural school-aged children. The program targeted schools with a high proportion of low-income students. The student bodies at most of the schools served by the program have over 90% enrollment in free or reduced-price school lunch programs (a statistic correlated with poverty or low-income status).

The resulting School Based Virtual Care program successfully leverages technological advancements to provide care in the school setting. SBVC visits are initiated when a student presents to the school nurse. An Atrium Health tele-presenter is deployed to the school and facilitates a virtual health examination with an Atrium Health pediatrician without the need for the student to travel to a pediatric clinic. The pediatrician remotely evaluates, diagnoses, and develops a treatment plan, all while the student remains at school. The offsite pediatrician works with the onsite tele-presenter to complete a comprehensive examination of the student using a tele-stethoscope to listen to the heart and lungs, a tele-otoscope to see the eardrums, and a high-resolution camera to view eyes, nose, throat, and skin. Parents join the visit via video link or in-person. The diagnosis and treatment plan are discussed with parents and prescriptions and follow-up care are arranged. Noncontagious students return to class after their visit, minimizing school day disruptions.

The SBVC program has been extremely popular and has been proven successful. During the 2019-2020 school year, with 10 Cleveland County Schools participating in the program, 94% of students at supported schools were enrolled in SBVC, there were over 920 visits to the clinic, a 41% reduction in avoidable Emergency Room visits among participants, and 79% of students resumed their school day following a SBVC visit. 43.6% of participants were members of a minority population, and 68.5% of students were enrolled in Medicaid. Since the 2019-2020 school year, the SBVC program has continued to expand to 24 primary and secondary schools within Cleveland County. We estimate that the program has saved more than $238,000 in Emergency Department utilization costs during the 2019-2020 school year alone, and more than $320,000 since the start of the program (among students that have at-least 1-year of data

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available after their first virtual visit). Furthermore, by comparing diagnostic codes used in SBVC virtual care visits to those used in our brick-and-mortar locations, we have found that students served by the SBVC program are receiving care for the same primary health needs at the same rate as the pediatric patients served by our local primary care clinics. Based on program results to date, SBVC appears to be an accessible, efficient way to provide high-quality primary care to rural pediatric patients.

2. *Barriers:*

Currently, the policy for the Centers for Medicare & Medicaid Services (CMS) does not recognize community outreach centers as qualifying original sites. Within this policy, it's difficult to scale the Community Based Virtual Care (CBVC) program in non-rural sites, as we cannot bill for services delivered from these community outreach centers. In order to continue to scale the rural CBVC program into the Charlotte-Mecklenburg school district, CMS telehealth policy will need to adapt to fit a structure allowing non-rural sites, such as the home and community outreach centers, to qualify as originating sites. Considering, commercial insurers often follow CMS policy, if CMS policy regarding originating place of service changes, perhaps commercial insurers will follow.

7. *Health Equity:*

Atrium Health's Social Impact Strategy is dedicated to the goal of achieving equity in social determinants of health, acute social needs, quality and outcomes, and healthcare access across the system enterprise. In 2017, when Atrium Health and BCBS – NC partnered to pilot a new telemedicine offering, School Based Virtual Care (SBVC), our goals were to target the greatest obstacles to pediatric rural healthcare access in the state. Barriers for pediatric primary care include lack of transportation, difficulty navigating the health care system, lack of care providers, limited or no insurance, and parental job commitments that conflict with routine doctor office hours. Because of these barriers, many children in rural settings struggle with delayed medical care, increased school absenteeism, and inappropriate utilization of the emergency room for routine primary care medical needs. Improving access to healthcare depends in part on ensuring that children have a usual and ongoing source of care; a medical home where the child receives regular care. Children with a medical home have better health outcomes, fewer health laities, and overall lower healthcare costs.

5. Tool and training needs:

At Banner Health, we currently utilize a middleware (*Xealth*) to act as a technical bridge between Digital Health applications and our enterprise Electronic Health Record. This permits our clinical care teams to *prescribe* patients the apps on our Digital Formulary. We believe that this not only allows us to govern the types of Digital Health products we recommend for enterprise use, but that it promotes a seamless transfer in coordination of care between the care teams and patients. That said, there is a heavy education and training need to prepare both groups to accept these types of intervention tools as being evidence-based and clinically useful. We anticipate that acceptance of this type of treatment methodology will continue to gain traction as more digitally-native patients enter their prime healthcare-utilization years, and as the nation evolves new delivery models in the wake of the pandemic.

6. Proposed government actions:

National Healthcare ID:
"Ensuring quality health information has and will increasingly become complicated as new data streams are utilized and as organizations share records electronically using different information systems and standards." Imperfect patient identity solutions raise significant concerns as the world becomes more dominated by digital health technology. Patient misidentification raises data sharing and interoperability concerns as well. Limitations in health information exchange can lead to clinical decision making based on incomplete information and thereby result in increased chances of misdiagnosis, unsafe treatment, and duplicative testing. Accuracy of patient identification may also have downstream implications for the secondary use of data for population health, quality improvement, public health, research and detection of waste, fraud, and abuse. As new data streams are increasingly integrated into the clinical setting, unique, ubiquitous identifiers will become increasingly necessary. The attached research study presents *Patient Identification Techniques – Approaches, Implications, Findings,* and recommendations for the action that should be taken on the federal level to address this issue and ultimately establish patient identification standard.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7442501/

Greater Medical Device Data Standards Needed for Interoperability

"The healthcare industry needs better data standards to support medical device interoperability. The existing infrastructure for healthcare interoperability has focused on EHRs. ONC mandated the adoption of HL7 Fast Healthcare Interoperability Resources (FHIR) in its implementation of the 21st Century Cures Act, as did CMS in its interoperability rule.

However, FHIR does not address the need for medical device interoperability. As clinicians continuously leverage medical devices, greater data standards are needed to ensure this information can be exchanged across the care continuum. "

https://jamanetwork.com/journals/jama-health-forum/fullarticle/2788095

https://ehrintelligence.com/news/greater-medical-device-data-standards-needed-for-interoperability?eid=CXTEL000000652294&elqCampaignId=23614&utm_source=nl&utm_medium=email&utm_campaign=newsletter&elqTrackId=7f82aafea6e4454a8ed4284237ba78ad&elq=cef53151ea4140b484b402f25b8692a2&elqaid=24418&elqat=1&elqCampaignId=23614

7. Health Equity:

Digital Therapeutics (DTx) have made it possible to not only offer more services to a larger demographic but to provide more resources overall. Social determinants of health, along with biological factors such as genetics, can create a more complete picture of a single person's health care journey. Rather than just instructing a patient what they should be doing or where/how they should be medically treated, it allows care teams to meet patients where they are in their full spectrum snapshot of health to promote harm reduction, education, and appropriate resources to optimize individual health. DTx is another effective tool that healthcare can implement to be proactive in our communities to recognize what is ailing them to bridge the gaps beforehand rather than being reactive in care which can result in grave outcomes that negatively affect care and spending. The theoretical economic promise of technology interventions is that software becomes less expensive as it is utilized by more end users, meaning that advantages of scale can be harnessed in the digital sphere. Our hope is to realize these benefits in order to provide more balanced, fair, and equitable outcomes for all communities we serve.

Impacts of the Social Determinants of Health on Arizona Families - YouTube

8. International Models:

German DiGA is an example that exemplifies innovation at the intersection of healthcare delivery and technology:

- A well-regulated DTx market that ensures transparent access to high-quality digital therapeutics and which use (prescribed by physician) is reimbursed by a national payer (>100 Statutory Health Insurances). The critical components of

the national set of requirements for digital therapeutics that can be prescribed and reimbursed include:

- o Scientific evidence which is a proof of positive care effects; either a structural or procedural effect and/or medical benefit
    - ▪ Structural or procedural effects include reduction of therapy related efforts/strains, securing standard of care, coordination of care, access to care, health literacy, adherence, patient safety
    - ▪ Medical benefits include morbidity, quality of life, mortality
- o Safety
- o Functionality
- o Quality
- o Data protection and information security

https://www.healthcareitnews.com/news/emea/digital-health-apps-germany-update-diga-journey

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SAN FRANCISCO CALIFORNIA 94118
PHONE
E-MAIL

February 28, 2022
To: Stacy Murphy, White House Office of Science and Technology Policy

Re: Request for Information on Strengthening Community Health Through Technology

Dear Ms. Murphy:

As a physician leader in digital and telemedicine who provides direct care to patients, I am pleased to submit this response to OSTP's Request for Information on Strengthening Community Through Technology.

Digital health technologies have unique scalable capacity to transform community health, individual wellness, and health equity by meeting people where they are in their communities. But digital health equity can only begin when such communities have digital access. I laud the November 15, 2021 passage of the Infrastructure Investment and Jobs Act[1] containing $65B for broadband infrastructure, subsidy, and digital equity and inclusion efforts.

The COVID-19 pandemic exposed certain weaknesses in our healthcare infrastructure, but gave rise to important policy changes under the public health emergency that stimulated digital healthcare innovation and a long awaited breakthrough moment in which telemedicine demonstrated the critical healthcare value it had been working to establish for decades. While organizations such as the American Telemedicine Association actively advocate for much needed long term regulatory changes[2] in physician licensing, prescribing, and billing that enabled virtual house calls for millions of Americans during the pandemic, telemedicine was not the only digital health beneficiary of these changes. **Under the umbra of the telehealth breakthrough moment, patient generated health data (PGHD) had a similar, albeit less visible breakthrough moment**, something that my coauthors and I describe in our 2021 study in the Journal of the American Medical Informatics Association.[3]

PGHD are defined as health-related data created and recorded by or from patients outside of the clinical setting to help address a health concern.[4] As described in the OSTP RFI, PGHD may emanate from "remote patient monitoring devices, health trackers, mobile device (e.g. smart phones, tablets), [and] mobile health apps." While PGHD have long offered the promise of improved health outcomes,[5] and reduced costs,[6] their clinical use has remained rare.[7] As you know, PGHD were a central in the Stage 3 Meaningful Use (MU) criteria for electronic health record (EHR) use. However, the PGHD criterion was subsequently removed, as the Office of the National Coordinator for Health Information Technology (ONC) noted that clinicians faced "challenges…confirming the accuracy and validity of PGHD…and liability concerns if inaccurate PGHD are used in clinical decisions."[8]

Barriers
As the ownership of devices such as smartphones, capable of capturing PGHD, continues to expand across communities, even with nearly 76% of adults with income under $30,000 owning a smartphone,[9] the opportunity to collect and transmit PGHD to healthcare providers by members of underserved communities

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increases. Access to devices is becoming less of the limiting factor, and as broadband access, described above increases, the remaining bottleneck may simply be the willingness of healthcare providers to receive and incorporate into clinical care the PGHD that their patients are willing and interested in sending. While healthcare provider adoption barriers have included concerns about accuracy and liability, other concerns include limited reimbursement, and challenging reporting requirements for the receipt and review of PGHD that may come through various forms including remote patient monitoring (RPM).[7]

Trends from the Pandemic

As the pandemic provided a unique natural experiment in telemedicine, so too did it offer an unprecedented opportunity to evaluate whether remote visits would change healthcare providers' perceptions on, and willingness to more widely consider the adoption of PGHD. Specifically, in a national study we conducted, **we sought to understand whether the abrupt and largescale shift to telemedicine was associated with greater ambulatory care use of PGHD as surrogates for vital signs** that would have otherwise been collected by approved medical devices during in person visits. Certainly, one limitation of telemedicine visits is a lack of vital signs that clinicians, particularly primary care providers, depend on as part of their decision making processes.

We examined the uptake of a PGHD-specific platform by healthcare providers (physician demand), and the transmission of PGHD (patient supply) in the 5 months before and 6 months after the onset of the pandemic in the U.S. and the abrupt transition to telemedicine in March, 2020. Our sample included 10 health systems (1 national, and 9 across eleven states), spanning both urban and rural settings, and included 8 safety net provider systems, 4,695 healthcare providers, and 51,320 patients.

We found that there was a significant increase in the number of new healthcare providers enrolling on the PGHD platform, suggesting **a novel willingness to adopt PGHD in clinical practice** associated with the transition to telemedicine. We also found a persistent upward trend in patient transmission of PGHD that dramatically outpaced the precipitous drop in patient encounters (even when accounting for telemedicine encounters), suggesting that **patients were eager to collect and transmit PGHD** (Figures 1,2).
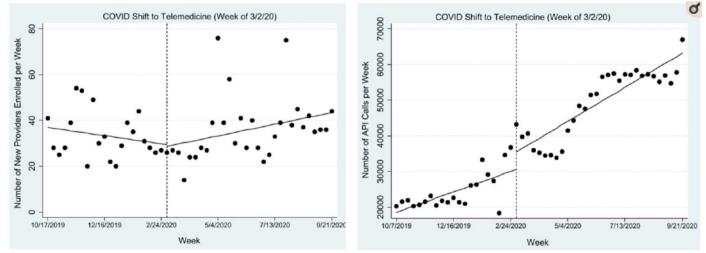
Figure 1. A. Weekly new provider enrollment on PGHD platform vs time. B. Weekly API call volume vs. time. Dots represent actual data, lines represent linear fits before and after the week of 3/2/2020 (dotted line).

While these findings suggest a long-awaited breakthrough moment for PGHD, this momentum must be seized in order that clinician willingness to adopt them (as the ONC had originally envisioned with Meaningful Use), and patient eagerness to collect and transmit them persists.

From a federal perspective, it will be imperative that reimbursement policies honor the time and effort required of healthcare providers to collect and review PGHD, and minimize the friction associated with

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reporting and attestation requirements. Namely, while the pandemic spurred an increase in physician interest in PGHD to fill gaps during a period of reduced in-person care, the opportunity to harness the willingness of healthcare providers to clinically adopt PGHD may be transient. Rather than allow a wave of PGHD adoption to pass, the OSTP has a critical opportunity to work with federal colleagues such as the Centers for Medicare and Medicaid Services, with the payer community, and with the American Medical Association to continue to drive adoption by better facilitating reimbursement, thereby amplifying the wave of adoption interest before it subsides. This is the opportunity to unlock the true potential of PGHD as originally envisioned by the ONC in MU3, for the benefit of our healthcare system and our communities.

Sincerely,

Benjamin Rosner, MD, PhD
Associate Clinical Professor
Center for Clinical Informatics and Improvement Research
  and the Division of Hospital Medicine
University of California, San Francisco

Citations

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2. U.S. Department of Health and Human Services, Health Resources and Services Administration. For providers | Telehealth.HHS.gov. Telehealth.HHS.Gov. https://www.telehealth.hhs.gov/providers. Published July 14, 2021. Accessed March 2, 2022.
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6. Rosner BI, Gottlieb M, Anderson WN. Effectiveness of an automated digital remote guidance and telemonitoring platform on costs, readmissions, and complications after hip and knee arthroplasties. *J Arthroplasty*. 2018;33(4):988-996.e4. doi:10.1016/j.arth.2017.11.036
7. Adler-Milstein J, Nong P. Early experiences with patient generated health data: health system and patient perspectives. *J Am Med Inform Assoc*. 2019;26(10):952-959. doi:10.1093/jamia/ocz045
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9. Anderson M, Kumar M. Digital divide persists even as lower-income Americans make gains in tech adoption. *Pew Research Center*. July 2019. https://www.pewresearch.org/fact-tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/.

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From:	Malow, Beth Ann (Neurology) ████████████████
Sent:	Monday, February 28, 2022 11:46 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Yellow Category

I wanted to provide some input related to the RFI on Strengthening Community Health Through Technology

I've been involved in Project ECHO for more than five years It is a powerful tele-mentoring model now being used by more than 250 partners in all 50 states across the U.S. – and reaching providers in more than 180 countries around the world. The ECHOs that I have been involved with include helping clinicians care for children, teens, and adults on the autism spectrum. We meet on Zoom and provide best practices, mentoring, and support. It is a fabulous way to build capacity in autism as we are leveraging primary care providers—pediatricians, adult internal medicine specialists, family practitioners, and advanced practice providers (nurse practitioners and physician assistants) as well as physicians.

Beyond autism, ECHO projects encompass almost every aspect of healthcare, including COVID-19, providing training in best practices across the world. It now reaches across the country with 250 training centers in all 50 states and engages providers in 180 countries across more than 80 different diseases and conditions.

This is an evidence-based model, with more than 400 published papers on different aspects of the model.

Proposed government action:
- We commend the government's efforts to improve connectivity (increasing broadband) and enabling virtual visits between providers and patients. Those efforts should continue.
- We need to create the payment structures that incentivize new approaches like tele-mentoring.
- Programs across the US are supported through a patchwork of different funding mechanisms, which includes philanthropic and government grant programs, state funding and some early experimentation of payment approaches through Medicaid and with health plans.
- We suggest the federal government consider approaches in the following areas:
  - The Department of Health and Human Services (HHS) through the Center for Medicare and Medicaid Innovation (CMMI) should explore different payment pathways for both the specialists/experts and community providers participating in tele-mentoring approaches.
  - Tele-mentoring extends the reach of graduate and continuing medical education. It creates ongoing, virtual learning communities responsive to the most pressing needs of providers in rural and underserved areas. The federal government should encourage academic medicine to reimagine its role in medical education and prioritize tele-mentoring as a core education strategy going forward.
  - Based on the experience during the pandemic, the Federal government should explore a standard mechanism for funding tele-mentoring approaches like ECHO in times of national health emergency as part of the government's response efforts. This will reward the institutions who have provided groundwork for the ECHO model and allow them to quickly and robustly respond in times of national emergency. And it will encourage others to follow.

Thank you.

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Dr. Beth Malow, Professor of Neurology and Pediatrics, Vanderbilt University Medical Center

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From:	Golden, Bethany ████████████████████
Sent:	Wednesday, March 30, 2022 10:14 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Community Connected Health Input

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Yellow Category, Blue Category

March 30, 2022

Dear Dr. Wolinetz and Dr. Ward,

Thank you for the invitation to comment on this important and exciting initiative to improve telehealth and overcome the existing barriers that patients who I have the honor to serve encounter daily.

As a certified nurse-midwife working for almost two decades in reproductive health, I struggled to stay connected remotely with prenatal patients from our community health clinic in East Oakland, California, during the pandemic. One patient explained to me. "There is just not enough of a strong enough signal for me to attend my visits with video since my first priority is for my kids to connect with their teachers." Other patients mentioned that they had to have a quick visit, since they were about to run out of minutes on their data plan. Sometimes, our "visits" would just get dropped, when data plans ran out, or worse, I was unable to make a connection because their phone was out of service. Telehealth requires hard choices for these patients as they pick up the cost paying with their own data plans, when struggling to meet needs such as gas, housing and food. Due to weak internet signals and lack of broadband width, families had to prioritize the competing video conferencing needs of the family whole: work, children's schooling vs. healthcare. It was clear that in order for telehealth to work, the internet has to be universally accessible like roads. After this experience, I have dedicated my PhD studies, at University of California, San Francisco (UCSF) to how providers and patients experience the delivery of remote and virtual care and how it can better meet their needs.

I agree that the benefits of telehealth include decreased cost and time for transportation and loss of wages for taking time off work. As we move forward with more equitable models of telehealth that decrease and not replicate the current disparities in health care delivery and quality, and so that we can all reap the benefits of telehealth, I would like to highlight both specific challenges and solutions.

Make permanent all Public Health Emergency's Medicare reimbursements: Specifically, the Centers for Medicare and Medicaid Services (CMS) allowed for telehealth visits to have the same payment parity with in-person visits; granted reimbursement to more types of facilities, providers and services; and removed critical geographical restrictions for payment that impacted compensation and allowed patients to receive care with telehealth from any location. Also audio only services need to continue to be reimbursed for those patients who lack video conferencing capabilities.

Keep cell phones turned on: Appropriate funding for low-income and homeless patients to maintain cell/internet service and stay connected. We need to acknowledge that a cost has been transferred to the patient and need new insurance or public financing models that reimbursements.

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Ease access for Self- Monitoring Tools to improve virtual clinical assessments: Coverage and easy access for basic monitoring devices like blood pressure, scales, pulse, oximetry, fetal dopplers etc. and training to use the medical devices.

Circulate appropriate violence screening for Telehealth: Better screening and triage tools for domestic violence/child abuse survivors, appropriate for telehealth. Currently, patients may not be alone and at risk, an lack privacy to discuss violence in their own homes.

Promote tech designs that ensure Adolescent Privacy: Creation of methods to ensure adolescent privacy especially in terms of sensitive topics like sexually transmitted diseases, pregnacy and abortion.

Share telehealth best practices for telehealth for non-English speakers, and those with disabilities or mental health conditions: There are existing gaps for these groups to easily and efficiently connect with providers remotely.

Policy inclusion: Continue to promote channels and create mechanisms for nurses, midwives, front-line healthcare workers and racially and ethnically diverse low-come patients to join and lead policy planning, decision making and implementation process of telehealth.

Thank you in advance for all your effort to create a more equitable healthcare delivery as we catapult into the virtual age.

Sincerely,

Bethany Golden RN CNM

ACTONS Fellow and Phd Student at UCSF/School of Nursing.

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February 28, 2022

Deputy Director Carrie Wolinetz, Ph.D.
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Ms. Wolinetz,

On behalf of Big Health, we are pleased to submit comments in response to the Office of Science and Technology Policy's (OSTP) Request for Information (RFI) on Strengthening Community Health Through Technology.[1] We appreciate the Biden Administration's leadership in identifying potential ways that digital technologies could improve the health of the American people and their communities.

We believe we will look back at the COVID-19 Public Health Emergency (PHE) and the impact on our communities in two ways. The first will be one of heroism: a celebration of the clinicians and community leaders who worked tirelessly to save lives. The second will unfortunately be darker: one of shared trauma, driven by at least two years of uncertainty and grief, and the resulting mental health crisis for which America was not prepared. Virtually every analysis indicates this mental health crisis is pervasive and is particularly acute for young people, caregivers and marginalized communities. While the Biden Administration has taken steps[2,3,4] to improve care for these populations, there are additional actions that must be taken immediately to support Americans and their communities to get back to good mental health.

Most importantly, we recommend the Administration establish Medicare and Medicaid payment rules to expand beneficiary access to digital therapeutics, including those digital therapeutics that provide digital CBT. CBT is an evidence-based psychological treatment that has been demonstrated to be effective for a range of mental health conditions including depression, insomnia, anxiety disorders, alcohol and substance use and eating disorders. Companies like Big Health have developed digital formats of CBT that allow this evidence-based treatment to be delivered at scale. These products are safe, effective and can help solve access problems that are preventing many of the 140+ million Medicare and Medicaid beneficiaries from receiving effective treatment for common conditions like insomnia and generalized anxiety disorder (GAD). Specifically, we recommend that:

1. The Centers for Medicare and Medicaid Services (CMS) should establish payment for digital CBT in the upcoming 2023 Medicare Physician Fee Schedule (MPFS) and 2023 Hospital Outpatient Prospective Payment System (OPPS) rulemaking cycles.
2. CMS should publish a State Medicaid Director letter clarifying that digital CBT is available for federal matching funds under existing Medicaid benefit categories.
3. The Office of Personnel Management (OPM) should include language in their annual plan call letter asking potential plan participants how they are covering

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[1] https://www.federalregister.gov/documents/2022/01/05/2021-28193/request-for-information-rfi-on-strengthening-community-health-through-technology#addresses
[2] https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/19/fact-sheet-improving-access-and-care-for-youth-mental-health-and-substance-use-conditions/
[3] https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf
[4] https://www.samhsa.gov/newsroom/press-announcements/202103110230

and paying for digital CBT, so that federal employees may benefit from these effective and personalized treatments.

These recommendations would accelerate adoption of digital therapeutics and align the United States' approach to these important devices with that of other countries, like the United Kingdom. The remainder of our letter provides additional information about our recommendations.

The COVID-19 PHE, Mental Health and Digital Therapeutics: The PHE has put significant stress on our mental health system. It is now estimated that roughly 4 in 10 adult Americans have experienced a mental health issue during the pandemic, up 4 times from 1 in 10 adults in 2019.[5] Yet, we still don't offer psychological interventions needed for everyone at scale, and in an equitable way. A recent survey[6] indicated that because of high demand, 75% of therapists reported an increase in wait times and nearly 1 in 3 said that it could take at least 3 months to get an appointment or that they didn't have room for new patients at all. We are also concerned that the pandemic may be increasing practitioners' reliance on medications as the primary treatment for common mental health conditions, even though leading clinical guidelines tell us behavioral interventions should be first line treatment, used before medications for most patients.[7] Early observation studies, for example, show a spike in prescribing of benzodiazepines in fall of 2020.[8] Separate clinical research has shown that benzodiazepines and hypnotics can be associated with moderately severe side effects and/or adverse events (e.g., cognitive impairment, motor vehicle accidents, and falls) and they have minimal long-term benefits for many patients, especially the elderly.[9,10]

Big Health's mission is to help millions back to good mental health. In pursuit of this we develop and launch digital therapeutics that provide a digital form of proven behavioral interventions, including cognitive behavioral therapy (CBT), for patients with insomnia (Sleepio) or generalized anxiety disorder (Daylight). They are backed by a mountain of evidence: 13 randomized controlled trials and 30+ other peer-reviewed publications, with 30+ more studies in the pipeline.[11] By adding digital therapeutics to the traditional models of care, therapy and medication, we can essentially redefine mental health care in a way that is accessible by millions, regardless of ZIP code, socioeconomic status, or race. However, the roughly 60 million beneficiaries enrolled in Medicare and the roughly 80 million beneficiaries enrolled across state Medicaid/CHIP programs can't access our products due to lack of coding and payment rules. If CMS were to address this, they could immediately expand access to effective mental health care for those with the greatest needs.

International Models: Through an agreement with the Scottish government, all adults living in Scotland can access Daylight and Sleepio as part of their NHS services. There are two primary distribution models: adults can access Daylight and Sleepio via self-referral, or the apps can be furnished as part of a visit with a practitioner. Scotland was the first country to implement fully digital solutions that provide instant help for anxiety and insomnia nationwide and at no cost to the user.

Recommendations for Government Action - CMS Coding and Payment: We have received inquiries from US-based practitioners that want to furnish Sleepio and Daylight

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[5] https://www.kff.org/report-section/the-implications-of-covid-19-for-mental-health-and-substance-use-issue-brief/
[6] https://www.nytimes.com/interactive/2021/12/16/well/mental-health-crisis-america-covid.html
[7] https://www.acponline.org/acp-newsroom/acp-recommends-cognitive-behavioral-therapy-as-initial-treatment-for-chronic-insomnia
[8] https://link.springer.com/article/10.1007%2Fs11606-021-06868-5
[9] https://pubmed.ncbi.nlm.nih.gov/16013901/ / https://pubmed.ncbi.nlm.nih.gov/12562113/
[10] https://www.choosingwisely.org/clinician-lists/american-geriatrics-society-benzodiazepines-sedative-hypnotics-for-insomnia-in-older-adults/
[11] https://www.bighealth.com/research/

to their patients, like practitioners do in Scotland, but there is no current payment model that supports this approach to distribution. However, there are established coding and payment pathways under Medicare Part B that are available today and apply to digital therapeutics that furnish digital CBT. Medicare has taken steps to cover and pay separately for similar supplies and devices, especially when the cost of those supplies and devices represent a significant portion of (or more than) the payment for the underlying service.

- Medicare has long established separate coding and payment under the MPFS and OPPS for certain therapeutic (e.g., linear accelerators for radiation therapy) and monitoring supplies and devices (e.g., PT/INR and holter monitors).
- Medicare has expanded payment for remote physiologic monitoring (RPM) and remote therapeutic monitoring (RTM), and both families of codes include separate payment for the associated supplies/devices, which can be software. We anticipate that the AMA will be adding a new RTM code for *monitoring* CBT in 2022, however this new code will fall well short of describing a *therapeutic* digital CBT program like Sleepio or Daylight.
- CMS has expanded payments for algorithms and artificial intelligence applications (often called "software as a service"), such as HeartFlow and IDX-DR.

We strongly recommend Medicare create separate coding and payment under the MPFS and OPPS for digital CBT, where these programs would be treated as separately-paid supplies to a practitioner service. We believe this is within Medicare's current authority and - once finalized - would enable broad access to these important mental health services. We also recommend that the Center for Medicaid and Chip Services (CMCS) provide guidance to states clarifying how digital therapeutics could be paid for under an existing Medicaid benefit category and that these products are eligible for federal matching funds. It would also be helpful to identify specific examples of how states could build coverage and payment into their state plan amendments, and or work with managed care entities through waivers to pay for these important devices. States like Massachusetts[12] and Oklahoma[13] have started to cover and pay for certain digital therapeutics but they are the exception and not the norm. Finally, we recommend that OPM expand their language on *Mental Health and Substance Use Disorder Services* in the 2023 FEHB call letter[14] to encourage potential plan participants to cover and pay for evidence-based digital CBT programs. Federal civil servants should have access to these services like employees of major for-profit organizations.

Thank you again for the opportunity to comment. If you have any questions, please contact me at ███████████████████

Sincerely,

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Will Robinson
Director, Policy and Strategy

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[12] https://mhdl.pharmacy.services.conduent.com/MHDL/pubdownloadpdfwelcome.do?docId=8&fileType=PDF
[13] https://www.yahoo.com/now/oklahoma-health-care-authority-pear-130000765.html
[14] https://www.opm.gov/healthcare-insurance/healthcare/carriers/2021/2021-03.pdf

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March 31, 2022

Dr. Alondra Nelson
Acting Director
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, DC 20502

Re: Biocom California's Response to the White House Office of Science and Technology Policy's [Request for Information on Strengthening Community Health Through Technology](#)

On behalf of Biocom California, thank you for the opportunity to submit comments to the White House's Office of Science and Technology Policy's (OSTP) *Request for Information (RFI) on Strengthening Community Health Through Technology*. Biocom California believes that Digital Health Technologies (DHTs) represent a bold leap forward in advancing healthcare into the digital age and have an important role to play now and in the future of patient care. As noted in the RFI, DHTs have the potential to transform community health, individual wellness, and health equity.

Biocom California is the largest, most experienced leader and advocate for California's life science sector, which includes biotechnology, pharmaceutical, medical device, genomics and diagnostics companies of all sizes, as well as research universities and institutes, clinical research organizations, investors and service providers. With more than 1,500 members dedicated to improving health and quality of life, Biocom California drives public policy initiatives to positively influence the state's life science community in the research, development, and delivery of innovative products. California's life sciences industry generates over $400 billion in annual economic activity, supports almost 1.4 million jobs, and increases labor income by $131 billion per year[1].

Biocom California applauds OSTP for seeking information regarding the utilization of DHTs, as well as their efforts on the Community Connected Health Initiative. We are similarly supportive of engaging people in their communities in order to improve health outcomes. DHTs can impact almost every aspect of our health care system, and their potential grows with each innovation. Many Biocom members are creating medical apps, wearables and devices to monitor and track patient progress, streamline processes, prevent and treat conditions, and remotely connect patients and providers to support better outcomes and greater convenience for patients. The role of DHTs is growing, and the potential is enormous. The global digital health market is expected to grow at a compound annual

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[1] *Biocom California 2021 Economic Impact Report Databook.* https://www.biocom.org/eir/

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growth rate of 15.1 percent from 2021 to 2028; North America also accounted for the largest market share of 38.77 percent in 2020[2]. With this exponential growth, we appreciate the OSTP's interest in DHTs and look forward to working together to address key issues surrounding these technologies.

Barriers:

Patient Control of Personal Information & Data Stewardship

As DHTs develop, fundamental issues around patient privacy, data ownership, data security, and consumer trust will need to be addressed. Especially for community-based settings, many of the intended population may have trust issues, lack technical understanding of devices, and may require more intensive education and outreach. A lack of focus on consumer protection has the potential to undermine public confidence in a company, product, or DHTs generally.

General Uncertainty in an Evolving Regulatory Environment

Another challenge is uncertainty in an evolving regulatory environment. The Food and Drug Administration (FDA) has been producing guidance and taking considerable steps to advance its thinking around all DHTs. To date, FDA has put forward more than 20 guidance documents on digital health, including the recent draft guidance Digital Health Technologies for Remote Data Acquisition in Clinical Investigations[3], and has committed significant time and resources to this effort.

In order to meet the challenges posed by DHT regulation, FDA's Center for Devices and Radiological Health (CDRH) created a Digital Health Center of Excellence (DHCoE) to take a comprehensive approach to digital health. The DHCoE provides many services to help developers, including medical device cybersecurity, regulatory review support, connecting stakeholders, and sharing knowledge[4]. This approach will help FDA coordinate and provide consistency in DHT regulation.

Additionally, the most recent Prescription Drug User Fee Act (PDUFA) Commitment Letter includes a plan to support DHTs in drug development and review[5]. Biocom California supports the commitments made in the PDUFA agreement and looks forward to implementing those provisions upon successful passage of the agreement.

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[2] *Digital Health Market Size, Share & Trends Analysis Report by Technology (Healthcare Analytics, mHealth), By Component (Software, Services), By Region, And Segment Forecasts, 2021 – 2028. Grand View Research.* https://www.grandviewresearch.com/industry-analysis/digital-health-market
[3] *Digital Health Technologies for Remote Data Acquisition in Clinical Investigations. FDA.* https://www.fda.gov/media/155022/download
[4] *About the Digital Health Center of Excellence. FDA.* https://www.fda.gov/medical-devices/digital-health-center-excellence/about-digital-health-center-excellence
[5] *PDUFA Reauthorization Performance Goals and Procedures Fiscal Years 2023 Through 2027. FDA* https://www.fda.gov/media/151712/download

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Despite this progress, efforts to regulate DHTs are evolving with the technology, and developers are often uncertain about their path forward. Regulators should work together to inject confidence into the development of these innovative tools by providing transparency and pathways for successful approval and coverage of these tools.

Coverage, Payment, and Reimbursement

Finally, perhaps the most significant barrier to overcome is coverage and reimbursement for DHTs. These tools have the potential to improve patient outcomes, reduce fraud and abuse, and empower patients to play a more active role in their health. Currently, these technologies and services have not been fully integrated into payment models, which creates a challenging environment for these products to flourish and keep them from reaching those who need access.

We ask that OSTP encourage Congress and CMS to revise existing assumptions and policies which have created barriers that restrict the ability of Medicare beneficiaries to access these technologies. Most significantly, CMS has assumed that most uses of software are indirect costs that cannot be attributed to a single treatment or patient and considers those expenses to be part of the indirect, rather than the direct, costs of furnishing a service. This assumption is incorrect in the case of AI-driven technologies, for which each use of the technology is specific to a particular patient. For many of the solutions currently on the market, the physician can prescribe the technology and furnishes access to the technology on the patient's personal device. Each prescription represents a discrete use of the technology and can and should be appropriately reflected as a direct cost.

In recent years, the Centers for Medicare and Medicaid Services (CMS) has worked to integrate DHTs into the reimbursement system. In 2019, Biocom California supported CMS' activation of codes for remote monitoring, which allowed for greater use of remote patient monitoring (RPM) tools. We appreciate the recent Current Procedural Terminology (CPT) codes to describe remote physiologic and remote therapeutic monitoring and that CMS has recognized or proposed to recognize those codes for payment under the Physician Fee Schedule (PFS).

However, we believe that CMS should ensure that the remote monitoring codes can be widely reported by a range of practitioners who may use those services to treat their patients, including but not limited to practitioners who furnish evaluation and management services. Other types of practitioners, including diagnostic testing facilities, therapy providers, and Diabetes Self-Management Program (DSMT) providers, should have the ability to furnish these services to their patients.

We also recommend that CMS consider the development of HCPCS codes that reflect additional uses of digital therapeutics that are not described by current CPT codes. For example, the current CPT codes for remote therapeutic monitoring are limited to therapies for monitoring of the respiratory system (989X2) or the musculoskeletal system (989X3) and cannot be used to report remote therapeutic monitoring of other body systems. CMS

should develop HCPCS G codes to identify other monitoring of types of conditions. Lastly, the absence of codes that describe the service of furnishing AI-driven technologies has limited the ability of physicians to report and receive payment for this service.

Clarifying and streamlining reimbursement policies for DHTs is critical to increasing their use. The current, limited reimbursement pathways for DHTs have erected barriers to the utilization of these technologies and led to greater disparity in uptake and outcomes. Biocom California recommends that OSTP urge CMS to expand the use of current RPM codes, support the development of new codes for additional uses, and accelerate efforts to adapt Medicare PFS methodology to better reflect the growing use of innovative technologies.

Trends from the pandemic:

COVID-19 has taught many lessons around community-based health care, and the need to meet people where they are has never been more apparent than now. The rise of DHTs ensured many patients still received the care they needed in their own homes or communities. This is a trend that must continue. Continued use of DHTs depends on evaluating what has worked during this period of public health emergency and ensuring that successes are maintained.

Biocom California believes telehealth is a prime example of what has worked well throughout the COVID-19 pandemic. Telehealth can serve as a helpful complement to in-person care, and the telehealth flexibilities created during the public health emergency, such as easing site of origin restrictions and facilitating cross-state licensure, should be made permanent. However, telehealth must not exacerbate existing health inequities in the process of expanding access. We encourage Congress to ensure data on the impact of telehealth on outcomes is captured, and telehealth flexibilities made permanent.

User experience:

The users' experience is critical to the product's success. Developers spend considerable resources on ensuring the product meets the needs of the patients and the other users of the product, including providers who are prescribing or equipping the DHT to the patient.

For DHTs to be successful, broad uptake is critical, meaning that everyone who needs access to these tools has it. Similarly, developers of these products need to consider how their technology will work with every demographic in the US. **DHTs must account for users across a wide range of populations and seek to remove barriers, including language, technical competence, and disabilities.**

Tool and training needs:

Taking steps to ensure that health care workers, including those in community-based health settings, are adequately trained in the technology is key to the broad uptake of DHTs. Similar to user experience, training on the use of technology should not be overly burdensome. **An easy-to-use DHT coupled with appropriate training is a key to the successful uptake of a DHT.**

Proposed government actions:

Governmental action should reflect a desire to protect patients and ensure public trust in these technologies without erecting barriers to development and access. The Centers for Medicare and Medicaid Services can take steps to facilitate access to DHTs by expanding the use of current remote patient monitoring codes, supporting the development of new codes for additional services, and accelerating efforts to adapt Medicare Physician Fee Schedule methodology to better reflect the growing use of innovative technologies. Additionally, the National Institutes of Health can review their contract process to meet innovators' needs. Finally, Congress plays a vital role in ensuring that the regulatory agencies have sufficient resources for consumer protection and enforcement activities.

Health Equity:
Health equity is a core promise behind the widespread use and adoption of DHTs. Biocom California and its members are committed to fostering a more equitable environment in life sciences[6]. **Using DHTs in community-based settings to connect with historically underrepresented communities can unlock new insights into more Americans' objective health and well-being than ever before.**

Additionally, DHTs could be used in community-based settings to facilitate clinical trials, potentially reducing some of the historical barriers to clinical trial participation[7]. Decentralized clinical trials that use DHTs and allow patients to participate from their home or community centers have the potential to increase diversity and trial participation by reducing the distance that patients need to travel to the trial site, limiting the number of time-consuming site visits, and restraining out-of-pocket costs while patients travel to or stay at the trial site.

We appreciate the opportunity to provide feedback on behalf of our members and thank you for your time and diligence in examining our comments. Please contact Biocom's Associate Manager for Federal Advocacy, Richard White, at ███████████ for additional information. We look forward to working with OSTP on this important matter.

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[6] *Diversity, Equity, and Inclusion in Life Science. Biocom California.* https://www.biocom.org/diversity-equity-inclusion/

[7] *Integrating Research into Community Practice — Toward Increased Diversity in Clinical Trials. New England Journal of Medicine.* https://www.nejm.org/doi/full/10.1056/NEJMp2107331

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Sincerely,

Joe Panetta
President and CEO
Biocom California

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BioReference
LABORATORIES
an OPKO Health Company

February 25, 2022

White House Office of Science and Technology Policy (OSTP)
1600 Pennsylvania Ave NW
Washington, DC 20500
Attn: Jacqueline Ward

Dear Ms. Jacqueline Ward,

BioReference Laboratories, Inc., a subsidiary of OPKO Health, Inc., is one of the largest full-service specialty laboratories in the US serving approximately 21 million patients annually and operating a network of 11 laboratory locations. BioReference is backed by a medical staff of more than 300 M.D., D.O., Ph.D., genetic counselors, and other professional clinical and scientific personnel that offers comprehensive test solutions and expertise based on 40 years of proven laboratory expertise. Our company is committed to health equity and is proud to serve significant Medicaid and incarcerated populations with laboratory testing.
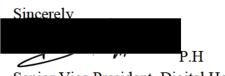
In response to the advancements in digital healthcare and accelerated trends emerging from the pandemic, BioReference launched Scarlet Health®, a mobile laboratory specimen collection service. Scarlet provides a fully digital, patient-centered healthcare experience with on-demand, on-location specimen acquisition. Scarlet is a mobile alternative to traditional laboratory testing options to close critical gaps in patient care and gives patients a complete virtual healthcare experience when combined with other telehealth options.

Scarlet® was created to address a single point of failure in the healthcare continuum and modeled to fill a void in the community. We believe that good health should be accessible to everyone by not only meeting the patient where they are, but how it can fit into their life – regardless of zip code, income, education, or skin color. Scarlet is committed to removing systemic barriers to improve access to critical healthcare resources. We believe the government actions outlined below will serve to strengthen community health, to advance innovation, and reduce disparities in access to diagnostic testing by:

- Ensuring the flow of patient health information is readily available by clinicians to support both individual and population health
- Encouraging payment for at-home specimen collection to support accurate public health surveillance data
- Developing companion coding for at-home specimen collections with telehealth visits

Lack of access to laboratory diagnostics for patients has wide-ranging effects; including, among many others, implications for medication non-adherence that will continue to grow as the burden of chronic diseases grows. The correlation between increased non-adherence and higher disease prevalence can inform policymakers to help circumvent avoidable healthcare system costs.

Thank you for your time and consideration.

Sincerely

P.H
Senior Vice President, Digital Health and Chief Digital Officer

Background: Diagnostic testing is a quantifiable source of truth that clinicians use to identify the magnitude of factors that can determine health outcomes. In this way, tests identify patients expected to benefit the most from distinct regimens of healthcare. Today 70% of medical decisions[14] depend on laboratory test results, showing the important role that clinical laboratories play in disease management, prevention, and treatment. In fact, 12 of the 15 most clinically and economically significant disease categories in the US dictate using laboratory diagnostics as the standard-of-care[5].

Good clinical care begins first with a diagnosis; but easy access to diagnostics is far from guaranteed. In fact, a report published by The Lancet Commission found that almost half of the global population has little or no access to diagnostics[16]. In the US, patients in rural areas often experience higher barriers that limit their ability to receive the care they need; however, social determinants of health, often undiagnosed by clinicians, also play a pivotal role in how a patient interacts with healthcare. Factors like a patient's gender identification, sex at birth, and race or ethnic background often determine how, when, and where a patient accesses medical services. Diagnostics are only a part of that experience, but a link in the chain of the care continuum that has the ability to alter the patient experience, and consequently, affect clinical outcomes.

Successful models in the US: Ninety percent (90%) of adults in the US have at least one desktop or laptop computer, smartphone, tablet, or media streaming device in their home[9] which has enabled the expansion and acceptance of virtual care in some communities, yet gaps remain. Disparities in access to and use of telehealth services exist across demographic and socioeconomic strata. For example, among insured patients, those who are employed and have post high-school education have a higher uptake of telehealth services[6.] Among residents of rural communities, patients who utilized telehealth visits were more likely to be white and non-Hispanic[15], younger[8], have insurance[4] and live in a poorer community[8]. Prior to the COVID-19 pandemic, telehealth provisions focused mainly on rural areas, to increase access to specialists through virtual visits originating from their provider's office, but uptake remained low. Since the start of the COVID-19 pandemic, virtual care is now reaching those most vulnerable across the US and has proven successful in addressing health disparities and increasing accessibility.

TelePrEP is one model in the US that has proven some success in digital and virtual forms of healthcare delivery, but also an example of how Scarlet Health can further close gaps in care for vulnerable populations. In the U S, young men who have sex with men (YMSM) of color represent a high number of new HIV diagnoses annually[11]. HIV pre-exposure prophylaxis (PrEP) is effective and acceptable to YMSM of color; yet, PrEP uptake is low in those communities because of barriers including stigma, cost, adherence concerns, and medical distrust. A telehealth-based approach to PrEP initiation, known as TelePrEP, has shown early success in increasing medication access and adherence for patients at risk for HIV who face barriers to accessing care[11].

In 2017, the Iowa Department of Public Health (IDPH), University of Iowa (UI), and community representatives collaborated to develop a public health-partnered virtual PrEP delivery model to overcome these barriers (TelePrEP)[1]. Early success of this model included:

- Retention in TelePrEP at 6 months was 87%[1];
- 96% of guideline-indicated laboratory tests (HIV, creatinine, STI, hepatitis) were completed at baseline and follow-up[1].

Some challenges included the availability of swabs at local laboratories for chlamydia and gonorrhea with screening rates being lower (74 of 104 completed screens) when compared to traditional care models[1]. Currently, patients have limited options to access laboratory services for PrEP. They include receiving a self-testing kit that requires drop-off at a local courier service or a visit to a patient service center for

specimen collection – both of which require the patient leave their home. Using an at-home mobile specimen collection service like Scarlet provides a seamless patient/provider experience that can be initiated in advance of and after a telehealth visit for the initiation of PrEP, but also keeps patients on PrEP who may require frequent tests.

A daily pill can help prevent HIV; and yet, despite the effectiveness of PrEP, challenges remain reflected by low utilization in the US. The lack of uptake is especially low among populations disproportionately affected by HIV[7]. There are models of PrEP telehealth in the field where this innovative tool is being used to change the landscape of PrEP delivery for those with little to no access to healthcare. Scarlet has the ability to scale this healthcare delivery model, as well as so many others like it, and provide an inclusive, seamless experience for vulnerable patients.

Proposed government actions: The healthcare system, including the surrounding ecosystem that encompasses regulatory and governing policy, has not adapted to keep pace with the trends in digital health technology. The friction between skyrocketing healthcare costs and the pressures to improve the quality and delivery of care leaves patients faced with critical gaps in care and coverage.

We applaud the Administration for encouraging innovation with information technology to better serve community health, and seeking to harness ongoing investments in digital technologies to better serve those most at risk. This investment not only includes $34 billion initially invested through the HITECH sections of the American Recovery and Reinvestment Act, but also many billions of dollars expended by US industries including laboratories. Here are three specific policies that will help direct and reward innovation leading to better outcomes.

1. **Ensure that all patient data needed by clinicians for individual and population care is available.** While the *CURES Act* and the *ONC CURES Act Final Rules* aim to prevent data blocking, business practices among providers and payors sometimes serve as effective barriers to serving patients in their communities. For example, when a hospital purchases a physician practice, it is likely that the hospital's EHR cannot accept data from an outside Laboratory Information System. Yet historic lab results are critical for patient care, and physicians may choose to order lab tests from a consistent source – yet the hospital EHR prevents orders from going anywhere except the hospital's own laboratory. ONC and CMS can refine the rules to ensure data is available in all EHRs from all appropriate sources, facilitating timely availability of all patient data wherever it is needed.

2. **Reimbursement for additional costs incurred from at-home specimen collection.** While government can mandate that providers report specified data, the results from home-administered testing are not available in standardized electronic formats and do not get reported. This has created barriers to public health responses in communities most at risk. Solutions such as clinician-collected test specimen in the home can obviate the problems of population analytics (i.e., accurate infection rates) and tracking and tracing failures. Offsite specimen collection from trained personnel (i.e., phlebotomists) will be particularly effective in reaching underserved populations.

3. **CMS should develop companion coding for telemedicine services and home-based specimen collection for lab testing.** The value of telehealth is compromised if the patient must travel to a distant site for lab testing in support of the telehealth intervention. There is an excellent example of the value of universal data availability for fighting a pandemic provided by New York State's investment in and use of the State Health Information Network of New York (SHIN-NY).[12]

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February 25, 2022

White House Office of Science and Technology Policy (OSTP)
RE: Request for Information (RFI) on Strengthening Community Health Through Technology

To Whom it May Concern:

In response to the RFI from the White House Office of Science and Technology Policy regarding how digital technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity, the Bipartisan Policy Center would like to share findings from our extensive telehealth work that we believe will be helpful to OSTP. BPC is currently examining the best path forward to address coverage of telehealth services beyond the public health emergency, building on previous federal policy recommendations to expand access to telehealth services, featured in two reports, *Confronting Rural America's Health Care Crisis* and *Tackling America's Mental Health and Addiction Crisis Through Primary Care Integration*. In September 2021, BPC completed a literature review on telehealth, which included barriers to care, trends from the pandemic, and its impact on cost, quality, equity, and health outcomes. Policy recommendations must be informed by current thinking across a wide spectrum of stakeholders; as such, BPC has engaged nearly 100 stakeholders on telehealth and digital technology issues over the past several years.

During the COVID-19 public health emergency, Congress, as well as the Trump and Biden administrations, temporarily waived many Medicare telehealth restrictions, which benefited both patients and providers. However, the Medicare Payment Advisory Commission (MedPAC) and other experts acknowledge that long-term changes are ill-advised until more research is undertaken on telehealth's effectiveness and costs. As the country returns to a new normal, Congress is actively debating what the telehealth policy environment should look like moving forward and whether to maintain the new flexibilities, as well as whether additional oversight is needed. Telehealth services, while serving to maintain access to care during the pandemic, have yet to be fully understood in terms of impacts on cost, quality, equity, and clinical outcomes.

BPC appreciates the opportunity to provide comments in response to the White House OSTP's RFI on Strengthening Community Health Through Technology. BPC's comments reflect expertise and input from our health care leaders and a broad range of stakeholders: they do not necessarily represent official positions of BPC's founders or board of directors.

Sincerely,

| **G. William Hoagland** | **Marilyn Serafini** | **Julia Harris** |
| Senior Vice President | Director, Health Project | Senior Policy Analyst |

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Barriers: Older, rural, and minority populations are disproportionately affected by barriers to accessing web-based services and are more likely to rely on audio-only services. While audio-only services can reach more vulnerable groups, research also shows telephonic care is not as robust for many clinical contexts.

- A [national survey](#) conducted by BPC and SSRS showed 45% of adults reported technology-related difficulties accessing telehealth, including digital literacy, access to high-speed internet, and securing the appropriate devices. Thirty-five percent of rural residents and 42% of older adults said access to high-speed broadband was an obstacle, compared to 24% of non-rural residents and 21% of younger adults. Other studies show that more than one in three U.S. households headed by a person aged 65 or older does not have a desktop or laptop computer and fewer than half have a smartphone device.[1] Even with access to a computer, 52 million Americans do not know how to use it properly.[2] [3]

- *User experience:* Studies highlighted a need for providers to build rapport with patients and showed that while telehealth was well-accepted, a small percentage of patients did prefer face-to-face consultations and showed resistance to video consultations.[4] [5]

- *Racial disparities:* According to [CMS data](#), 58% of Black beneficiaries and 64% of Hispanic beneficiaries had a telehealth visit between March 1, 2020, and February 28, 2021, compared with 51% of white beneficiaries. Notably, [survey data](#) from the Pew Research Center found Black respondents were most likely to report using telehealth during the pandemic, particularly when they perceived the pandemic as a threat to their own health.

- *Broadband access:* According to the FCC's 2019 Broadband Deployment Report, approximately one-quarter of rural Americans and one-third of those living on tribal lands lack broadband access, compared to 1.7% of urban Americans. In 2017, the FCC estimated the cost of expanding broadband to 98% of Americans would be $40 billion; it would cost an additional $40 billion to reach the final 2%.[6] [7]

- *Digital divide:* According to a recent JAMA [study](#), 38% of elderly adults were not ready to participate in telehealth visits because of unfamiliarity with technology and physical or cognitive difficulties.[8] In 2018, 26.3% of Medicare beneficiaries lacked digital access at home. The proportion of beneficiaries who lacked digital access was higher among those with low socioeconomic status, those 85 years or older, and in communities of color.[9] A 2019 Pew Research [study](#) also found income, education, race, and ethnic disparities between those using traditional broadband internet and smartphone internet access. Half of those without traditional broadband internet cited cost as the reason; one-third pointed to the cost of a computer.[10] Approximately one-quarter of Blacks and Hispanics do not have traditional high-speed internet access and rely solely on their smartphones.[11]

- *Audio-only coverage:* Coverage of telephone visits was one of the most common COVID-19 temporary telehealth policy expansions; 18 state Medicaid programs reimburse the modality (e.g., sometimes only for mental health or case management) and CMS now permanently allows audio-only for mental health care if the patient does not consent or cannot use two-way video. Research suggests video-enabled telehealth may be better than audio-only for many clinical contexts.[12] While audio-only psychological therapy sessions were clinically effective, they were significantly shorter than those conducted face-to-face.[13] Several studies have found significant disparities among subgroups in terms of audio-only versus video telehealth use. An [ASPE](#) report found 2021 video telehealth rates were lowest among those without a high-school diploma, adults 65+, and Latino, Asian, and Black individuals. A retrospective study found that Hispanic and Black adults were nearly twice as likely to

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complete a phone telehealth visit rather than a video visit compared to non-Hispanic white adults.[14]

Trends from the pandemic: 2020 was the first year ever to show an annual decline in overall health spending since CMS began tracking health care spending in 1960.[15] Telehealth was a crucial tool for keeping access to care available. Specialties such as psychiatry, endocrinology, and neurology had the greatest uptake of telemedicine and the smallest decline of total visits over the pandemic.[16] During the pandemic, 53% of all visits to treat depression were conducted via telemedicine (55% bipolar disorder and 54% anxiety).[17] Prior to COVID-19, 4-5% of psychologists, psychiatrists, and social workers delivered some outpatient care via telemedicine.[18] McKinsey analysis of E&M codes found wide variation of telehealth by specialty, with the highest penetration as a share of outpatient and office visit claims being in psychiatry (50%) and substance use treatment (30%).[19] In contrast to office-based care, telemedicine was more commonly used for established patients.[20] With respect to continuity of care, telehealth access increased patient adherence to scheduled appointments.[21] Studies demonstrate that rates of missed appointments decreased after outpatient psychotherapy clinics transitioned to telehealth.[22] The no-show rate for telehealth services was significantly lower than for in-office visits (7.5% compared to 36.1%).[23] Telehealth availability during the pandemic also impacted follow-up rates: Black patients were more likely to complete follow-up visits after hospitalization than prior to the pandemic.[24]

Proposed government actions:

Extend Secretarial Waiver Authority for Two Years and Direct the HHS Secretary to Produce Needed Analyses and Guidance Related to Telehealth.
BPC recommends granting the HHS secretary the authority to waive telehealth and audio-only regulatory requirements for an additional two years following the end of the Public Health Emergency (PHE). BPC also supports requiring the HHS secretary to analyze the impact of the PHE waivers on telehealth and audio-only utilization, health outcomes, and cost across beneficiary populations by age, clinical condition, race, economic status, site of service (compared to in-person services), and geographic location (rural, urban, suburban). The secretary should report findings annually through the extended waiver authority period, or another frequency set by Congress.

In addition, BPC recommends the HHS secretary develop a payment methodology for audio-only and non-facility-based telehealth services, specifying whether reimbursement for services would be appropriate at in-person payment rates. Continued payment parity may lead to overpayment of services and disincentivize providers from offering in-person services, limiting consumer access to in-person services over time. State representatives have reported trends that behavioral health practices across several states moved to fully virtual. Providers offering telehealth services exclusively over a virtual platform could exacerbate disparities by:
- Limiting access for patients with technology-related barriers who want in-person care.
- Impacting continuity of care if patients see providers via telehealth who are not their usual source of care.
- Creating difficulty integrating and coordinating behavioral health care and primary care.

Payment parity policies should incentivize providers to make an initial investment in telehealth and ensure providers maintain access for patients who prefer to see providers in person.

Promote Cultural Awareness and Competency Training

Cultural competence, or a provider's ability to deliver care in a manner that meets a patient's social, cultural, and linguistic needs, has a direct impact on patient satisfaction. Encouraging cultural awareness and competency training could lead to better access and continuity of care for marginalized populations. Studies show that an increase in clinician cultural competence is associated with increased patient satisfaction, treatment adherence, and information sharing and seeking.[25] Removing geographic and site of service restrictions for telehealth can enhance access to culturally competent care. Studies show that resolving language barriers, understanding patient values and beliefs, and providing access to racially concordant providers improves patient experiences and outcomes. Telehealth gives consumers the ability to identify providers who may be better suited to their needs, even if they are not located in their immediate area. Health care practices can select culturally competent providers to serve certain patient populations remotely.

Coverage for Audio-only Visits

Coverage for audio-only services has the potential to extend access to populations with technology-related barriers, but there is concern that it could lead to the creation of a two-tiered health care system in which disadvantaged beneficiaries receive audio-only care, while others receive telehealth care through video services. The exclusion of audio-only services also encourages a two-tiered system in which some people have access to video services while others lack access altogether. To avoid exacerbating inequities, a potential guardrail could limit audio-only services to established patients (in fee-for-service Medicare), unless a provider has an established relationship with a patient and attests to the need for audio-only services.

Address Equity and Enable Permanent Access Across Sites and Geographic Settings

Congress should permanently remove geographic and site of service restrictions for telehealth and audio-only services. Congress should also permanently authorize Federally Qualified Health Centers (FQHCs) and Rural Health Centers (RHCs) to serve as distant sites by amending section 1834(m) of the Social Security Act. Although telehealth was initially intended to expand health care access in rural settings by linking patients to providers in urban hubs, its use during the pandemic shows there is a strong need to provide access to video and audio services in both rural and urban settings. To maximize telehealth's ability to overcome barriers to care and widen access to patients, policymakers should remove geographic and site of service restrictions and ensure that FQHCs and RHCs qualify as distant site providers permanently beyond the expiration of the PHE. Historically, FQHCs (federally funded community-based primary care providers for underserved populations), and RHCs (rural clinics in designed shortage areas), were not officially recognized as eligible health care provider locations for telehealth (distant sites). Clinical site and geographic requirement waivers implemented during the pandemic allow Medicare beneficiaries to access services from their homes and give providers the ability to offer telehealth to patients outside of rural settings, even in FQHCs or RHCs. Evidence demonstrates that racial and ethnic minorities, low-income earners, and individuals with chronic conditions face difficulties accessing care, regardless of where they live. These impediments can include appointment availability or an inability to miss work or secure transportation.

4

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Submitted electronically via ███████████████████

RE: Blue Shield of California's Response to Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Ward:

Blue Shield of California ("Blue Shield") appreciates the opportunity to respond to your Request for Information (RFI) on Strengthening Community Health Through Technology. Blue Shield is a nonprofit health plan that offers health benefits coverage to individuals and groups throughout the State of California. Our mission is to ensure that all Californians have access to high quality care at an affordable price. Blue Shield is dedicated to improving quality of care and health equity for *all* Californians. We are demonstrating our commitment to health equity by being a thought leader in our industry through reimagining health care in ways that will reduce disparities experienced on an individual, community and systemic basis.

Health Equity: Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies.

In response to the RFI, Blue Shield would like to share our experiences using innovative digital health technologies that are advancing individual-, community- and structural-level initiatives to address health disparities and are working to improve health equity in communities across California:

- Blue Shield collaborated with mySidewalk, a leading data storytelling company, on two important initiatives:
  - Granular, standardized and customizable community health needs assessments –The [Neighborhood Health Dashboard](#) is an example of Blue Shield's Health Reimagined initiative to transform the healthcare system by sharing important information with all Californians to identify local drivers of health inequities from the census tract and zip code level that can be benchmarked to county, state and federal data sets. The Neighborhood Health Dashboard is a publicly available, on-demand, statewide dashboard generator that combines data visualization and storytelling to advance public health services, increase transparency around community health, and help address health disparities in California. The online tool uses nearly 100 data sets, including measures ranging from chronic disease outcomes and health behaviors to environmental and economic conditions, allowing community partners to create a

personalized, interactive community health needs assessment right from our Health Reimagined website. To date, over 1,593 reports have been generated to help align efforts and advance community health across the state of California.

- o <u>Leveraging health and social data for holistic care</u> – <u>the80</u> is a data storytelling tool designed specifically for Community Health Advocates (CHAs) and Community Health Workers (CHWs) across the state to better understand the lives of their patients and advocate more effectively about those realities. By entering a patient's zip code, the80 provides CHAs and CHWs with data-driven insight on housing, transportation, food systems, educational opportunities, and community context. CHWs can then further customize the report for their target audience: clinical providers or community-based organizations.

- <u>Coordinating health and social services through closed-loop community referral network platforms</u> – Blue Shield partnered with Unite Us in 2019 to work towards developing holistic health approaches by understanding whole person care needs and enabling community services through the closed-loop referral platform. We are working to meet unmet health-related social needs and investing in community infrastructure to align the needs of our members and their communities with enabling services active on the platform. Through Unite Us, CHAs can make referrals, track outcomes, and share patient information with community partners. Some of the social and community services on Unite Us include benefits navigation, clothing & household goods, education, employment, food assistance, housing & shelter. It enables bidirectional, electronic referrals across an array of service types, and to support prevention, early identification and treatment of individuals' top priority health concerns and social needs. To date, the Unite California Network has served 28,733 individuals comprising 53,757 service episodes. There are 113,841 users of the platform in California, representing 1,596 organizations with 3,611 active programs accepting referrals.

- <u>Data-driven decision-making to reduce disparities</u> – As the availability of COVID-19 vaccines ramped up in 2021, Blue Shield needed insights to help guide how we would mitigate the disproportionate impacts of the pandemic on Black, Indigenous and People of Color (BIPoC) and other marginalized communities. To get these insights, we built the Health Equity Insights Platform, an integrated suite of self-service interactive Tableau visualizations that enabled near real-time measurement and stratification of COVID-19 vaccination rates by race/ethnicity and social risk factors. The result was a combination of community-level social determinants of health data, augmented with advanced geospatial analytics. The insights informed where and how we concentrated our efforts to reduce disparities in access to the life-saving vaccine. Through the platform we were able to identify geographic areas where community partnerships were needed and co-design member engagement campaigns to reach the most marginalized communities with precision. Ultimately, we increased the vaccination rate among our Blue Shield Promise population and in its BIPoC member populations and reduced the observed disparities for the most under-resourced communities.

- <u>Language appropriate and culturally relevant care</u> –Blue Shield of California Promise Health Plan and SameSky Health, which provides language appropriate and culturally

relevant text-messaging services, developed multiple unique engagement campaigns to help improve clinical quality outcomes for multicultural populations of Medi-Cal members in Antelope Valley and San Diego. Reaching plan members in their preferred language with timely text prompts leads to more members receiving the care they need: (1) Well Child Visit Campaign that educates parents about the importance of well child visits, which resulted in closing an estimated 40 percent of care gaps and helps Blue Shield better understand any disparities in preventive care or barriers, such as access to transportation; (2) Cervical Cancer Screening Campaign that helps notify Medi-Cal members who are due for cervical cancer screenings such as Pap tests, resulting in nearly 2,500 additional women receiving these important screenings; and (3) Type 2 Diabetes Care Campaign that provides outreach to Medi-Cal members who have type 2 diabetes and utilize the Blue Shield of California Promise Health Plan clinics located in Los Angeles County's Antelope Valley.

As exemplified by our initiatives above, Blue Shield recognizes the potential in digital health technologies to be used to improve community health, individual wellness, and health equity. However, as the number and variety of these technologies grows, there is a concern that the digital divide may be exacerbated, reinforcing existing disadvantages and barriers to positive health outcomes for certain populations. It is vital to incorporate social and personal context into the design and deployment of digital health technologies, adapt tools to how people actually use technology (or will likely use it), and provide the support providers and patients need to maximize the use of the technologies. In addition, the use of digital technologies should be tracked to ensure that varying population subgroups are using it at the same rate and that data is accessible in all communities.

This can affect not only individual patients but also community health providers. Blue Shield is working, in alignment with local, state, and federal entities, to increase the capacity of community-based providers to serve more individuals and families and to provide resources, technology, and access to financial resources in ways that reach more members and communities. However, structural changes are needed to increase investments in community-based organization (CBO) service capacity and in the safety net in general. CBOs and safety net providers are challenged with the lack of resources and sources of sustainable revenue, as well as an increasing need for technical expertise in order to deploy the latest health information technology. Systemwide, access to critical community-based services can be delayed due to the lack of interoperability between these systems and standardized data exchange agreements.

Blue Shield appreciates the opportunity to respond to this RFI. We remain committed to improving quality of care and health equity for *all* Californians and look forward to working cooperatively on this and other issues.

Sincerely,

Andy Chasin
Vice President, Federal Policy and Advocacy
Blue Shield of California

Strengthening Community Health Through Technology
Allen Weiss, MD, FACP, FACR, MBA
Chief Medical Officer, Blue Zones Project by Sharecare

Summary: Objectively proven technology has improved over 4 million individuals, hundreds of organizations, and seventy communities' health and well-being by addressing people, places, and policy. The Blue Zones Project (BZP) has evolved over almost fifteen years from traditional, hands-on, in-person to innovative, virtual, and digital. Life expectancy has increased for everyone, across the socio-economic spectrum, in regions fortunate enough to embrace nine generally accepted principles: moving naturally, having a work/life balance, living a purposeful life, not overeating, embracing a plant slant diet, avoiding excess alcohol, participating in a faith-based organization, being close to family, and developing life-long friends.

Successful Model: Imagine digitally transforming a community, organization, or state into the healthiest and happiest region in the area and subsequently sharing success with those around you. Think of the benefit of preventing lifestyle diseases—diabetes, heart disease, some forms of cancer—as well as avoiding many of the diseases of despair—alcoholism, drug addiction, suicide, mental illness—by introducing healthy behaviors to large populations.

Success exists, metrically confirmed by the Community Well-Being Index, but is not evenly distributed across the nation. Communities can choose from more than 200 evidence-based interventions that make healthy choices easier in homes, schools, worksites, restaurants, grocery stores, and faith-based communities. These practices were developed over a growing number of communities and even an entire state—Hawaii. They have since been refined, validated, and implemented virtually as well as digitally. Not every practice is appropriate for every community, so specific solutions for individuals and communities to ensure that the right changes happen at the right times have been refined.

Barriers: The answer is complex, certainly not due to a lack of altruism, competence, or concern, but rather a focus on healing the sick, being bombarded by the "tyranny of the present," and learned helplessness. The way people see things now can make imagining a different future difficult. "*It has always been this way,*" or "*We are just too busy caring for our current stressors to take on anything else right now,*" are two understandable human reactions.

Sadly, learned helplessness also contributes to the maintaining the status quo. The Oxford dictionary definition of learned helplessness is "*a condition in which a person suffers from a sense of powerlessness, arising from a traumatic event or persistent failure to succeed. It is thought to be one of the underlying causes of depression.*" Well intentioned "helpers" coming into a community to study a problem, but then leaving before implementing a successful solution, foster frustration and reinforce learned helplessness.

For some intercity or rural regions, the daunting task of raising the entire community's social determinants of health remains overwhelming, thus inhibiting even starting. Notable individuals have broken away from multigenerational poverty and embraced the American dream. Others, less fortunate, get drawn into a vortex that remains self-renewing in a bad way.

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The truth is our environment increasingly encourages unhealthy choices. We are surrounded by modern conveniences that make us more sedentary. And we are bombarded daily with unhealthy messages for unhealthy products.

Trends from the pandemic: A study to evaluate whether communities implementing a well-being initiative, BZP, are more resilient against negative consequences of the COVID-19 pandemic compared to the nation was completed in 2020. The analysis included 115,739 web-based survey responses from across the nation, including 2,550 surveys from 29 BZP communities. The Mann-Whitney test was used to test for statistical significance.

Compared to national respondents, BZP community respondents reported lower prevalence of key COVID-19 risk factors (COPD, diabetes, hypertension); were 25% less likely to report severe stress and anxiety and 20% less likely to report panic and worry; more often reported positive social and community behaviors; and were more likely to report positive health behavior changes such as eating healthier and exercising more.

The presence of a community well-being initiative aimed at increasing strong social networks, healthy behavior adoption, and reducing chronic health conditions appears to have reduced negative consequences of the COVID-19 pandemic. Communities across the US could benefit from similar initiatives to increase preparedness for future disasters.

User experience: The current rage in healthcare and social transformation is recognizing the importance of the social determinants of health. What is missing from the robust discussion is the "how to" change and sustain improvement. The diagnosis is known but no one is talking about the therapy.

Providing a holistic, comprehensive, digital solution that addresses the key drivers of behaviors in all the places we live, work, learn, and play has been proven effective. A rapidly growing number of communities across North America, currently seventy with five more anticipated shortly, have improved their health and well-being successfully across the socio-economic continuum and in many ethnic groups. Entire communities have decreased the need for acute and chronic care by delivering measurably improvement in population health while objectively increasing life expectancy.

Tools and training needs:

BZP's abilities to identify and target specific locations and populations with appropriate interventions should make everyone benefit. Knowing where environmental challenges exist is the first step to lowering boundaries. As will be shared below, people, policy, and places are the three "pressure points," where change can be most effective.

Engagement technology usage is on the rise with over half of the nation using some form of digital monitoring. Health-related mobility apps, activity tracking, social networking, online competition/challenges with virtual support are all part of the BZP portfolio.

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Differentiating while adding value is a core competency of BZP. Specific, already existing competencies employed within precise life radiuses—the areas where we live, work, and play—will make a difference for all communities embracing digital well-being.

Together, BZP and a community or organization can improve where people live, work, learn, and play while lowering utilization of healthcare services. Making it easier to move naturally, eat healthy, make friends, and find a reason for being—all contribute to living longer and better.

Demonstrating improvement by taking a unique, systematic approach to improving well-being focuses on our life radius. By optimizing the settings where people routinely spend their time, making healthy choices easier, and naturally adopting healthier behaviors together all converge on three areas.

1. People: Engage people to optimize their homes and social environments with the Personal Pledge, provide opportunities to discover their purpose, facilitate volunteer experiences to connect with community, and offer programs that deliver support through healthy social networks.

2. Places: Orchestrates a critical mass of worksites, schools, restaurants, grocery stores, and faith-based organizations across the community to optimize environments toward healthy living. By working together to make permanent or semi-permanent changes, healthy choices become the easy choices to make in all the places people live, work, learn, and play.

3. Policy: Working with local leaders to suggest evidence-based best practices to impact food policy, tobacco policy, and the built environment is effective. By improving community infrastructure and public policies, we maximize residents' abilities to move naturally, connect socially, access healthy food, and improve quality of life.

Communities can choose from more than two hundred evidence-based digital and virtual interventions that make healthy choices easier in homes, schools, worksites, restaurants, grocery stores, and faith-based communities. Communities also can select from three evidence-based policy bundles to impact built environment, food policy, and tobacco policy.

Proposed government actions: Imagine the Federal Government influencing everyone to enjoy living longer, happier, healthier, and more productive life while expending less on traditional, repair shop healthcare. By investing long-term in prevention, utilizing objective current metrics, encouraging healthy behaviors, employing behavioral economic principles, and learning from others who have already been successful, this dream would become a reality.

Health Equity: The BZP platform provides all people—no matter where they are in their health journey—with comprehensive and personalized health and well-being profiles. Folks across the socio-economic spectrum can dynamically and easily connect to culturally sensitive motivating information and evidence-based programs to live their healthiest, happiest, and most productive lives. Longer and healthier life spans have already been demonstrated in challenged communities.

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March 31, 2022

Dr. Alondra Nelson
Office of Science and Technology Policy
Executive Office of the President
1650 Pennsylvania Ave., NW
Washington, DC 20504

Submitted electronically via ████████████████████████

RE: Connected Health Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson:

The Blue Cross Blue Shield Association (BCBSA) is pleased to have the opportunity to comment on the Request for Information (RFI) on Strengthening Community Health Through Technology published in the Federal Register on Jan. 5, 2022 (87 FR 492).

BCBSA is a national federation of 34 independent, community-based and locally operated Blue Cross and Blue Shield (BCBS) companies (Plans) that collectively provide health care coverage for one in three Americans. For more than 90 years, BCBS Plans have offered quality health care coverage in all markets across America – serving those who purchase coverage on their own as well as those who obtain coverage through an employer, Medicare and Medicaid.

We appreciate this opportunity to provide comments on the issues and opportunities to leverage digital health technologies to transform the healthcare system and address health equity. The need for such strategies has been highlighted during the COVID-19 pandemic when innovative solutions to providing care and resources have proven to be pivotal. BCBS Plans across the country are engaged in digital initiatives to address health disparities.

Based on our experience, we have identified below key recommendations in ways to strengthen community health through technology for your consideration:

Digital Tools Available During the Pandemic

BCBS Plans have leveraged technology during the COVID-19 pandemic, where appropriate, to provide expanded access to care using innovative technologies such as providing telehealth services and digital tools to provide social needs resources. Some examples include:

- Several BCBS Plans incorporated flexibilities to how telehealth services were offered and reimbursed during the COVID-19 pandemic to increase access to care in a safe

environment. Examples of these flexibilities include waiving copays for telehealth, reducing cost sharing for telehealth, expanding access to telehealth and nurse/provider hotlines for fully insured and individual plans, and expanding the network of primary care doctors and specialists who can treat patients virtually. Data from the BCBSA National Generation Survey shows of those who have used telehealth or virtual care services, 70 percent of respondents indicated they are likely to continue using telehealth or virtual care services in the future. BCBSA encourages OSTP to take a thoughtful approach to expansion of telehealth after the public health emergency (PHE) or COVID-19 pandemic has concluded. Data gathered on the use of telehealth during the pandemic should be evaluated prior to making any programmatic changes.

- One Blue Plan employs FindHelp in 25 states. FindHelp is a social support closed loop referral system that provides an interoperable social care technology used to connect individuals with services to address health-related social needs, and an online social needs screening tool that is available in multiple formats. While focused on addressing individual social needs, the Blue Plan is simultaneously looking at its role at the community and national levels to ensure it is not straining the broader social safety net. The prevailing goal is to synchronize social support and healthcare delivery while measuring success through improved health outcomes and cost predictability. The use of technology is inherently woven through all these efforts.

- Another Blue Plan founded the Horizon Neighbors in Health along with six other partners to help providers reach high-risk members for participation in various community programs. The program leverages community health workers and advanced analytics to ensure at-risk members' medical and social needs. In the first year of the program, over 2,500 people were enrolled, with 730 having graduated (meaning their program specific needs were met).

Develop industry-wide health equity data standards

Thoughtful and secure application of digital health technology could help advance population health at the community level by gathering actionable information that can further the goals of community programs. One way to gather health equity data that is often missing from electronic health records and contribute to patient outcomes, is to leverage Community-Based Organizations (CBOs). CBOs act as critical links in the collection of health equity data like race, ethnicity, and language (REL) data, sexual orientation and gender identity (SOGI) data, and social determinants of health (SDOH) data. However, there are no industry-wide data standards that can be used to collect, share, and leverage this data for improved patient outcomes. This is mainly due to overlapping and complex federal and state laws governing aspects of demographic data collection and use. For example, at the federal level, health plans' collection and use individually identifiable information including REL/SOGI data are dictated by the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and at the state level the data collection and use are subject to individual state privacy laws.

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Additionally, there are overlapping insurance regulations and consumer protection laws, which can guide and restrict how sensitive REL/SOGI data are collected and used by health care entities. This makes it challenging to have clear understanding on how and when sensitive REL/SOGI data can be collected and how the data can be used appropriately to further health equity efforts. The Office of the National Coordinator for Health IT (ONC) has made efforts to standardize demographic data by updating the United States Core Data for Interoperability (USCDI) Version 2, announced in July 2021, to include SDOH data elements, however, the adoption of these data elements is voluntary and not widespread.

Additional work is needed in this area as lack of widely adopted industry data standards leads to incomplete, unrepresentative data. To better capture data, there is a need for national, government recognized, industry-accepted standards and technical implementation guides. Industry-wide standards allows for more complete data collection, exchange and analysis to better target specific populations for intervention and improved outcomes.

Invest in a data infrastructure that connects with community-based organizations

BCBSA supports the development and investment in a data infrastructure that engages community networks, allowing opportunities to obtain useful information in addressing diverse communities' health risk factors. This includes addressing uneven access to broadband and broadband-dependent digital health technologies. Lack of broadband may adversely impact low-income and rural communities in which people do not have regular access to computers or smartphones. BCBSA encourages collaboration across federal entities to invest in the expansion of affordable broadband, telehealth infrastructure and smartphone access, as well as financial support programs to assist the people in these disadvantaged communities.

The Office of Science and Technology Policy (OSTP) should also consider the need for privacy and security of health information collected using digital health technology. BCBSA believes patient privacy is paramount and that individuals have the right to understand how their protected health information (PHI) is used and disclosed. Health and demographic data are highly sensitive information that we believe should be in accordance with the existing specific safeguards applicable to Health Insurance Portability and Accountability Act (HIPAA) covered entities. Under the Centers for Medicare and Medicaid Services (CMS) Interoperability and Patient Access rule, patients are enabled to access their health data through third-party applications. As more third-party applications are involved in the exchange of sensitive health data, vendors and application developers should be brought in under HIPAA and other existing privacy regulations. Further guidance that aligns with and incorporates HIPAA Privacy Rule concepts is needed to help promote better privacy protections of consumers' health information.

Support community-based organizations by providing tools and training

Adequately supporting the community health workforce is critical for improving health and wellbeing and advancing health equity. To be successful, community health workers must be equipped with the tools they need to address patients' complex health-related needs. Additionally, the community health workforce needs proper training and education when it comes to the collection of sensitive data. BCBSA recommends increased funding for community

health worker programs, and promotion of interoperability standards to further reduce burden and redundancy, to increase successful utilization of digital health tools by the workforce.

We look forward to working with the Administration on the issues and opportunities to leverage digital health technologies to transform the healthcare system and address health equity.

We welcome the opportunity to discuss our comments with you and your staff and would be happy to provide additional details on any of our recommendations. If you have questions, please contact Lauren Choi, Managing Director, Health Data and Technology Policy, at

Sincerely,

Kris Haltmeyer
Vice President, Legislative and Regulatory Policy
Office of Policy and Representation

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From:	Shola Adeyemi, Ph.D ████████████████████████
Sent:	Friday, March 4, 2022 10:53 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Introduction to SmartHIV Solution - a revolutionary integrated technology for a holistic HIV/AIDS management
Attachments:	SmartHIV_Solution_Summary_Information_value features.pdf; Bsmart Chart_Main_Features.pdf; SmartHIV Manager Brochure.pdf

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Green Category |

Dear Madam/Sir,

New HIV infections has been rising in the young population as reported by many organizations. This age group is a digital generation where the potential to leverage digital tools is huge because of their uptake of digital innovation.

Also, even if there is an HIV vaccine today, we are stuck with how to optimally care for 38 million (and 3 million children) already infected people and prevent stigmatisation. Therefore, please permit me to introduce SmartHIV Solution, a revolutionary integrated technology for a holistic HIV/AIDS management with a focus on patients (including a patient application). Attached are some documents (and some video links below) explaining the main features of our solution.

SmartHIV Solution video: >https://youtu.be/Q7IWPuidShw<
SmartHIV Manager video: >https://www.youtube.com/watch?v=dVqLUJskbh0<
BSmartChart App video: >https://youtu.be/BQDHJqRnN-0<
BSmart Chart app can be downloaded here: >https://www.bsmartlytics.com/#app_download<
BSmart Chart app white paper: >https://www.bsmartlytics.com/files/BSmart_Chart_Mobile_Application_White_Paper_global_v1.pdf/<

With this solution, the HIV Strategic Plan's goals can be achieved i.e. Prevent new HIV infections, Improve HIV-related health outcomes of people with HIV, Reduce HIV-related disparities and health inequities and achieve integrated and coordinated efforts that address the HIV epidemic among all partners and stakeholders.

We will appreciate if we can explore possible collaborations or partnerships to bring this useful technology to clients and HIV practitioners. Looking forward to your feedback and an opportunity to demo this solution.

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We need digital innovation to support the fight against HIV/AIDS.

Kind regards,

Shola

Shola Adeyemi, PhD.
Chief Innovation and Strategy Officer

BOHEMIAN SMARTLYTICS LIMITED

>https://bsmartlytics.com<

From: ████████████████████

To:
Subject: [EXTERNAL] Connected Health RFI
Date: Monday, January 10, 2022 5:45:46 PM
Attachments: Jack Lancet DH Gabby RCT.pdf

To the OSTP,

I am responding to the RFI on how digital health technologies are used to transform health wellness and equity.

1. **OUR MODEL**: Over the past 10 years, we designed and tested a conversational agent based health education system for African American women. Results were published in *Lancet Digital Health*. The Abstract is below and the manuscript attached.

   Background: Preconception care focuses on improving women's health before pregnancy as a means to improve their health and future pregnancy outcomes. How to effectively deliver such care is unknown. The aim of this research was to assess the impact of an embodied conversational agent system on preconception risks among African American and Black women.

   Methods We did an open-label, randomized controlled trial of women aged 18–34 years, self-identified as African American or Black, or both, and not pregnant, recruited from 35 states in the USA. Sealed allocation envelopes (in permuted blocks of six and eight, prepared using a random number generator) were opened after enrolment. Intervention participants received an online conversational agent called Gabby that assessed 102 preconception risks and delivered 12 months of tailored dialogue using synthesized speech, non-verbal behavior, visual aids, and health behavior change techniques such as motivational interviewing. The control group received a letter listing their preconception risks and encouraging them to talk with a clinician. The primary outcome was the proportion of identified risks at the action or maintenance stage of change at months 6 and 12. The study is registered with ClinicalTrials.gov, NCT01827215.

   Findings From March 11, 2014, through July 8, 2018, 528 women recruited from 35 states and 242 cities across the USA received the Gabby intervention (n=262) or were assigned to the control group (n=266). Participants identified a mean of 21 preconception risks per woman (SD 9·9). In the intention-to-treat analysis, at 6 months, intervention women reported reaching the action or maintenance stage of change for 50·0% (SD 28·9) of those preconception risks identified compared with 42·7% (28·3) in the control group (incidence rate ratio 1·16, 95% CI 1·07–1·26; p=0·0004). This result persisted at 12 months.

   Interpretation The Gabby system has the potential to improve women's preconception health. Further research is needed to determine if improving preconception risks impacts outcomes such as preterm delivery. Funding National Institute for Minority Health and Health Disparities

2. **BARRIERS**: Are summarize in the last page of the accompanying manuscript

3. **TRENDS FOR THE PANDEMIC:** While these data were collected prior to the pandemic, the technology is used independently of clinical practice, and screens for over 100 health risks and contains dialogue to counsel women for 12 months to promote behavior change.

4. **USER EXPERIENCE**: We have published several papers describing the positive impact of designing a HIT system specifically for African American and Black women. Paper available upon request.

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5. **TOOLS AND TRAINING:** A brief introduction by the character is all that is needed for participants to use the technology

6. **GOVERNMENT ACTION**:

    1. Increase federal funding for the design, development, efficacy testing, and implementation of mobile health technologies for people in which there has been historically significant health disparities in both research and clinical care.

i. People with disabilities (e.g., physical, psychiatric cognitive, sensory) have been neglected in digital health.

ii. All technologies should be examined to ensure that they are reducing (and not exacerbating) health disparities.

iii. Involve the target audience in all phases of mobile health technology design, development and evaluation to ensure literacy, usability, and engagement to increase uptake, adoption and efficacy of mobile technologies. Technologies should be culturally and linguistically appropriate for users

    2. Develop standards and metrics for the development and evaluation of mobile health technologies that address quality, equity and engagement.

i. Develop rating system so that mobile technologies and their content and efficacy can be easily evaluated by patients and providers.

ii. Include design, development and testing standards for special populations (e.g., older adults, people with disabilities);

iii. Work in tandem with FDA to define new gold standards for regulatory approval.

7. **EQUITY.** This HIT system was designed specifically for AA/Black women. We believe this cultural tailoring is important to achieving its impact.

8. **INTERNATIONAL MODELS:** We have been funded by Fogarty Center at NIH to adapt this system (now called Nthabi) for the low income country of Lesotho. We have submitted a new application to use Nthabi to address Gender based violence in this setting (application available upon request).

Thank you for the work you are doing.

Sincerely,

Brian Jack MD

Professor of Family Medicine

Boston University School of Medicine/Boston Medical Center

>http://profiles.bu.edu/Brian.Jack<

Response to Request for Information (RFI) on Strengthening Community Health Through Technology, issued by the White House Office of Science and Technology Policy (OSTP). Dated 3.31.2022.
Presented by [Brightline](), Inc., 400 Concar Dr., Office # 03-104, San Mateo, CA 94402 – a digital health care and telehealth provider focused on pediatric mental health solutions
Contact: Gary Alpert, CSO, ███████████████████ Website: [www.hellobrightline.com]()

Strengthening Community Health through Scalable Technology-Enabled Solutions To Address Today's Urgent Children's Behavioral Health Crisis

A 50%+ rise in emergency visits due to suicide attempts among teen girls.
A 72% rise in behavioral health emergency department visits at Children's Hospital Colorado.
A 300% increase in emergency admissions at Wolfson Children's Hospital in Florida.

These are just some of the [dire statistics]() emerging from our current crisis in children's behavioral health. The wave of need we're seeing now among children and teens is just the beginning of the tsunami to come. According to experts, it's all about to get much worse. "It's only a matter of time before a tsunami sort of reaches the shore of our service system, and it's going to be overwhelmed with the mental health needs of kids. I think we're just starting to see the tip of the iceberg," advises [Jason Williams](), a psychologist and director of operations of the Pediatric Mental Health Institute at Children's Hospital Colorado.

What's causing the crisis? The shortcomings of traditional pediatric behavioral care that fueled the crisis long before Covid-19 exacerbated its consequences are still with us. As a result, children and teens aren't getting the help they need — and the wave of behavioral health concerns is quickly building into a tsunami. Here are the four major shortcomings of traditional pediatric behavioral health care behind our current crisis, followed by a discussion of how technology-enabled solutions for communities across the country can help:

1. **There's an acute shortage of pediatric-trained therapists, and almost none of them are in-network with insurance companies.** Here's a staggering figure: [70% of U.S. counties]() have no child psychiatrists at all. What's more, even when therapists and psychiatrists are available, waitlists are long, with an [average wait time of 7.5 weeks]() for child and adolescent psychiatry appointments. Families today are [10 times more likely]() to go out-of-network for pediatric behavioral health care than for primary care. As a result, accessibility and affordability barriers mean the vast majority of kids don't receive the necessary early interventions that would most benefit them — and about [half of all lifetime mental disorders]() emerge during adolescence.
2. **Parents and caregivers are kept out of the loop.** The traditional pediatric behavioral care system doesn't tell families how to engage, even though dyadic care — in which parents and

caregivers are involved in care with their children — is proven to be [three times more likely to be effective](#) than care for children by themselves. As a result, parents often feel lost and confused. Many, unable to see signs of progress despite the time and money they've devoted to their child's care, often end treatment prematurely.

3. **Few clinicians use evidence-based methods and less than 20% of therapists track progress towards measurable outcomes for therapy.** It's an unfortunate reality today that many children who need to see a behavioral health specialist never actually get to meet with one. Instead, they see only their general pediatricians — [62% of whom admit](#) they could use additional training in mental health. Prescribing medication often becomes the first line of defense. Even when children do get to see behavioral health specialists, fragmented provider networks don't always implement established evidence-based protocols and systems of measurement. This situation has led to a stalemate in the behavioral health industry. Health plans are unable to assess the quality of care, and, as a result, they pay providers with relatively low reimbursement rates. But providers, without the financial resources or incentive to invest in measuring outcomes, continue without assessing their quality of care.

4. **The burden of coordinating care falls squarely on the shoulders of parents and caregivers.** Insufficient coordination between providers leads to redundancy, frustration, and poor outcomes. Parental or caregiver vigilance, no matter how dedicated, is rarely enough to overcome those challenges and can lead to acute burnout. Working moms in particular often leave their jobs to manage their child's behavioral health challenges. Between January 2020 and 2021, [1.4 million mothers](#) of school-age children dropped out of the American workforce as a result of the increasing demands of caregiving.

To address the crisis, simply throwing new money against dated systems and approaches and massive structural barriers won't work. To stop today's crisis from overwhelming families and providers, we need solutions that fix the shortcomings of traditional pediatric behavioral health care from the ground up. Here are the five steps that must be taken and how technology-enabled approaches must be part of the solution:

1. **Harness the power of virtual solutions to improve *access* to care.** Many children simply don't live anywhere near available clinicians. That's why it's vital to unlock access to resources for families that don't live within driving distance of clinicians. Technology gives us the power to do just this. Through virtual care, kids in counties without clinicians can get connected to therapists and psychiatrists who can help them.

2. **Introduce stepped models to allow for early intervention and maintenance.** Often, children with low-acuity needs simply don't get care — until their needs worsen and reach a crisis point, requiring costly interventions. Yet, because only 11 child and adolescent psychiatrists exist per 100,000 children in America, the healthcare system lacks the capacity to support large numbers of children with high-acuity needs. For children with lower acuity needs, highly trained coaches can support early interventions through short-duration,

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skills-based support. Coaches can work with families to help manage tantrums, lower stress and anxiety, address sleep issues, and much more — preventing these smaller concerns from spiraling into big ones like anxiety disorders or major depression. Coaches, as well as self-guided content, can also provide much-needed transitions from higher-acuity care to maintenance level support. For children who no longer require clinical care but still need professional guidance, a stepped model of care that includes coaching and self-guided resources is a much-needed option.

3. **Engage parents and caregivers via a dyadic care model.** Many children's behavioral health programs don't involve parents and caregivers at all. Often the adults in the child's life aren't told what signs of improvements to look for or how the child is progressing — let alone how they themselves could participate in the child's care. Yet behavioral health care is proven to be three times more likely to be effective when parents and caregivers are involved with their children. Including the whole family in the care model ensures that parents, caregivers, and kids have the resources they need to address behavioral health concerns before they reach a crisis point.

4. **Assemble multidisciplinary care teams enabled and enhanced by virtual care approaches.** Among children with behavioral health needs, comorbidities are common. For example, 27% of children with attention-deficit/hyperactivity disorder (ADHD) also have a conduct disorder, and 18% of children with ADHD also suffer from anxiety. Kids are not small adults, and caring for children requires a multifaceted approach. One child may need occupational therapy to address developmental delays, psychotherapy for mood disorders, and medication management for ADHD. To properly care for multiple diagnoses, children need multidisciplinary care teams who work together to provide a unified treatment plan. These teams can help families better navigate care options, triaging their needs to reduce the trial and error often involved in the process of seeking care.

5. **Track clinical outcomes.** Today, few providers use a measurement-based approach to track progress against high-quality, evidence-based protocols. As a result, parents and caregivers, health plans, and even providers themselves often can't tell whether or not a treatment program is delivering results. Measuring clinical outcomes should be the norm. Validated tools like the Clinical Global Impression – Improvement scale (CGI-I) and the Patient-Reported Outcomes Measurement Information System (PROMIS) scale already exist. And given validated clinical outcomes, health plans will be more willing to provide higher reimbursement rates for providers— addressing the industry stalemate and making high-quality care more affordable and accessible for families. And of course, tracking outcomes makes it easier to figure out if care plans need to be tweaked or stepped down.

We're beginning to see large employers, public agencies, and health plans embrace the benefits of technology-enabled solutions for pediatric behavioral health support. By working together to find a solution, our families can all start living happier, healthier, and more fulfilling lives.

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February 28, 2022

<u>Invited by</u>: White House Office of Science and Technology Policy (OSTP)
<u>Submitted by</u>: BusTest Express| Sarah S. Storer, Co-Founder & Vice President
<u>Type of Stakeholder</u>: Mobile Health Clinic Service Provider
<u>Submitted to</u>: Jacqueline Ward | ██████████████████████

SUBJECT: Connected Health RFI

<u>**Overview:**</u>
BusTest Express recognizes the need for greater access to health and wellness services. Our mobile clinics are a flexible and practical solution for overcoming deficiencies in the healthcare market. Founded in response to the COVID-19 pandemic, our proven and successful mobile clinic service model continues to strengthen community health, alleviate health inequities, and adequately address healthcare deserts. We enable organizations to rapidly increase access to healthcare through customized mobile clinics and expert full-service operations management.

Links to media:
- https://www.kron4.com/news/bay-area/mobile-covid-19-testing-clinics-to-cruise-through-the-bay-area/
- https://www.kcra.com/article/modesto-based-business-transforms-charter-buses-roving-covid-19-testing-vaccination-clinics/35411298#

Both urban and rural regions with inadequate healthcare infrastructure benefit from a rolling, self-sufficient healthcare facility that can be anywhere, anytime. BusTest Express mobile clinics play a significant role in addressing the needs of underserved populations, the medically vulnerable, those with limited financial resources, and rural communities.

1. <u>**Successful models within the U.S.:**</u>
BusTest Express provides equitable care to diverse populations and communities. We customize mobile health and wellness delivery systems to increase healthcare access to those who need it most. BusTest Express in partnership with OptumServe (a subsidiary of UnitedHealth) and the State of California, is currently operating nearly 50 mobile COVID-19 testing clinics simultaneously across the state, covering approximately 80 cities across 20 counties. Meeting people where they are in their communities, we have facilitated over four million COVID tests across California to date. Starting with 4 mobile clinics, we have grown 12x since December 2020. Links to Governor Newsom's Press on efforts:
- https://www.youtube.com/watch?v=mTGk5zXOm6w
- https://www.gov.ca.gov/2022/01/07/governor-newsom-activates-national-guard-to-bolster-states-covid-19-testing-capacity/
- Click here for b-roll of California National Guard

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Additionally, unlike "mobile" pop-up tents or trailers, rapid-response mobile clinic options serve as self-sustainable, rolling healthcare treatment centers that are truly mobile and able to service multiple areas in one day. Our vehicle configurations and logistics management experience ranges from COVID-19 testing and vaccination clinics, general medical exams, hearing tests, eye exams, mental health outreach services and much more. BusTest Express mobile clinics and services include:

- Internet
- Electricity
- HVAC
- Restroom
- Staff break area
- Storage
- Running water/sinks
- Cold storage
- Workstations

2. Barriers:

There are many underserved communities across the U.S. that would benefit from mobile health clinic services provided by BusTest Express. From urban, low-income communities to rural populations and migrant farm workers to disaster response, mobile clinics can alleviate health inequities caused by a lack of physical access to care. Mobile clinics, like BusTest Express, successfully address these common barriers:

- Mobile clinics can provide services anywhere, anytime - providing care in urban centers like Berkeley and Los Angeles to the most remote communities in California, such as Gualala and Porterville. No electricity, internet, or other utilities required on site, mobile clinics like BusTest Express provide it all.
- BusTest Express aims to alleviate a key issue many have in accessing healthcare – transportation. By delivering healthcare directly to community centers, places of employment, schools, and any other easily accessible locations, the need for patients to acquire transportation for visits is lessened.
- Mobile clinics compliment and help fill gaps to care that are not completely solved via telehealth services.

3. Trends from the pandemic:

BusTest Express was founded on the belief that healthcare delivery services can be flexible, mobile and adaptable. For example, early in the pandemic, most COVID-19 testing sites were established in areas that had basic utilities such as electricity and running water. This limited where testing centers could be located. The reliance on open-air testing sites resulted in many healthcare workers experiencing their own healthcare emergencies due to extreme weather and the need to be standing outside for 8 to 12 hours at a time. Mobile clinics, like BusTest Express, offer a comfortable working environment for healthcare staff and innovative methods to deliver healthcare services.

As we saw during the COVID-19 pandemic, people with better baseline health experienced better COVID outcomes. But we know a lack of access to healthcare is not only a problem during a pandemic. Ensuring more people have access to quality healthcare saves money, especially ER costs, and improves quality of life. Particularly for certain populations, improved access to primary care and early detection screenings can be the difference between life and death. Mobile clinics can provide easy access to some cancer screenings, blood pressure screening, blood sugar screening, vision, and auditory tests and many other potentially life-changing or life-saving healthcare services.

4. User experience:

BusTest Express becomes a part of the community, making people less afraid to seek help. We remove logistical constraints, such as transportation and financial barriers, to receiving health and wellness services. We hear from our patients that they value the informal, familiar environment provided by our mobile clinics in convenient and familiar locations with staff who are easy to talk to. Each of these elements has shown to overcome barriers that are the result of poor patient-provider communication, mistrust, and disempowerment in minority communities and therefore helps us reach low-income, minority urban, and rural populations.

6. Proposed government actions:

The adoption of mobile health clinics is complicated by the current funding mechanisms for health centers that service primarily low-income and/or rural populations. During the COVID-19 pandemic, we've seen the need to get services directly to communities in settings that are easily accessible, flexible, and dynamic. As we learn how to better provide care and close gaps, flexibility in funding beyond standalone clinics should be encouraged by allowing health centers and other providers to lease mobile medical units from those who can also provide the full operations and management of those vehicles. This simple change will create a big impact and allow for increased healthcare access and care delivery.

The adoption of mobile health clinics can help fill the gaps between care provided in person, at a standalone doctor's office, or a hospital setting and telehealth/home health. Mobile health clinics are also well equipped to provide services in disaster areas, places of work such as factories or farms, and in areas where healthcare services are otherwise hard to reach or inadequate – both in rural and urban settings.

7. Health Equity:

Health inequity is a major issue for many Americans in both urban and rural settings. Access to care can be particularly difficult for elderly populations, those with disabilities, and people who otherwise fall through the cracks of an often difficult to navigate healthcare landscape.

The services provided by mobile healthcare clinics, such as BusTest Express, alleviates the burden of the first step of receiving healthcare – transportation. Mobile clinics can effectively eliminate health inequities caused by a lack of physical access to care by providing the flexibility to offer healthcare services anywhere, anytime.

Difficulty or inability to access quality medical care shouldn't be a barrier to good health. Even in urban settings, getting to a doctor's office can be a challenge for some. This inequity is exacerbated in more rural settings with limited or no public transportation options. Oftentimes those who need care the most such as older individuals, working families, and those with disabilities face the most difficulty getting to medical appointments.

Telehealth is an excellent tool many states and the federal government have rightly expanded in recent years, especially during the COVID-19 pandemic. However, telehealth doesn't solve all health equity problems and there are still gaps that exist, especially when internet is unavailable or unreliable or a healthcare issue requires an in-person visit. Mobile clinics, like BusTest Express compliments and helps fill gaps to care that are not completely solved by the use of telehealth services.

March 30, 2022

These comments are in response to the published Request for Information dated January 5, 2022, related to strengthening community health through digital health technologies. Butterfly Network responds to this RFI as a technology developer.

Introduction to Butterfly Network:

Butterfly Network is an innovative digital health company transforming care with handheld, whole body ultrasound ("Butterfly iQ+"). Our patented Ultrasound-On-Chip technology activates a mobile device, through an intuitive interface, to become an advanced clinical assessment tool. By leveraging semiconductor technology, artificial intelligence ("AI") to provide image acquisition and interpretation assistance, and cloud technology, Butterfly makes it possible to image patients at the time that the information is needed - right at the hospital bedside, in the community, and even in their home through healthcare practitioners. Butterfly enables the practical application of ultrasound information into the clinical workflow from an affordable, powerful device that fits in a practitioner's pocket. Our software makes the product easy to use, and is accessible on a user's smartphone, tablet, and almost any hospital computer system connected to the Internet.

The below comments will provide an overview of Butterfly's capabilities as an advanced assessment tool and its potential to improve the quality and speed of care and reduce critical access limitations for the nation's most underserved populations through portable diagnostic imaging. The portability and accessibility of this technology unlocks tremendous potential to advance health equity, close gaps in rural care settings, and enhance what's possible across other low-resourced as well as home care scenarios.

The Value of Portable Diagnostic Imaging at the Point of Care:

Handled diagnostic imaging, like the Butterfly IQ+, can transform diagnostics across many care settings by delivering powerful imaging insights to close information gaps and **drive better care decisions by informing clinical thinking, not confirming it.** Such an affordable, efficient means of gathering critical data at the bedside is not only engaging a growing number of clinicians and specialists but is also touching vast underserved geographies.

Combined with the power of AI to guide bedside image acquisition and interpretation, an emerging application of handheld diagnostic ultrasound could lead to a revolution in point of care assessment and provides a glimpse toward healthcare's future standard of care. Below are **five** leading values associated with an evolved approach to imaging, happening from the bedside, powered by an AI-enabled, handheld diagnostic ultrasound tool:

1. Economic Value. For decades, ultrasound machines have cost anywhere from tens to upwards of several hundred thousand dollars. While newer handheld and point of care ultrasound technology is no competitor against machines used for high-end ultrasound work, it does provide a tectonic shift in the foundations of imaging as a practical diagnostics advisor at the bedside. Today, handheld diagnostic ultrasound devices can be available for as low as approximately $2,400 and have evolved from bulky cart-based offerings to pocket-ready, handheld portable, stapler-sized scanners that can easily be linked to smartphones to view output.

The benefits of a lower price point are significant. For instance, informing clinical thinking with use of handhelds has been shown to significantly reduce patient imaging costs, including expensive diagnostic tests such as echos, Chest CT and traditional abdominal ultrasounds. It's even reduced the odds of a chest x-ray being ordered by 87%.[1] Moreover, its value in primary care is increasingly being proven: One study found an almost-50-percent reduction of secondary referrals and a change in diagnosis in up to 49 percent of patients,[2] likely reflecting the added value of new diagnostic precision.

Notably, the American Academy of Family Physicians (AAFP) recently published guidelines that ultrasound at the point of care is to become an Accreditation Council for Graduate Medical Education (ACGME) core requirement for all accredited family medicine residency programs by next July.[3] While point of care ultrasound has been a core competency for emergency medicine since 2014, **this adoption by family medicine represents a fundamental change in primary care practice in the recognition that point of care ultrasound is a standard of care for clinical assessment at a patient's point of access into the healthcare system.** This also represents an immediate need for all the 741 FP residency programs to develop the training curriculum and infrastructure to meet ACGME requirements.

2. Portability. Butterfly puts advanced imaging in the pocket of practitioners everywhere to inform point of care assessment and to guide the differential, the diagnosis, the treatment, and follow up plan. And, because the Butterfly IQ+ can be easily transported and linked to smartphones, the value is not only in accessibility at the bedside, but in transcending some of healthcare's most ingrained geographic barriers. For example, for 2/3 of the world medical imaging is absent altogether,[4] because it is either unaffordable, too far away, or both – a single probe that enables whole body, handheld ultrasound is not just about closing information gaps fast, it's enabling access to a care modality that does not otherwise exist. This is true in low-mid income nations and in parts of higher income countries in rural settings. With such a pocket-based tool, imaging can be accessible anywhere, fitting easily and affordably in the pocket of every clinician, so they can see what they need to know.

3. Speed. Practitioners often call upon imaging modalities to confirm a diagnosis and treatment plan. With handheld diagnostic ultrasound, care teams can introduce imaging as part of the initial assessment, speeding the timeframe for appropriate, optimal care. And thanks to cloud technology available to securely capture, transport, and store diagnostics from clinicians even hundreds of miles away, new handheld ultrasound technology, like Butterfly, can easily deliver key imaging data to existing infrastructures housing patient data, enabling more thorough analysis across stakeholders. The new technology doesn't operate in a silo, but integrates fully with existing enterprise systems, workflows, and EMRs, expanding the collaborative reach of the enterprise and supporting the sort of data-sharing required between hospitals and government agencies such as Health and Human Services (HHS).

4. Diagnostic precision. Today, billions of people lack access to medical imaging, and 80% of diagnostic dilemmas can be solved with simple imaging.[5] In the majority of clinical scenarios, across a variety of care settings and geographies, clinicians base diagnostic decisions on how the patient describes symptoms, their history, a physical examination, and vitals. But often, this limited information can only narrow assumptions of the diagnosis.

[1] Barchiesi M Bulgheroni M Federici C Casella F Medico MD Torzillo D Janu VP Tarricone R Cogliati C. Impact of point of care ultrasound on the number of diagnostic examinations in elderly patients admitted to an internal medicine ward. Eur J Intern Med. 2020 Sep;79 88-92. doi 10.1016/j.ejim.2020.06.026. Epub 2020 Jul 20. PMID 32703675
[2] Aakjær Andersen C, Brodersen J, Davidsen AS *et al* Use and impact of point-of-care ultrasonography in general practice a prospective observational study *BMJ Open* 2020;**10:**e037664. doi 10.1136/bmjopen-2020-037664
[3] https://www.acgme.org/globalassets/pfassets/reviewandcomment/rc/120_familymedicine-_2021-12_rc.pdf
    PAHO/WHO | World Radiography Day Two-Thirds of the World's Population has no Access to Diagnostic Imaging
[5] PAHO/WHO | World Radiography Day Two-Thirds of the World's Population has no Access to Diagnostic Imaging

Handheld diagnostic ultrasound, like the Butterfly IQ+, can vastly expand access to powerful imaging insights that can drive better decision making. And, when powered by AI to guide image acquisition and interpretation—diagnostics are much more likely to be accurate.

Imaging plays such a critical part of care management. Nowhere is that more impactful than in the home. Today, home care companies are leveraging the power of imaging information to keep patients in the setting they most desire. Not only does this improve the care of those managed in the home, it expands the scope of those who *can* be managed in the home because the information is the same to make clinical decisions, regardless of care setting.

5. Combatting Barriers to Entry through Education and Telehealth.
The application of ultrasound information into the clinical workflow, as a standard of practice, especially in resource limited settings where it would be of most benefit, has not been realized. Handheld diagnostic ultrasound has been described as the "stethoscope of the future." However, effective use of any ultrasound technology at the bedside requires providers to become skilled enough at image acquisition and image interpretation to be confident in their clinical diagnosis. Today, this requires education, hands-on instruction, and regular feedback to the practitioner, significant barriers to adoption of this technology.

Butterfly Network is working to reduce this burden making its technology accessible and adaptable at scale through the development of educational platforms, AI technologies, and innovative telemedicine capability called TeleGuidance. Using TeleGuidance, healthcare practitioners can perform ultrasound remotely, providing real-time guidance by connecting with a novice user or peer directly from the Butterfly iQ+ app. Through this feature, healthcare practitioners can control the settings of the application while the device is in use and help the user identify the image, allowing all practitioners access to valuable diagnostic information on initial patient assessment whenever and wherever it is needed independent of medical or geographic setting.

(See here for true-to-life clinical examples of the helpful role Butterfly's Teleguidance can have in expanding handheld ultrasound accessibility to remote communities at the frontline of care, as well as the supportive role of education remotely and at-scale.)

Summary and Recommendations:
Clinical practice at the point of patient access into our health care system has not significantly changed in generations. To date, the one technological device routinely used in initial patient assessment is the stethoscope, invented over 200 years ago. Health care practitioners (HCPs) routinely rely on their clinical exam at intake to risk stratify likely disease with subsequent diagnostics then obtained in a sequential longitudinal paradigm. To merely frame a patient's likely diagnosis and effective treatment is often associated with a time burden including multiple office visits, time away from work and family, and additional transportation to a diagnostic center. Additionally, because of the limited sensitivity of even the best clinical examination, HCPs may miss the early diagnosis of progressive disease or acute life-threatening syndromes.

Even with innovative approaches to increase preventative screening, health care system navigation, and access to transformative technological advances in clinical diagnosis and medical therapeutics, health care delivery is still challenged. New technologies are introduced but are adopted and used as if they were old technologies, ultimately increasing costs instead of transforming care at scale. Diagnostic

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imaging technologies, like Butterfly, are now available and easily useable as an advanced assessment tool unlocking information that guides decision-making earlier in the care pathway, leading to more informed decisions and better care, for all. This can change the health care delivery paradigm.

We respectfully request the White House adopt a position that envisions what this new technology enables and the onramp it creates for transforming care delivery for all patients, everywhere. Support of policies that incentivize and invest in advanced imaging technologies will further enable access for all communities.

The advantages of our technology align with recent industry trends, including the shift to in-home medical care, affordability, harnessing of AI and deep learning, collaboration through the cloud, disruptive medical innovation, and increasing access to care. In addition, by expanding the settings in which medical imaging can be done, handheld diagnostic imaging technologies, such as the Butterfly iQ+ device, may provide opportunities for earlier detection and prevention of disease, while reducing cost. This aligns with the focus on consumer health empowerment, wellness, and acceleration of value-based care, all of which are important themes in the healthcare industry today and have become increasingly more important during the COVID-19 pandemic.

Furthermore, research investments made to analyze how devices such as handheld diagnostic ultrasound were used during the COVID-19 pandemic have been critical to improving patient care throughout this pandemic. To ensure healthcare providers can meet escalated demand for medical imaging services during future pandemics, as well as in the event of any future public health emergencies, we strongly recommend the specific inclusion of handheld/point of care ultrasound imaging technologies in the Strategic National Stockpile (SNS).

We believe this advanced diagnostic technology is critical for reducing health care access inequities, reducing cost, and effective resource utilization. In time, we also believe advanced imaging technology, like the Butterfly iQ+, can lead to a new standard of care, one that makes handheld, whole body ultrasound as ubiquitous as the stethoscope.

ADDENDUM

The Benefit of the Butterfly's Device During COVID-19 Pandemic

One of the key learnings from the pandemic is that medical providers need to be prepared and equipped to treat patients where they are with technologies that allow for rapid and accurate diagnosis to guide the appropriate care pathway. Butterfly's handheld ultrasound, the Butterfly iQ+, has been demonstrated to be extremely effective in assessing COVID-19 patients with timely access to lung ultrasounds (LUS) throughout this pandemic and is also currently used to assess other respiratory issues. In fact, there have been a variety of studies which demonstrate that a lung ultrasound combined with clinical examination can increase the sensitivity of COVID-19 detection by identifying cases missed by RT-PCR testing.[6] Moreover, the diagnostic accuracy of clinical assessment plus LUS outperforms standard emergency department tests for dyspnea and supports the detection of COVID-19 pneumonia in patients with normal vital signs.[7]

A Clinical Perspective of Handheld Ultrasound (Butterfly iQ) in the COVID Pandemic

As the COVID-19 pandemic continues into its third year, one positive development for clinical and disaster medicine was recognition of handheld diagnostic ultrasound as a powerful clinical adjunct in mitigating some of the pressures of the pandemic on the health care system.

At the outset of the pandemic, Italy became the first Western medical system to experience a surge in COVID-19 cases with a prevalence of presenting patients accessing the medical system of greater than 40 percent.[8] COVID-19 was a novel, highly transmissible virus with a high mortality, largely from respiratory failure. There was a rapid overwhelming influx of patients with respiratory failure exceeding the capacity of hospitals, ICUs, and even available ventilators. Early in the pandemic, it was unclear what specific PPE and cleaning regimens were effective in mitigating transmission putting immediate pressure on the system to develop sufficient adequate PPE and quarantine strategies.

In addition, it was apparent that conventional respiratory resuscitation was not effective for this novel virus, i.e., strategies to manage other forms of respiratory failure were not effective or were even harmful to COVID-19 patients. Finally, the number of available hospital beds was vastly exceeded by the number of presenting patients. Strategies were needed to risk stratify patients at the point of medical access for inpatient versus safe outpatient management for those with likely COVID-19. It was also important to identify those patients presenting with another etiology of a respiratory distress which would require different management strategies, i.e., ischemic heart disease, congestive heart failure, bacterial pneumonia.

Early in the course of the COVID-19 pandemic, it became apparent that lung (LUS) approached the sensitivity of CT scan in identifying those patients with likely COVID-19 and those with alternative

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[6] https://www.sciencedirect.com/science/article/pii/S0196064420312695
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7390587/#:~:text=However%2C%20it%20is%20estimated%20th
[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7941
[8] Bianchi S, Savinelli C, Paolucci E, et al. Point-of-care ultrasound (PoCUS) in the early diagnosis of novel coronavirus 2019 disease (COVID-19) in a first-level emergency department during a SARS-CoV-2 outbreak in Italy: a real-life analysis [published online ahead of print, 2021 Apr 21]. Intern Emerg Med. 2021;1-12. *See also* Sorlini C, Femia M, Nattino G, et al. The role of lung ultrasound as a frontline diagnostic tool in the era of COVID-19 outbreak. Intern Emerg Med. 2021;16(3):749-756. *See also* Volpicelli G, Gargani L, Perlini S, et al. Lung ultrasound for the early diagnosis of COVID-19 pneumonia: an international multicenter study. Intensive Care Med. 2021;47(4):444-454.

diagnosis. Early imaging studies suggested that both CT and LUS could actually identify early COVID-19 in presenting patients even before they had respiratory symptoms or had a positive PCR. Of note, the sensitivity of clinical exams and conventional chest x-rays early in the course of disease was poor (50 percent).[9]

One strategy for risk stratifying patients for inpatient, home, or alternative diagnosis management was to combine clinical assessment and vital signs with a lung screening by ultrasound. Patients who were obviously unstable and required admission would be risk stratified by LUS to assess for likely COVID-19 versus an alternative diagnosis to tailor management. Those patients who were stable and had an oxygen level greater than 92 percent were risk stratified by LUS for likely COVID-19 versus an alternative diagnosis and could be discharged home with a pending COVID PCR, diagnosis specific management, and outpatient follow up. The net effect of this strategy was to offload the over-capacity and resource strained inpatient hospital system.

Medical systems in the United States subsequently became overwhelmed by patients presenting with COVID-19 with similar pressures of inadequate bed capacity, equipment including PPE and ventilators, and need to cohort infected patients to reduce interpersonal virus transmission. Many adopted outpatient screening strategies to risk stratify and test patients outside of medical facilities. Early in the course of the pandemic, however, supplies, PCR tests, PPE, and ventilators were not sufficient for demand. Moreover, the initial turnaround time for PCR testing was 24-48 hours and therefore not effective in risk stratification at the point of care. Many systems began incorporating LUS in the pre-hospital or emergency department setting as an effective risk stratification tool.

In some systems, handheld devices such as the Butterfly iQ were purchased to distribute to those cost centers active in management of COVID-19 and developed education and credentialing guidelines to rapidly train health care practitioners (HCP) on using LUS as an effective screening tool. The device would be used at the point of care by one provider already in scarce PPE to assess patients without exposing other providers to the patient for insensitive tests including radiography.

The Butterfly iQ, was ideal for COVID-19 assessment. It had a small footprint and was easy to decontaminate relative to other ultrasound devices. It also had specific capabilities for LUS scanning to support use by novices. Finally, its cloud-based image archiving and TeleGuidance feature supported rapid adoption of LUS by novices with supervision of mentors. In the prehospital setting, patients presenting with a viral syndrome and/or respiratory disease would have vital signs assessed, a COVID-19 swap sent, and an LUS assessing likelihood of COVID-19 versus an alternative diagnosis. Those patients who were stable could be discharged home with a pulse oximeter and a pending COVID-19 test or with specific treatment for an LUS-identified alternative diagnosis. Conversely, unstable patients would be admitted into the system with clinical and LUS-specific management. In critical access centers, all patients with possible COVID-19 diagnosis could be assessed in one quarantine room with one nurse and a HCP using a handheld LUS to risk stratify safe disposition with pending COVID-19 testing, minimize PPE use, and minimize COVID-19 exposure to the facility, HCPs, and patients.

In summary, POCUS is a transformative technology which supports HCPs to make rapid sensitive assessments of their patients at the bedside. The ability to use LUS during the COVID-19 pandemic,

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[9] Stephanie S, Shum T, Cleveland H, et al. Determinants of Chest X-Ray Sensitivity for COVID- 19: A Multi-Institutional Study in the United States. Radiol Cardiothoracic Imaging. 2020

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especially during the early stages with limited information and equipment, for patient risk stratification was a novel development in health care and risk management. Prospective implementation and development of POCUS capability for future pandemics and disaster medicine in general should be one priority as our disaster preparedness and equipment stockpile is readied for the next event before it occurs.

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Rx Only (USA). For use by trained healthcare practitioners

TeleGuidance is adjunctive and should not be solely relied upon to diagnose or treat COVID-19. Use by novice operators, guided by trained practitioners is permitted under FDA's COVID-19 public health policies.

Peter Weimersheimer, MD is Vice President of Clinical Implementation at Butterfly Network, Inc. He is focused on the Butterfly Blueprint solution (Butterfly iQ+, Compass software, and customer partnership) to transform health care through global adoption of point of care ultrasound (POCUS). Dr. Weimersheimer formerly was Professor of Surgery (EM) at the University of Vermont Larner College of Medicine with 28 years of clinical experience. He was the founder and Director of the University of Vermont (UVM) Emergency Ultrasound Section, the UVM EM Residency POCUS curriculum, a TEE program, and a 4th year medical student elective in point of care ultrasound. Dr. Weimersheimer also initiated development of a 4 year integrated medical school curriculum and developed a successful nurse/tech ultrasound-guided peripheral IV program. He was the Regional Director of Clinical Ultrasound for 7 UVM Health Network Emergency Departments and developed global credentialing and practice standards for that system.

March 31st, 2022

SUBMITTED ELECTRONICALLY

Jacqueline Ward,
White House Office of Science and Technology Policy (OSTP)

RE: Request for Information on Strengthening Community Health Through Technology

On behalf of the California Life Sciences (CLS), thank you for the opportunity to provide input about how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

CLS is privileged to be the statewide public policy association representing California's innovative life sciences sector, with a membership spanning biotechnology, pharmaceutical, medical device and diagnostics companies, venture capital firms, research universities and institutes, as well as our sector's nearly 350,000 California employees.

Our state's innovative life sciences companies are vital to the development of groundbreaking therapies, devices, and diagnostics that offer cutting edge tools to diagnose and treat patients in need. We very much appreciate the Administration's recognition that California's innovators have been working around the clock to combat the COVID-19 pandemic and that they played a vital role in our collective fight against this virus through the development of new devices, diagnostics, therapeutics, and vaccines. Many of these tools incorporated connected health technologies.

CLS applauds the actions taken by this Administration to encourage, accelerate, or create novel coverage pathways for and in many cases, the production of, new and innovative medical devices, diagnostics and other treatments during the early stages of the pandemic.

The medical technology industry responded to the COVID-19 pandemic by adapting to customer and patient needs, including use of AI, smart connected devices, and intelligent devices. These can transform healthcare and the delivery of care while spanning across care settings, from connected medication management systems with smart devices in hospitals, to automated microbiology labs with robotics, portable point of care treatment and diagnostic solutions, to over the counter digitally read rapid COVID-19 testing done in the comfort of one's home.

Increasingly, sensors and digital biomarkers are also being incorporated into the design of clinical trials for pharmaceuticals, enabling decentralized and hybrid trials incorporating home visits, reducing the burden on patients participating in clinical trials, and accelerating clinical timelines. Digital biomarkers to remotely monitor patient health are being validated by feasibility studies with the intent to incorporate them into clinical trials and patient care.

SACRAMENTO	SAN DIEGO	SOUTH SAN FRANCISCO	LOS ANGELES	WASHINGTON, DC
1201 K Street, Suite 1010	9605 Scranton Rd. Suite 120	685 Gateway Blvd. Suite 100	605 E. Huntington Dr., Suite 103	1100 H Street, NW, Suite 540
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Multiple commercialization pathways now exist for digital health tools, providing more opportunities to realize an economic return on investment for tools supported by robust evidence and user demand. However, the need to [modernize Medicare coverage of digital health technologies](#) is a critical component for continued innovation.

Four broad commercial models are now in place and being used to generate payment or reimbursement for digital tool developers: direct-to-consumer, value-based contracting, "device-like" reimbursement, and "drug-like" reimbursement models. Digital health had been slowly becoming part of the therapeutic paradigm alongside traditional medicines before COVID-19, and this process has been significantly accelerated by regulatory agencies adapting to unprecedented times. For instance, U.S. Food and Drug Administration (FDA) recognized that digital therapeutics could provide value in addressing mental health and wellbeing during quarantine and isolation, and [waived some requirements to enable their distribution and use.](#)

For a robust overview of the innovation, evidence, regulation, and adoption of digital health trends, this 2021 [IQVIA Institute report](#) covers many aspects of the information requested.

As noted by Commissioner Dr. Califf in a recent update to the [FDA technology and data modernization plan](#), "Technology and data have disrupted our world in ways unimaginable only 20 years ago – including how the world thinks about health. How we integrate new technology into medical product application reviews and food safety efforts, to facilitating the use of data insights to help treat disease, technology and data are ubiquitous in the work of the FDA."

Continued engagement with regulators and policy makers is critical to the future success of digital health adoption. In addition to streamlined regulatory processes for digital health solutions and promoting RWE-based approvals, regular collaboration between life sciences organizations and FDA representatives would enable the development of forward-thinking regulations for new technologies and capabilities as they arise.

Given the request by OSTP to limit responses to three pages, we would also point to the recent [World Health Organization Global Strategy on Digital Health](#), and a report on "Transforming healthcare with AI" by the [European Institute of Innovation and Technology (EIT)](#) and the McKinsey Center for Government. Both address critical issues for connected healthcare in a cuss frameworks for closing disparity and access gaps, as well as deeper innovations driving more efficient diagnostic tools, imaging systems, port.

Limited availability of skilled talent is a challenge facing most digital health players. Partnerships between life sciences organizations and academic institutions will help fast-track education in digital health Rotational internships, or co-op programs, are another route through which life sciences or anizations can introduce high-potential students to their sector before completing g   g   g   pportunity to explore interests in digital health and presenting an alternative to the programs already being used by the larger technology companies to attract top young professionals.

Like most life sciences innovation, digital health solutions need the cross-pollination of ideas.

Because of the breakneck pace of innovation in digital health, employee skillsets need to be kept up to date, but we must also maintain the ability to learn from the COVID-19 pandemic and adequately protect against future public health threats. The establishment of antimicrobial stewardship programs covering all settings of care in order to reduce antimicrobial overutilization and the emergence of resistance (AMR) is crucial to this effort and critical diagnostic and surveillance technologies will play key roles.

California is home to more than 1,900 medical device and diagnostics companies, providing over 84,000 jobs across the state[1]. Our state's innovative medical technology companies are vital to the development of groundbreaking devices and diagnostics that offer cutting edge tools to diagnose and treat conditions like cardiovascular disease, chronic pain, kidney and liver disease and diabetes.

CLS strongly supports the Biden Administration's recent announcement reinvigorating the Cancer Moonshot and the spirit of public-private partnerships embodied in an effort designed to harness vast expertise across so many fields to reach the ambitions goals of finding impactful treatments and an end to cancer as we know it today.

Exponential progress is being made in screening and detection, earlier diagnosis, prevention, equity, treatment, and support for oncology patients. Greater application of digital health solutions has the potential to raise the level of care across other disease states, and successfully use digital health technology to deliver healthcare, enable healthier lifestyles, or reduce health disparities.

On behalf of the diverse and innovative California life sciences companies that make up our membership, thank you for the opportunity to respond to this RFI. Life sciences companies have the unique opportunity to leverage digital solutions to treat the whole patient across the entire patient journey and deliver better health outcomes, forever changing the care paradigm and adding immense value to the healthcare delivery system and to society as a whole.

Please do consider us a resource moving forward and we appreciate your attention to this matter.

Thank you,

Oliver Rocroi
Vice President – Federal Government Relations and External Affairs

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[1] "2020 California Life Sciences Sector Report." *CLS and PwC*, Sept. 2020, http://info.califesciences.org/2020-sector-report.

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March 31, 2022

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

To Whom it May Concern:

The Cancer Support Community (CSC), an international nonprofit organization that provides support, education, and hope to cancer patients, survivors, and their loved ones, appreciates the opportunity to provide feedback to the White House Office of Science and Technology Policy (OSTP) request for information on strengthening community health through technology. As the largest provider of social and emotional support services for people impacted by cancer, CSC has a unique understanding of the cancer patient experience. In addition to our direct services, our Research and Training Institute and Cancer Policy Institute are industry leaders in advancing the evidence base and promoting patient-centered public policies.

While telehealth has been an important care delivery method prior to 2020, the COVID-19 pandemic has highlighted the importance of access to telehealth and tele-mental health services for patients, especially those living with serious medical conditions such as cancer. Expanded coverage of telehealth and tele-mental health services during the COVID-19 public health emergency has enabled patients to see providers, including licensed mental health professionals providing group support and individual counseling, from the safety of their homes and ensure continuity of care when in-person care was either not available or presented heightened risk for people vulnerable to a poor outcome from exposure to the COVID-19 virus.

The pandemic's ongoing impact on people with cancer prompted CSC to launch a longitudinal study to investigates the impact of COVID-19 on cancer patients and survivors' physical, social, and emotional well-being as well as any disruption or delay to their cancer-related healthcare during the pandemic. Now in its 5th phase, the study aims to identify sociodemographic, medical, and personality characteristics that may play a role in pandemic-related hardships and experiences, including with virtual care. CSC also conducted a qualitative study to explore and understand major challenges that arose with the transition to telehealth and tele-mental services during the pandemic, and to identify potential opportunities in psychosocial support services for cancer patients and survivors.

2. Barriers
While innovative digital health technologies can enhance both the patient experience and ensure continuity of care, it is important to address the barriers that prevent people from using existing technologies such as computers, tablets, smartphones, as well as the broadband services necessary for their use.

1

Preliminary findings from our qualitive study revealed that the biggest loss to patients seeking group support meetings virtually is around the social connections that organically happen before and after in-person group meetings (grabbing coffee together, going to lunch after, small talk before meetings etc.). The study also found that professionals providing psychosocial support services via tele-mental health services reported that geographic limitations with licensing are likely to create further problems for some centers in transitioning to in-person or post-COVID environments.

3. Trends from the pandemic

Findings from phases 1-4 of our longitudinal COVID-19 and cancer study revealed that telehealth was widely used during the pandemic for multiple types of medical care, with 76% of respondents reported engaging in telehealth visits during the pandemic in 2020. Respondents' use of telehealth for different types of medical care remained roughly the same across each phase: 68% reported using telehealth for general medical appointments, 54% reported using for cancer-related care, and close to one-third reported using for mental health care. Further, despite the relaxing of COVID-related restrictions and the returning option for in-person health care, data from phase 4 found that 51% reported using telehealth within last 3 months.

4. User experience

One aim of our qualitative study was to capture the experiences and perceptions of cancer patients who have participated in tele-mental health services via virtual support groups or individual counseling. Survey findings show that the ability to access psychosocial services despite complications of treatment, fatigue, and family obligations has been received very well by patients and survivors. Study participants also indicated their preference for hybrid options rotating between in-person and virtual support group meetings (as opposed to simultaneous).

Our study also revealed an important unexpected consequence of switching to telehealth was the ability of participants to join regardless of their health conditions. Over the last two years, patients in hospice or in the hospital were able to join their support groups, sometimes able to say their goodbyes and have closure.

5. Proposed government actions

We strongly urge policymakers to permanently extend current flexibilities in telehealth and tele-mental health services to ensure patients can continue to access these important services now and in the future. Policymakers should seek to advance legislation that promotes the provider-patient relationship, improves care coordination, and increases patient access to care.

- **Telehealth and tele-mental health services should not be restricted by a provider's licensing state.** Allowing patients to connect with their providers, including social workers and mental health professionals, regardless of the patient's physical location via telehealth and tele-mental health will help bridge gaps in care, particularly in rural and underserved communities. As policymakers examine the ways to address the current patchwork approach to interstate licensing, we recommend that patients be able to access their providers that are in good standing in their home state, even if that provider is licensed out of state.
- **Permanently removing Medicare's geographic and originating site restrictions** requiring a patient to live in a rural area and be physically in a doctor's office to use telehealth services modernizes our health care system and keeps the focus on patients' health care needs and preferences. We also urge policymakers to expand eligible distant site providers to include rural health clinics and federally qualified health centers, as well

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as reject policies that require patients to receive an in-person visit prior to a telehealth or tele-mental health visit.

- **Allowing the Secretary of Health and Human Services to permanently expand the types of health care providers permitted to offer telehealth services** and the types of services covered under Medicare (including tele-mental health services) will bring about even further changes that improve patients' experiences, lives, and health.
- **Allowing the option of audio-only communication** is critical to individuals without internet access, those without a device with visual capability, people with disabilities, and those unfamiliar with technology.

7. Health Equity

The COVID-19 pandemic has highlighted longstanding disparities in our health care system. The broad adoption and use of telehealth and tele-mental services during the pandemic exposed similar disparities in access to internet connectivity across the country. The digital divide is due in part to a lack of broadband access for many people. Recent data reveals that 23% of adults in the United States still do not have home broadband (Pew Research Center, 2021), and access to the internet varies across different demographic groups. Policymakers must prioritize the expansion of broadband to ensure that everyone can access telehealth and tele-mental services regardless of income, geographic location, or access to smart phone.

Further, there is a critical opportunity to modernize and diversify clinical trials through digital health technologies. Cancer clinical trials provide patients the opportunity to participate in ground-breaking research that may bring about treatments that improve quality of life, extend survival, and even prove lifesaving. However, many barriers to trial participation exist such as transportation and housing costs, taking time off work, childcare, and mobility limitations. Decentralized clinical trials could help to break down these barriers and diversify trials (e.g., sex, race, ethnicity, age). We urge policymakers to examine the ways to leverage telehealth and other digital health technologies (e.g., remote patient monitoring devices, health trackers) to advance decentralized trials.

Should you have any questions or would like to arrange a time to discuss further, please contact Rachel Solomon, Senior Policy Director at CSC at ███████████████████████████.

Sincerely,

███████████████████████

Rachel Solomon
Senior Director, Policy
Cancer Support Community Headquarters

References
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Introduction

Telehealth has become a solution for improving access-to-care issues, especially during the pandemic, yet it has failed to be the promised solution to creating a system that is free from barriers to care. The rapid adoption of telehealth during the pandemic arose by reason of need, rather than by reason of overcoming barriers. It's time to take telehealth to the next level through implementation that begins at recognizing the barriers to care and creating tailored solutions to overcome them. We believe the road to thriving telehealth utilization and success is only paved through intentional placement of individual components that combined together, lead to thriving patients.

The Care Connector Model

The model that we have developed is centered around a local community member who has a level of medical training to be the telehealth facilitator. We call this role a Care Connector," and currently in Colorado we are using emergency medical technicians (EMTs) to perform this role, but in regions where Community Health Workers (CHWs) are present, they can be utilized as well. One of the barriers to care that telehealth worsens is the lack of trust that many patients have for the healthcare system including for providers. To help overcome this, we hire Care Connectors that are from the communities we are operating in. While telehealth often has providers from different locations and backgrounds than the patients they serve, the Care Connector is a local trusted individual who is the link between providers and patients. They are trained to understand their communities, have knowledge of local resources and services, and reach the patient where they are at.

In addition to the community aspect of the Care Connector, they are trained in proper telehealth protocols and procedures. While providers can't actually touch patients to perform a physical exam, the next best thing is to have a trained person perform the exam with high quality telehealth components. Care Connectors are trained in physical exam techniques, telehealth diagnostic hardware use, certain procedures such as splinting and wound care, and point-of-care testing.

The Equipment

The MobilTEK case is a telehealth hardware solution designed and built in-house to enable high quality telehealth visits through addressing multiple telehealth visit barriers. The case is a portable examination kit effectively enabling a pop-up clinic to be transported to wherever patients are located. Inside the case a telehealth enabled tablet connects patients to providers. Additional components such as an omni-directional microphone, external speaker, and pan-tilt-zoom web camera enable a high-quality visit ensuring the provider and patient can hear, see, and speak to each other clearly. Care connectors using the case can utilize a digital stethoscope, ear/nose/throat/skin camera, 12-lead EKG, and other devices to provide a thorough patient exam. Broadband connectivity is also still a major problem throughout both rural America and internationally in developing nations. The case has integrated wireless router with additional mobile network antennas to improve cellular connection to the internet.

While the MobilTEK case is transportable by hand, taking this device long distances can be difficult, but to overcome this we developed the MobilTEK pack which allows the case to quick connect to a backpack. The backpack also contains deployable legs so that the case can be used anywhere it can be carried. Additional items can be attached to the backpack such as an additional hard-case for added telehealth hardware components, or soft-case for items such as bandaging equipment and medications.

Current and Planned Implementation

The 'Care Connector' model and MobilTEK case were developed to provide solutions to weak telehealth utilization through the ability to take higher quality patient visits to the patient. Some of the steps that led to these components were partnerships with organizations such as the [Colorado Coalition for the Homeless,](#) the [Office of Behavioral Health Jail Based Behavioral Health Services](#), and the [Southern Colorado Harm Reduction Association](#). We currently operate the Care Connector program in Southern Colorado, and our next steps include the implementation of a telehealth enabled mobile van (May '22) and increasing the location types where our care connectors operate into organizations such as libraries, fire stations, schools, and other community buildings.

We also offer our equipment for sale to organizations who are striving to implement telehealth in a more effective manner. We don't hand equipment to a Care Connector and tell them to connect patients to providers, and we follow the same philosophy with MobilTEK equipment sales, striving to ensure that each partner has invested telehealth individuals that can be trained to utilize the hardware in an effective manner.

Our Next Steps

Local

We are continuing to develop the Care Connector model through the addition of on-site STI testing and treatment. We are also implementing a telehealth enabled van that allows our care connectors to be in communities and neighborhoods that traditionally wouldn't be able to support

a local clinic. The van will have telehealth hardware and an examination space, complete with high-speed mobile broadband, to give patients the best telehealth connection with their provider. Planned go-live for the van is May 2022.

International

The MobilTEK case has proven effective domestically at improving access-to-care, but we believe the hardware with proper protocols and training will be effective in developing nations as well. Access to providers is often more difficult in these regions due to transportation difficulty, cost, and other barriers. We are testing the device internationally in partnership with the Bolivia Ministry of Health, University of Missouri, and several other organizations to understand how to best implement telehealth in healthcare climates different than within the United States. We will begin in-country training in Bolivia with several clinics and CHWs in March 2022 to implement a similar model to the Care Connector model we are operating domestically. We hope to continue to grow in our ability to provide quality telehealth solutions internationally and improve the ability of CHWs to operate within their communities, providing higher level care through telehealth.

Opportunities

The reality of telehealth today is similar to any effective long-term innovation and requires quality building blocks placed piece by piece. While we believe the road we are traveling is effective, there are still barriers that need partnership and development to overcome. To operate in communities with locations and people that are trusted by patients requires partnership with community organizations. These relationships take intentional time and make scaling solutions such as our model difficult, but when established, these relationships tend to be solid and lasting. Validation of our model aids in this trust establishment, and we are accomplishing this through internal data gathering, and with our partnership with the University of Missouri. Validation is also necessary through additional pilots in alternative states and locations. As this model is established, reimbursement is not fully fleshed out yet, and being able to demonstrate clear value to payers will be important. Funding for piloting and development will also be necessary until reimbursement can fully cover programmatic and operational costs. The additional barrier of payers refusing to credential alternative telehealth entities besides large multi-state organizations has also led to single player telehealth for many patients, providing a financially driven solution without consideration of individual patient needs. Included in this barrier is the department of Medicare & Medicaid Services (CMS) that still places geographic limitations on telehealth for Medicare recipients, limiting access to additional patients.

We are thankful to be providing telehealth services to thousands of Coloradans over the last 5 years. We believe that user-friendly, affordable access to quality community-based care is important, and our 175+ 5-star reviews demonstrate that our patients agree too.

Response to Request for Information (RFI) FR Doc. 87 FR 492

FR Doc. 2021–28193 Filed 1–4–22; 8:45 am] BILLING CODE 3270–F2–P

February 25, 2022

To the White House Office of Science and Technology Policy:

The Care Transformation Collaborative of RI (CTC-RI), with the assistance of the Northeast Telehealth Resource Center (NETRC), respectfully submits the following comments on the OSTP Request for Information (RFI) on Strengthening Community Health through Technology.

The mission of CTC-RI is to support the continuing transformation of primary care in Rhode Island as the foundation of an ever-improving integrated, accessible, affordable, and equitable health care system. CTC-RI brings together critical stakeholders to implement, evaluate and spread effective multi-payer models to deliver, pay for and sustain high-quality, comprehensive, accountable primary care. https://www.ctc-ri.org/about-us/what-ctc-ri

In making these comments, CTC-RI draws upon our experience leading projects and learning collaboratives across primary care, specialists, systems of care and communities. Relevant initiatives include the Telehealth Project focused on primary care (https://www.ctc-ri.org/telehealth-project-overview), the Integrated Behavioral Health (IBH) Learning Collaborative: with a focus on NCQA PCMH Distinction in Behavioral Health Integration and Virtual IBH (https://www.ctc-ri.org/telehealth-project-overview), and the Rhode to Equity project (https://www.ctc-ri.org/other-programs/rhode-equity).

2. Barriers:

In order to better understand the implementation of telehealth in RI during the COVID-19 pandemic, CTC launched a RI Telehealth Needs Assessment in August of 2020. The assessment, funded by UnitedHealthcare, surveyed RI practices and patients about their experiences with telehealth. The patient assessment surveyed over 900 patients and 47 practice sites.

See the CTC-RI Telehealth Project white paper here: https://www.ctc-ri.org/sites/default/files/White%20Paper_Primary%20Care%20Telehealth_final.pdf

Technology issues were identified as barriers for practices and patients alike. Practices indicated these priorities to improve telehealth: patient education, better workflows, improved internet access in the community, staff training. The top patient barriers identified by the survey were:

1. Lack of technical understanding: Patient didn't know how to use video or phone for a medical visit,
2. Lack of/ unreliable computer internet or phone service, and
3. Patient does not have a computer/tablet for videos.

The report "Assessment of Disparities in Digital Access among Medicare Beneficiaries and Implications for Telemedicine" showed that in data from 2018, 26.3% of Medicare beneficiaries lacked digital access at home, making it unlikely that they could have telemedicine video visits with clinicians. The proportion of beneficiaries who lacked digital access was higher among those with low socioeconomic status, those 85 years or older, and in communities of color.[1]

3. Trends from the pandemic:

CTC-RI's learning collaborative "Using Technology to Improve Care for Patients with Chronic Conditions" concludes in April 2022. 22 practice sites have participated, including adult and pediatric practices. Practices have indicated that they will continue to use technology and telehealth modalities that they have mastered during this collaborative. Successes have been demonstrated in ambulatory blood pressure monitoring, remote patient monitoring for high blood pressure, diabetes, and COPD. Telehealth follow-up care has been particularly useful for patients with diabetes, anxiety or other behavioral health conditions and for pediatric patients with ADHD. The flexibility of switching to telephone, should the video not be working, standardizing payer policies and being able to get reimbursement due to the Public Health Emergency (PHE) were critical for practices.

4. User experience:

The NETRC assisted CTC-RI with offering a webinar training "Strategies for Community Health Worker (CHW) & Patient Navigators" and a subsequent survey of CHWs. The webinar offered participants the chance to role play and learn how to address technology with patients. Here are highlights of the follow up survey (15 respondents):
- CHWs responding to this survey work with low income families that are vulnerable populations such as elderly and individuals with special needs, mostly English or Spanish speaking.
- 53% used technology to help clients connect with a health care provider or access services. CHWs have helped clients access funding to purchase computers and tablets and then taught them how to use Zoom to connect with their PCPs, family members, virtual AA meetings and church groups.
- Technology is..."useful for the individual who is not English speaking, the easy access to find a provider that speaks his/her language."
- The following elements should be included in CHW training: Showing a client how to use a videoconferencing application such as Zoom or FaceTime, educational materials on telehealth, helping a client to set up a personal email, teaching a client how to use a "patient portal", walking a client through what to expect during a live-video telehealth visit, and how to access interpreter services.

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[1] "Assessment of Disparities in Digital Access Among Medicare Beneficiaries and Implications for Telemedicine"; JAMA Internal Medicine Published online August 3, 2020

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5. Tool and training needs:

CTC-RI has shared "Cyber-Seniors" resources with practices and featured information in newsletters. Since 2015, the University of RI (URI) has worked with the international non-profit organization *Cyber-Seniors ®: Connecting Generations* whose goal is to "bridge the technology and generational gap by teaching older adults to use technology." Each semester, URI students mentor older adults to effectively use devices like smartphones, tablets and laptops. This has led to the URI Engaging Generations Cyber-Seniors Program providing assistance to over 1,100 older adults with about 250 student participants to date. CTC-RI has also shared the NETRC e-learning course "Telehealth Basics for Community Health Workers. More information on this training tool may be found here: https://netrc.org/stories/NEW%20NETRC%20Community%20Health%20Worker%20Training%20Course.pdf

6. Proposed government actions:

Immediate future multi-payer funding and policies are needed in order to sustain existing Community Health Teams and expand the hiring and use of CHWs and patient navigators across communities. Federal funding is needed to maintain/expand access to broadband internet in communities. At the state level, CTC-RI has advocated for commercial and Medicaid payers to cover remote patient monitoring (RPM) and for Commercial payers to cover interpreter services at the point of care when patients are receiving telehealth. Commercial, Medicaid and Medicare policies need to cover RPM, interpreter services, and audio only services. Audio is often a default when a video telehealth visit doesn't work. Pediatric practices are not presently included in payment for RPM. Finally, telehealth continues to be a critical way for primary care practices to provide integrated behavioral healthcare (IBH). Legislation needs to protect and reimburse for these critical IBH services.

7. Health Equity:

CTC-RI is providing project management for an innovative health equity program in the state called "The Rhode to Equity" (funded by the RI Executive Office of Health and Human Services (RI-EOHHS) Health Systems Transformation Project (HSTP). The intent of this twelve-month learning and action collaborative is to support 6 cross-sector teams, with a Health Equity Zone (HEZ) as the project lead. The project provides the opportunity to test and evaluate strategies that will build leadership and operational capacity for clinical-community linkages and enhance the place-based initiative's ability to improve both health and social outcomes. As of February 2022, the teams are preparing to hire and integrate additional CHWs as part of their action plans to address a variety of populations. As the CHWs are deployed, they will receive additional training, which will include the critical aspects of providing community members with information and resources regarding health technologies.

Please direct any questions or comments to Susan Dettling via email at: ███████████

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From:	Ronald Dixon ████████████████████████
Sent:	Saturday, February 26, 2022 10:45 AM
To:	MBX OSTP Connected Health
Cc:	Keith Munro
Subject:	[EXTERNAL] Connected Health RFI (CareHive)

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Green Category, Orange Category |

To the White House Office of Science and Technology Policy, please see below

Thanks very much,

Ron

Request for Information (RFI) on Strengthening Community Health Through Technology

STAKEHOLDER GROUP: Digital Health Company
COMPANY: CareHive Health, digital health and clinical navigation company
CEO: Dr. Ronald Dixon, internal medicine physician and CEO of CareHive

TOPIC: *Trends from the pandemic: Impressions or data reflecting how the use of digital health technologies (including the use of telemedicine) has changed over the course of the pandemic by individuals, community-based organizations, and in community-based health settings. This includes impressions of what is likely to continue, or not, after the public health emergency or COVID-19 pandemic.*

Telemedicine is Only the Tip of the Iceberg

While other industries have taken the forefront of technology advancement, healthcare has lagged. The pandemic spotlighted one aspect of health tech – the virtual visit and telemedicine – which catalyzed momentum and acceptance, both from regulators and from the general population at large.

But "telemedicine" is just the tip of the iceberg; there is a full continuum of technology-enabled, data- and AI-driven health tech on our horizon which can address chronic, long-term, and post-acute care – not just after-hours urgent care, which tends to be the focus of most telemedicine response. Done right, these types of technologies, processes, and services will improve provider-patient conversations and relationships, deliver robust data and risk assessment, and create better patient outcomes – cost-effectively. An added benefit is improving the physician's work environment and curbing the unsustainable trend of rising provider burnout.

Asynchronous Engagement + Data-Driven Clinical Navigation
For every individual's health, there is a corresponding utilization and cost of health care that ensures the proper treatment and/or prevention of chronic conditions. Algorithms can help calculate risk based on population-specific diseases, identifying individual risk over time, intervention, and the measurement of intervention impact. Over-utilization risk scores can identify the best candidates for intervention regardless of the magnitude of their risk – this can bend projected healthcare utilization and cost.

Yet the potential for this mechanism to work successfully (improving patient care and preventing high-cost utilization care points) requires regular engagement from patients. Healthcare virtual engagement still relies on face-to-face telemedicine interactions. While they're more convenient than a visit to the doctor, they can't generate the type of regular data needed to create a robust data set to optimally navigate patients.

Including "async" interventions (such as text message and email, as additional levers of digital intervention along the healthcare continuum) offers great potential to drive improved outcomes for chronic conditions. The goal is to identify the sub-populations of individuals who not only are at risk, but are also easily affected, then match them to the appropriate "dose" of healthcare – escalating and/or de-escalating as needed, and as the data presented to us (from a rich array of clinical, device and device-less sources) is continuously leveraged. Add to this a robust clinical care delivery model, urgent and wraparound care, navigation and guidance, and patient follow-up through resolution, and the result is a unique hybrid of capabilities – in-person care supported by responsive, data-driven virtual care.

The pandemic broke down "telemedicine barriers", proving to clinical providers and consumers that virtual care works. But for virtual care to achieve what we hope — better patient outcomes, lower health care costs — we need to move beyond telemedicine, optimizing care through technology, data, and workflow.

Ronald F. Dixon MD
Chief Executive Officer | he/him
▇▇▇▇▇▇
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Austin, TX 78735

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Response to Request for Information (RFI) on Strengthening Community Health Through Technology

CareMessage Overview: CareMessage, a 501(c)3 nonprofit founded in 2012, is the first and only patient engagement platform built for safety-net organizations and underserved patients. Our platform offers several proven ways for safety-net organizations to engage with their patients, and we work with 400+ safety-net organization customers across 41 states. Our messages reach 8M+ underserved patients, and include 1.5M+ monthly active users. Our customers have used our platform to exchange 300M+ messages, improving health outcomes (e.g. cancer screening, diabetes, hypertension, pregnancy, immunizations, etc.), increasing clinical efficiencies (e.g. lower costs, reduced no-shows), and, recently, sending crucial COVID-19 messaging for vaccine scheduling and disease prevention and mitigation.

Mobile Utilization amongst the Underserved: CareMessage has conducted mobile usage surveys and continues to invest in understanding the latest communication and mobile usage trends among underserved populations to ensure our product strategy and message delivery best align with their technologies and preferences. Text messaging is the best and most utilized form of communication for underserved patients. In 2017, our team conducted a Mobile Usage Survey at six safety-net organizations in 2017 (combination of FQHCs and free clinics). Overall, 394 patients (67% Female; 46% Hispanic/Latino; 21% Black) filled out the survey and were included in the analysis. The data showed the following:

- **Continuity of phone number:** 57% of patients had the same phone number for more than 2 years; 79% had the same phone number for more than 1 year
  - 89% of patients were not planning to change their phone number in the next six months
- **Utilization of phone features:** When asked about the feature most utilized feature on their phones:
  - 47% said texting
  - 31% said phone calls
  - 22% said internet access
- **Use of text messaging:** Patients gave the following responses to their ongoing use of texting:
  - 75% of patients said they use texting at least daily
  - 85% of patients said they always or often read their text messages
  - 78% of patients said they read their texts within 10 minutes of receiving them
  - 81% of patients reported having an Unlimited texting plan; only 2% of patients reported paying for every single text
- **Access to Data/Internet:**
  - 33% of patients said they had access to an unlimited data plan
- **24%** of patients reported having to shut off their cell phone plan due to cost

Data Points and Trends from Community Health Centers and Free Clinics

I. **Clinical Operations:**
- A health center in Los Angeles achieved a financial gain of $245,427 from reducing no-show rates from 17.83% to 15.80% in just a few months in 2019.
- Through the use of CareMessage, a different health center in Los Angeles reported the following:
  - No-show reduction from 35-38% to 17-18%
  - Operational efficiency with call center, leading to a 8-10 hour reduction per week
  - Increased Medicare enrollment for patients over 65 years old
  - Doubled patient participation in patient experience feedback sessions, 11-12 patients to 22-24 patients

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II. **Population Health Outcomes:**
- The same health center mentioned above, after implementing CareMessage, was able to significantly increase its percentage of pay-for-performance awards based on achieving various HEDIS measures from an average of 22% to 34.7%.
- Researchers at the Center for Health Innovation at the University of Pennsylvania evaluated the use of CareMessage at a community health center in Philadelphia via a Randomized Controlled Trial (RCT). The intervention group was sent a series of three behaviorally informed messages, automated via the CareMessage platform with the ability to opt-out, focused on receiving an at-home colorectal cancer screening kit. The control group was sent a single message as per usual practice. At 12 weeks, there was an absolute 17.3 percentage point increase in colorectal cancer screening in the intervention arm (19.6%), compared to the control arm (2.3%, $p < 0.001$). The authors conclude that "*serial text messaging with opt-out mailed FIT kit outreach can substantially improve colorectal cancer screening rates in an underserved population.*" This study validates the value of CareMessage's product functionality that facilitates serial, personalized and automated communication as well as our approach to developing behaviorally informed messaging content. The link to the study is here.

III. **Clinical Outcomes:**
- A health center enrolled low-income, mostly Latino patients in CareMessage's Type II Diabetes text-messaging program and produced clinically-meaningful improvements in glycemic control. Patients who were more engaged with the program experienced greater improvements to HbA1c. The intervention group had an average estimated reduction in HbA1c of 0.62 points at follow-up, relative to the comparison group (p=0.06), and highly engaged patients experiencing 2.2 point reduction. See published study here.
- A free clinic's implementation of CareMessage was effective in lowering the mean FSBG level during a 12-week period. See published study here.
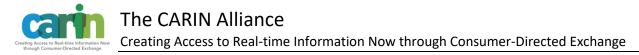
Data Points and Trends from the COVID-19 Pandemic

Top four messaging categories — March 2020–March 2021

I. **COVID-19:** March 2020 started full of uncertainty, and the first trend we saw was information around the symptoms of COVID-19 (1.6M messages). This information was critical to preventing exposure for clinic staff who were facing a number of PPE shortages. At the same time, shelter-in-place orders were starting (783k messages) and clinics were scrambling to redefine what appointment availability looked like for them (1.5M messages). As we went into the summer, incorrect information about testing availability was shared nationwide, listing FQHCs as testing sites ahead of their access to COVID testing. This placed FQHCs in a difficult position, at times having to share information that contradicted what was listed on the national HRSA website. By the summer, FQHCs became a core component of our national testing strategy (5.9M messages) — something which was critical for the working class patients they serve — and to date have tested over 10 million patients. The fall brought a glimmer of hope as organizations prepared for possible vaccines, and we powered messaging — over 4 million and counting — around vaccine confidence and vaccine scheduling.

II. **Telehealth:** The use of telehealth was not common for FQHCs and Free Clinics. As cities started to go into lockdown and PPE was in short supply, clinics adapted to a new way of delivering care. Although underserved patient populations have access to mobile phones, a number of other barriers come into play that prevent their access to what we all think of when we hear telehealth: video conferencing appointments. Many patients at FQHCs and Free Clinics had trouble downloading mobile apps, signing up for patient portals, and getting access to reliable wifi to support a video call. Instead, our clinics also offered "telehealth" in the form of phone calls with no video conferencing. At CareMessage, we also provided a number of videos in English and Spanish to educate patients about telehealth, teach them how to use the most common platforms, and help them be better prepared for a video call. Five million telehealth messages later, we've seen the majority of this messaging move over to our standard appointment reminder feature where we can embed instructions alongside regular appointment reminders.

III. **Clinical Quality:** COVID-19 hit patients with underlying conditions the hardest. It, therefore, became critical for our clinics to keep these top of mind. A large number of our clinics sent out supportive messages to help patients overcome the stress of the pandemic (384k) and overall address behavioral health (166k). In the fall, clinics used flu vaccinations (2.1 Million) as a testing ground for COVID vaccine procedures.

IV. **Social Determinants of Health:** As an organization serving exclusively underserved populations, social determinants of health (SDoH) have always been a core design consideration when delivering healthcare. It was incredible to see our clinics rally behind the needs of their patients to help them overcome the challenges that came with job loss and corresponding loss of income and often healthcare. We quickly saw a large and sustained volume of messages tied to food resources (662k). However, 2020 was also a year of another important SDoH: advocacy. In the summer, customers sent messages tied to racial justice and protests (218k). In the fall, messaging shifted to promoting the completion of the census (354k) as well as voter registration (459k)

Office of Science and Technology Policy; Executive Office of the President

Eisenhower Executive Office Building

1650 Pennsylvania Avenue

Washington, D.C. 20504

Re: CARIN Alliance Response to Connected Health RFI

The CARIN Alliance is a multi-sector group of stakeholders representing consumers, patients, health systems, insurers, technology organizations, personal health record developers, and others. We are universally committed to enabling consumers and their authorized caregivers easy access to their personal health information.

Over the past few years, administrations across parties have made great strides in advancing digital access to health information. Through the HITECH Act, MyHealthEData campaign, Blue Button 2.0, and other initiatives, the federal government has significantly advanced industry efforts to empower consumers and their authorized caregivers. However, additional work is needed to make sure the promise of these initiatives progress.

1. Successful models within the U.S.

A number of successful models have been advanced over the last several years. Specifically, the HL7 FHIR Accelerator program has allowed for accelerated development of implementation guides and industry adoption of new standards. The CARIN Alliance has built the CARIN IG for Blue Button to advance consumer access to claims information and the CARIN Real-time Pharmacy Benefit Check IG to allow consumers to get real-time pricing information about their therapies at the point of prescribing and dispensing.

CARIN has also had success in developing the CARIN Code of Conduct, a consensus, voluntary framework by which applications used by the consumer agree to treat the individual's health care information. Numerous applications have attested to the best practices in the Code of Conduct and the Centers for Medicare and Medicaid Services (CMS) has named the CARIN Code of Conduct as 'an industry best practice' in their Interoperability and Patient Access final rule.

2. Barriers

Notwithstanding the great strides that have been made in helping consumers, patients, and caregivers access their health information, barriers remain. These include:

a. Misunderstanding about patient rights (HIPAA, Interoperability and Patient Access Rule, App access, fees)
b. Inconsistent regulatory regimes
c. Identity verification and ongoing challenges to patient matching
d. Adoption of industry standards
e. Implementation of numerous regulations at Covered Entities

As outlined in our response to question 6, there are a number of areas where the federal government, in collaboration with the private sector, can reduce barriers to patient, consumer, and caregiver access.

3. Trends from the Pandemic

One of the criticisms of previous regulations or efforts advancing consumer-directed health information exchange is that consumers did not want their digital health information. During the pandemic, we have seen the public use technology at record levels. From the use of telemedicine to exposure notification apps to SMART Health Cards as a vaccine credential, patients, consumers, and caregivers have shown that they can and will engage with technology when available. Making more data available to the public, and increasing the use-cases, is critical to the ongoing utility of digital health tools and the utilization of such tools.

4. User Experience

The Office of the National Coordinator of Health IT developed a guide for consumers on how to access their health record. This resource, among other work done by the GetMyHealthData campaign, the National Partnership for Women and Families, the CARIN Alliance, and many others has helped millions of consumers gain access to some of their health information and use it across care and social need use cases.

However, numerous examples continue where health data holders, including HIPAA covered entities, do not easily facilitate consumer access. From covered entities restricting electronic and paper access to some records or information or requiring applications to go to great lengths to gain access to FHIR endpoints to incomplete data feeds and reliance on old paper records, too many consumers do not have access to information that is necessary for care delivery and care decision-making, social need coordination, or personal use. The government can and must do more to enforce current regulations to make more information available to consumers, patients, and caregivers without extra or special effort.

6. Proposed Government Action

a. Support digital identity in the health care ecosystem:

As mentioned above, one of the challenges to advancing consumer directed exchange is digital identity management and "portal fatigue" where consumers have to repeatedly enter their credentials to create connection between their providers or health plans and their chosen consumer application. We envision an ecosystem where an individual voluntarily creates a digital identity credential in an application of their choice, which they own, manage, and use to access their health information from any health care payer or provider in the country. We are currently engaged with the Department of Health and Human Services (HHS) and the General Services Administration (GSA) to develop a federated digital identity proof of concept to test a method for using a single digital identity across multiple systems. **We encourage the federal government to fund this digital identity federation proof of concept to fulfill the White House's recent Executive Order on Transforming Federal Government Experience which says the GSA a roadmap for, "the development of prioritized common services and standards (such as the United States Web Design System or systems for login and identity management) (to) increase efficiency, integration, and improved service delivery of designated customer life experiences."** We firmly believe this project will help to inform the GSA's roadmap to fulfill the White House EO.

b. Endorsement of CARIN Code of Conduct by FTC:

The CARIN Alliance Code of Conduct represents the consensus view of a group of multi-sector stakeholders that include leading providers, payers, health IT companies, EHR companies, consumer platform companies, consumers, caregivers and others focused on advancing consumer-directed exchange across the U.S. The Code is based on internationally recognized standards and numerous consumer information sharing accepted principles and practices. Various consumer applications have attested to the Code of Conduct via the website MyHealthApplication.com, CMS has identified it as a best practice in the Interoperability and Patient Access Rule, and the VHA has said they are a 'supporter of the CARIN Alliance Code of Conduct' and require the application who connect with them to attest to the code. **We encourage the FTC to similarly point to the CARIN Alliance Code of Conduct as an industry best practice which will ensure all consumer-facing applications are using a similar code for how they handle, use, and share health information.**

c. CARIN IG for RTPBC as a standard:

The CARIN Alliance developed an implementation guide for the development of an API for real-time pharmacy benefit check for consumers that enables them to access their out-of-pocket costs, therapeutic alternatives, benefit and formulary information, and what their price would be if they paid cash. This API would allow Medicare Part D Plan Sponsors to comply with the CMS requirement for plan-year 2023 to provide consumers with a real-time benefit tool. **CMS should specifically reference the CARIN IG for Real-time Pharmacy Benefit Check as one way to comply with the rule as it did with the CARIN IG for Blue Button as part of the supplementary guidance they provided for their Interoperability and Patient Access Rule.**

Carium

March 31, 2022

Alondra Nelson, PhD
Acting Director, Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Submitted electronically to ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Re: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:
We were excited to see the Office of Science and Technology Policy's (OSTP) interest in strengthening community health and appreciate the opportunity to respond to the Request for Information (RFI).

Carium's vision is to create healthcare technology that supports the unique attributes, needs, habits and goals of each person within their own health journey. We know this is incredibly important in the community health space where profound disparities cause poorer health outcomes. In response to the questions laid out in the OSTP RFI, Carium would like to share the following comments.

Successful Models Within the U.S

The traditional model of healthcare delivery in the US is based on episodic, in-person visits to a medical facility. However, what happens between visits significantly impacts a patient's ability to achieve their health and wellness goals.

The difficulties are particularly true for patients in rural communities who often face various social determinants of health, including inadequate transportation and not being able to take time off work. It's important to provide people convenient ways to share vital health information and interact with clinicians. Digital health technologies are a powerful tool to bridge these gaps, meet people where they are in their communities, and empower them to lead healthier lives.

Community Health Centers, like OmniPoint Health in Anahuac, TX, have recently successfully deployed digital health technologies to engage patients in their communities in innovative ways. Through data from connected devices like blood pressure cuffs, glucometers, and wearables, secure synchronous and asynchronous communication, education, surveys and journals, patients and care teams can have a more holistic view of a patient's health and priorities.

Care teams also lean on the technology to interpret the health impact of everyday health factors, such as diet and exercise, in the context of more traditional clinical metrics. The new data can be aggregated and analyzed to gain insight into what types of behaviors are driving better health across their patient population.

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Barriers

While digital health has the potential to transform healthcare, barriers to adoption remain.

Reimbursement. Limitations on coverage and reimbursement of virtual care services are some of the biggest barriers to access. Prior to the pandemic, Medicare virtual care reimbursement was very limited. Telehealth flexibilities during the pandemic alleviated some of these barriers, with a 63-Fold increase in Medicare telehealth utilization.[1] The uptick demonstrates the value and need for permanent federal virtual care policies that support reimbursement.

Clinician Shortages. According to the American College of Healthcare Executives' annual survey, personnel shortages ranked number one on the list of hospital CEOs' top concerns in 2021.[2] While Community Health Centers agree digital health technologies improve patient outcomes and increase revenue, many organizations lack the resources to launch virtual care programs.

Integration. Data integration within hybrid clinical workflows to seamlessly combine virtual and in-person care delivery must improve. Well-designed integrations enable information exchanges to support continuity of care, improved outcomes, care quality and the overall patient experience.

High-speed broadband. The increase of digital health technology is promising to help address barriers to access, but many of these tools rely on access to high-speed broadband. Access to high-speed internet was particularly lacking in 170 counties nationwide, where fewer than 60% of households had a broadband subscription. Of these counties, 70 were in the most rural areas, while another 69 were nonmetro counties bordering smaller metros.[3]Broadband access also impact healthcare organizations if it is not availble in their area.

Digital health literacy. Digital health literacy must be promoted and developed to avoid creating additional barriers to equitable care. To successfully integrate digital health into community healthcare, we need to ensure patients understand how to use it. Digital health navigators can help guide patients through using the technology, and it's also important to create resources that are inclusive and accessible to diverse communities. Focusing on literacy recognizes the newness of digital health.

Access to smartphones. Rural populations are less likely to own smartphones when compared to other populations. In 2021, 20% of people living in rural areas didn't own a smartphone, which creates another barrier to access.[4]

Trends from the Pandemic

At a time when the pandemic limited face-to-face interactions, the pivot to and embrace of virtual care proved it could improve patient experiences and clinical outcomes. 60 percent of patients agreed that virtual health is more convenient than in-person care.[5]

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[1] https://www.hhs.gov/about/news/2021/12/03/new-hhs-study-shows-63-fold-increase-in-medicare-telehea th-utilization-during-pandemic.html

[2] https://www.ache.org/learning-center/research/about-the-field/top-issues-confronting-hospitals

[3] https://www.prb.org/articles/digital-divide-in-high-speed-internet-access-leaves-rural-areas-behind

[4] https://www.pewresearch.org/internet/fact-sheet/mobile/

[5] https://www.mckinsey.com/industries/hea thcare-systems-and-services/our-insights/patients-love-telehealth-physicians-are-not-so-sure

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The FCC COVID-19 Telehealth Program in 2020 helped defray the cost of implementing telehealth services and began to bridge the digital divide in healthcare. We believe this level of financial support will have lasting positive impact and recommend further investment to continue to evaluate and expand the impact of digital health in underserved communities.

User Experience

Human experience design shifts technology design away from design-to-feature to design-to-user. It's important for innovators to work closely with users in community health centers, from patients to clinicians, throughout the design so the technology adapts to real behaviors, needs and preferences of the users. It's also crucial that we continue to survey users, monitor engagement, and incorporate feedback into the ongoing design to ensure it's meeting their needs and not over-burdening them.

Tool and Training Needs

While two-thirds of physicians and 60 percent of patients said they agreed that virtual health is more convenient than in-person care for patients, only 36 percent of physicians find it more convenient for themselves.[6] It will be critical to support clinicians with virtual care training to close the gap between patient preference and clinician challenges with a hybrid model of care. Virtual care should be included in initial training, as well as a part of their continuing education requirements.

Proposed Government Actions

- Ensure the telehealth flexibilities implemented during the public health emergency are made permanent, so millions of patients do not lose access to care.
- Adopt appropriate coverage, payment policies and grant funding to enable and encourage equitable access to quality virtual care and equipment necessary for these services.
- Continue to study the data on the use of virtual care, its impact on rural communities, and how physicians can be best supported to provide this new model of care.

Health Equity

Digital health technology enhances equity by opening the door of access to specialists, eliminating travel times for in-person appointments and closing gaps in access to care for vulnerable populations. Reimbursement, high-speed broadband, and digital health literacy will all help to address health equity.

Thank you for the opportunity to provide feedback to the OSTP on strengthening community health through technology. We look forward to continued opportunities to engage with the agency on these important issues. If you have questions, please reach out at

███████████████████████

Best regards,

███████████████████

Scott Pradels
Chief Executive Officer, Carium

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[6] https://www.mckinsey.com/industries/hea thcare-systems-and-services/our-insights/patients-love-telehealth-physicians-are-not-so-sure

![CENTENE Corporation logo]

February 25, 2022
Dr. Alondra Nelson
WH Office of Science and Technology Policy
The White House,
1600 Pennsylvania Ave NW
Washington, DC 20500

Submitted electronically to: ████████████████
RE: Request for Information on Strengthen Community Health Through Technology

Dear Director Nelson,

Thank you for the opportunity to respond to the Request for Information (RFI) regarding "Strengthening Community Health Through Technology." Centene Corporation (herein after Centene) is a leading multinational healthcare enterprise that serves nearly 1 in 15 Americans with affordable, high-quality services through government sponsored and commercial healthcare programs. Centene focuses on the under insured and uninsured individuals who reside within vulnerable communities, offering a comprehensive portfolio of innovative, technology-driven solutions that deliver positive results to our members. We support the adoption of equitable digital healthcare technologies to address barriers to accessing telehealth among vulnerable populations and underserved communities.

Please see detailed responses below to the request for evidence-based solutions and ideas to strengthen community health through the adoption of digital technologies in the following areas:

1) Successful Models within the U. S.
Centene maintains partnerships and programs that support rapid and sustained deployment of telehealth and digital health technologies to communities. Centene has established partnerships to offer our members a suite of solutions to promote community access and healthy outcomes by connecting members to digital technologies in the following ways:

- Provide school-based telehealth screenings for social needs, and connect children and parents to virtual primary care, behavioral health and crisis stabilization services, and to local aid.
- Connect pregnant members and new mothers to on-demand virtual prenatal and postpartum care that delivers breastfeeding and lactation consultations and education via telehealth and mobile apps.
- Support a virtual care platform providing members access to 24/7 physical and behavioral health virtual care visits using digital technology to determine proper points of care and identify and reduce SDOH needs and monitor health engagement.
- Deploy cellular-enabled tablets to allow critical physical health practitioners, hospitals, and first responders to reach a local BH clinician immediately on-demand.
- Install tablet-enabled self-service kiosks in accessible locations such as PCMH sites, FQHCs, community centers, or other relevant community sites for members who may lack a mobile device or broadband access to complete health needs and risk assessments.

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2) Barriers to Digital Access

While telehealth and digital technologies often serve as ways to remove barriers to accessing quality care, many individuals in rural and low-income communities face challenges to adopting telehealth and digital solutions, including technology literacy among elder adults, access to appropriate devices, internet bandwidth speeds in rural and underserved areas, and data constraints for individuals without unlimited data plans.[1] Centene is committed to removing these barriers to care and supports state and local efforts to leverage targeting funding or grants to expand broadband coverage, such as those funds allocated for broadband infrastructure, household credits and subsidies, digital equity under the Infrastructure Investment and Jobs Act of 2021, as well as grants for broadband infrastructure expansion and rural provider digital technology access funded under the American Rescue Plan Act of 2021. We encourage further bipartisan action to fund consumer device access programs and FQHC partnerships to meet individuals where they are and promote tech education and trainings in local communities.

3) Trends from the Pandemic

Centene continuously tracks membership and provider uptake and usage of telehealth. While many of our members are part of vulnerable populations that have traditionally lacked access to digital technologies and stable broadband internet connections, we have seen high levels of telehealth utilization during the pandemic. **1 in 5 Centene members had a telehealth visit in 2021**, of which was largely driven by telebehavioral health services; telebehavioral health accounted for more than half of all of Centene's telehealth claims over the last two years. Although continued re-openings have caused utilization to level off, rates are still far above pre-pandemic for our membership. Centene is focused on growing telehealth utilization and connections to digital technologies for our members and provider network and will continue to offer education programs designed to bridge the digital divide and support increases in virtual care.

4) User Experience

Positive user experience is a key component of widespread adoption of telehealth and digital health technologies. Centene views user experience opportunities through the unique lens of our membership. We seek to implement and partner with digital technology vendors who understand the challenges our members face, including digital and health literacy challenges. Ensuring empathy and simplicity in user interface is essential to designing a helpful experience for our members and solving user experience issues will help increase individual and community-level adoption of digital technologies without quality impacts. Recent membership surveys identify common positive themes, including time-saving experiences with knowledgeable clinicians, user-friendly interfaces, and efficient prescription drug refill processes.

5) Proposed Government Actions

Centene supports appropriate expansion of telehealth services at the state and federal levels to address healthcare disparities; elimination of regulatory barriers that impede care delivery, such as originating site restrictions; and uniformity across programs and states where possible and appropriate, such as efforts to improve state licensure reciprocity. It is critical that health plans retain the flexibility to tailor reimbursements based on the value and appropriateness of care of the telehealth service in question.

To encourage long-term adoption of digital technologies, states and the federal government should work with payers to ensure proper data protection enforcement and platform guidelines to protect members' data security and privacy. Increased telehealth utilization during the pandemic has provided a wealth of data to

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[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577680/

determine the most appropriate, outcome-driven circumstances to retain telehealth service expansion. Policymakers should continue to examine the risks and opportunities associated with telehealth applications. For example, applications providing mental and behavioral healthcare may not be necessarily associated with or staffed by mental health professionals, and they may not be required to or capable of intervening when an individual is experiencing a crisis. Centene is committed to working with our state and federal partners to invest in broadband infrastructure, enhance digital literacy, and incentivize clinically appropriate provider uptake of telehealth technology.

Further, to enhance member access to individual health information, we support the universal interoperability goals and priorities of ONC to strengthen public health IT infrastructure through measured standardization and structure. To advance these goals, we recommend that the federal government consider development of a public campaign to educate individuals about their ability to access personal health information and use it to improve their health decision-making in tandem with digital telehealth applications and technologies.

6) Health Equity

Centene is committed to delivering equitable telehealth strategies and solutions. We prioritize assessing our virtual care programs and offerings through a health equity lens – aiming to identify possible disparities and developing corresponding solutions for our members by applying a local, person-centered approach to telehealth delivery and understanding the member's whole health to address the unique health needs across different population subgroups and geographic settings through data analysis and strategic partnerships.

Use of qualitative and quantitative data informs our decision-making and helps us understand provider and member barriers to telehealth adoption. Through our Medicaid Telehealth Partnership with the National Association of Community Health Centers, Centene assists FQHC providers to ramp up telehealth capacity with equipment purchase assistance and technical and training support. Additionally, as an example of our ongoing efforts to support member connectivity and eliminate the digital divide we recently partnered with Samsung to deploy 13,000 smartphones with 90 days of free wireless service to approximately 200 FQHCs and other providers to help bridge the telehealth gap in rural and undeserved communities. We encourage other industry participants to follow a similar approach to locally centered data utilization to promote targeted equitable programs.

In closing, we applaud your leadership and the White House OSTP on its dedication to solving prominent barriers to digital technology access in underserved communities many of our members call home. We appreciate the opportunity to share our learnings and thank you for your consideration of our comments. If you have any additional questions, please contact Arianna Muckerman
(   ) or Patti Barnett (

Sincerely,

Patti Barnett
Regional Vice President, Health Policy

Centene Plaza • 7700 Forsyth Boulevard, St. Louis, MO 63105 •

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To:	The Office of Science & Technology ███████████████████████ via electronic mail
From:	Center for Black Women's Wellness, Atlanta Birth Center
	Cradle Kansas City, New Birth Company, Center for Practical Bioethics
Re:	Request for Information on Strengthening Community Health Through Technology
Date:	February 28, 2022

In 2006, Representative Paul Ryan introduced bipartisan legislation for a legal, economic and digital framework to support the health of all Americans. Before modernizing its language and intent, community-based organizations should pilot the primary goals of the Independent Health Record Bank Act in the following manner.

The White House directs the Federal Reserve and ONC to identify co-located Proof of Concept Mother/Baby Beacon Communities and Independent Health Record Banks concurrent to adopting ISO20022 and Faster Healthcare Payment pilots.

These "NFL Cities" and Medical Trading Areas have indicators of success; women and Mother led grassroots changemakers, mayor and health department leadership driving equitable maternal & infant health outcomes, including institutional changes to purchasing and medical benefits plan design, perinatal regionalization, and an inclusive perinatal workforce that recognizes community wellness centers, midwifery, birth centers, community health workers, doulas, HITECH infrastructure and the workforce to support it. Achieving Black maternal health equity and serving active duty and veteran mothers is the minimum. Enabling coalitions addressing both urban and rural maternal disparities is ideal.

Licensed antepartum and postpartum perinatal providers (Women's Health Practitioners, Midwives, Family Practice, OB/GYNs, Maternal-Fetal Medicine) will implement and connect their electronic health records to contribute USCDI atomic-level FHIR-enabled clinical data directly to open a Mother's community-sponsored Independent Health Record Bank Account with the woman's informed consent. Small business perinatal providers in-network with Medicaid, CHIP, Federal Exchange Plan Members, Tricare, and VA CCN members shall be prioritized.

The consumer/person's health record bank account will exist alongside standardizing perinatal CCD transitions of care and patient portals during the transition to scale the longitudinal health record account model. Pregnant women see multiple providers throughout their pregnancies. We reject the idea that mothers will access four or five different providers and plan patient portals across a single episode of pregnancy plus additional access portals for their children.

The Mother and her family will be given the informed consent option at birth to open a longitudinal health record account for her newborn. The opportunity to open a Health Bank account is offered by the perinatal team and birth clerk to the Mother simultaneously as the baby's birth certificate (name), vital statistics, and consent for social security registration and public health registries. A separate project scope connects pediatric providers to contribute to the newborn's longitudinal record. This idea works if we demonstrate our mutual

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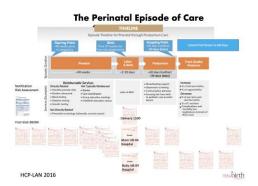
trustworthiness with the Mother and support long-term multiple generations of American families aiding themselves. Moms become Aunts, Grand-Mothers, and Great-Grand-Mothers.

Health Record Bank Account Use Case: Equity in Atlanta

The Center for Black Women's Wellness (CBWW) has developed a proprietary multilevel framework called the CBWW's Community-Based Digital Health Modernization Model (Figure 1). The model is based on the Health Belief Model, Self Determination Theory, Stages of Change, Maslow's Hierarchy of Needs, and the Social-Ecological Model. Our goal is 100% of our mothers and their newborns live 365 days postpartum through a decrease in near misses based on preventable co-morbidities.

Figure 1. CBWW Community-Based Digital Health Modernization Model Visualization

Figure 2. Perinatal Episode of Care

For example, Atlanta Birth Center (ABC) and CBWW could be funded to demonstrate the Atlanta proof of concept of the Health Record Bank Account by feeding and accessing the consented Mother's longitudinal health record account across the perinatal episode of care (Figure 2). ABC and CBWW recognize the Mother as a co-provider and expert of her body as well as her newborn. Providing an individualized and holistic Postpartum Care Plan will strengthen shared clinical decision-making. Mothers have unique and personalized needs for in-person, community, and digital tools support that reflect her birth, immediate postpartum recovery, breastfeeding, and over the 365 postpartum period. The Mother's health record account will enable SDOH community support and Mother/Baby Dyad visits with pediatric providers.

The goal of the community-based digital modernization framework is to support postpartum care plan development and:

1. Promote data capacity for the interoperable collection, use, and sharing comprehensive, person-centered health and social data across settings.
2. Facilitate coordinated, person-centered care planning approaches with a mechanism for bi-directional communication that integrates the whole care team across settings to identify and target gaps in diagnosis, prevention, and treatment of the following postpartum conditions: diabetes, depression, anxiety, hypertension, and access to SUD treatment.
3. Build data capacity to conduct pragmatic Patient-Centered Outcomes Research (PCOR) (Gravity Project Multiple Chronic Condition eCare Plan, 2021).

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4. To increase community digital health literacy skills.

CBWW will use 2 data standards to accomplish a Multiple Chronic Condition eCare plan for the postpartum period, HL7 CDA: Care Plan Document Template (constrained within C-CDA R2.1 Implementation Guide) and HL7 FHIR: Care Plan Resource (constrained by FHIR Standard for Trial Use). The program will build the infrastructure for clinical workflow document exchange among disparate users of clinical data and investigate the use of APIs to integrate data access. CBWW's Community-Based Digital Health Modernization Model multilevel framework includes goals for each level. Overall, CBWW aims to leverage evidence-based and equity-centric approaches to promote care planning and increased postpartum visits using community-based, multilevel interventions and cross-sector partnership strategies.

Health Record Bank Account Use Case: Successful Models & International Relevance

According to the CMS/CMMI Strong Start evaluation, the Midwife Led Birth Center Model of Care, with its organized transfer and co-management with collaborative physicians and higher levels of maternal facilities, reduces maternal mortality and morbidity c-section rates, preterm birth, and NICU admissions for low-risk singleton deliveries. When comparing white/black birth outcomes, c-section rates, and preterm birth rates across all payer categories, including low socioeconomic status moms and Tricare mothers, to high SDOH commercially insured mothers, these results show a trend toward equity. This evidence-based, internationally recognized, risk-adjusted, and personalized "Model of Care" outperforms traditional pregnancy care, a historically racially segregated caste system in which the Mother's race, payer, and location determine the quality of her care and the level of respectful care that she receives.

We hold these truths to be self-evident; safely supporting the human female giving physiologic birth is primary care for women. It is the primary perinatal practice and foundation of the US perinatal health system across all geographies, provider types, races, creed, and social determinants of health. Maximizing HITECH support for perinatal care lays a foundation to advance maternal health equity.

In Kansas City, New Birth Company and its perinatal collaborators, Cradle KC and the Center for Practical Bioethics, have established a task force to open a Health Record Bank in 2023. We are asking the Administration's help to go faster. We believe that investing in Mother's health literacy and self-determination based on access to her health information is self-evident. Obtaining valid informed consent and shared decision-making with trusted perinatal providers is self-evident. We ask the White House to join us by bringing together diverse and innovative coalitions to support Independent Health Record Bank Pilots and strengthen maternal health through technology. Speaker Paul Ryan (RET) and nominated Supreme Court Justice Ketanji Brown Jackson are excellent candidates to invite to the table.

Center for Black Women's Wellness (CBWW)
Community-Based Organization, Atlanta GA
Asha Immanuelle, MCH Program Coordinator

Atlanta Birth Center (ABC)
Midwife Led CABC Birth Center, Atlanta, GA
Robbyn Ingram, Interim Executive Director

Cradle Kansas City
Community Based Organization, Kansas City Metro
Mariah Crans, Executive Director

New Birth Company LC3
Midwife Led CABC Birth Center, Overland Park, KS
Kendra Wyatt, Chief Executive Officer

Center for Practical Bioethics
John Carney, Executive Director, Kansas City, MO
Reference: H.R.5559 - Independent Health Record Bank Act of 2006 109th Congress (2005-2006)

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Organization: The organization Center to Stream Healthcare In Place (C2SHIP) consists of five institutes, ten community health organizations, and twenty-two industrial members. C2SHIP's five institutes include: The University of Arizona at Tucson (UA), Baylor College of Medicine (BCM), University of Southern California (USC) , University of Missouri (MU), and California Institute of Technology (Caltech). C2SHIP has twenty-two collaborative industrial companies (e.g., Medtronic, BestBuy Health, Phillips, Google). Our ten community health organizations include Watermark Retirement Communities, United Way Health, American Alzheimer's Association, American Podiatric Medical Association, and American Limb Preservation Society. Additional organizations joining this effort include Arizona Aging Center, Pima Country, Texas Medical Center, Harris Health System, The Menninger Clinic, Michael E. DeBakey VA Medical Center, Purdue, Missouri University of Science and Technology, University of North Dakota, and Arizona State University. We provide and share our current infrastructure and resources with eight other institutions and organizations including Black Hills Center for American Indian Health, Historically Black Colleges and Universities (e.g., Lincoln University in Jefferson City, MO, Charles R. Drew University of Medicine and Science, Texas Southern University) and Tribally Controlled Colleges and Universities (e.g., Oglala Lakota College, Sinte Gleska University, Sisseton Wahpeton College, Tohono O'odham Community College). The Center works with ~200 hospitals and clinics across Texas, California, Missouri, and Arizona; an aggregate of roughly 20 million patient visits per year. The Center provides its services to over twenty non-profit organizations and outreach groups.

1. <u>Successful models within the U.S.:</u> Our C2SHIP team supported by the National Science Foundation, Industry-University Research Partnerships program, is the first in the US that has been created to promote a care-in-place healthcare delivery model that leverage digital technologies that support care in place in a way that empowers patients with chronic conditions in self-care and effectively improves health and wellbeing, while keeping patients out of hospitals. This model of care has promoted personalized care, improve patient-centered care, addressed the problem of providing care to remote/rural areas, and reduced differences in healthcare quality between groups of the population. Long before the COVID-19 pandemic disrupted care delivery to patients with acute or chronic illness, new innovative solutions emerged to provide care for the subset of patients who could receive hospital-level medical services in the comfort of their own homes. The pandemic showed that traditional healthcare delivery models for managing chronic illnesses like diabetes, cancer, dementia, and mental health are not scaled to handle situations like the global COVID-19 crisis. Because people with chronic illness represent a fragile population, they avoided unnecessary hospital admissions and outpatient visits to reduce their COVID-19 exposure risk. This delay disrupted best practices for preventing disease-related complications. In response, many healthcare providers re-engineered their pathways to promote "care in place." We propose to build on this momentum to support designing scalable models for implementing care in place that leverage technology. We will design a multilevel approach that targets patients, systems of care, and integrates community supports. Care in place is an increasingly important topic in healthcare, coming to the forefront in governance practices to decentralize care delivery and reduce care disparities, particularly for people living in rural areas or underserved zip codes.

2. <u>Barriers:</u> Extensive social science research has been conducted to investigate community-dwelling aging as a developmental process associated with a variety of physical environment factors (e.g., mobility option availability and neighborhood safety and walkability, etc.) and social environment factors (e.g., social support accessibility and social-engagement opportunities, etc.). The size and frequency of the data collection are insufficient to characterize the dynamics of the physical-social context and evaluate its impacts, which are often measured by descriptive and qualitative metrics given by subjective opinions. As a result, these technologically constrained social studies provide only general principles and guidance for practitioners and thus, are inadequate to support timely and optimal services for users. These technological limitations can be overcome by introducing digital health with a care-in-place healthcare delivery model using broadband, which has been increasingly accepted in routine life. In addition to their positive effects on health, social participation, and access to information, care-in-place can also help researchers to eliminate inherent issues with conventional social studies by allowing real-time, frequent, unobtrusive, objective measures to characterize physical social context and its interactions with individuals' developments. For instance, geo-referenced devices and algorithms may link an older adult's individual

geo-location information with the spatial distribution of meaningful destinations to estimate the needs for mobility options in physical context. His/her negative physiological development over time may be detected by the sensors in the home or in wearable devices and further be associated with the loneliness, in social context, caused by replacing real-life social interactions with internet-based interactions amidst COVID-19 pandemic. The care-in-place will transform the care delivery from the fragmented, principle-based, resource-constrained, individual-level interventions to the connected, computation-based, need-driven, community-level solutions. It will foster meaningful engagement among all community stakeholders of all the generations to jointly promote the health and well-being of all the residents.

3. Trends from the pandemic: The COVID-19 pandemic has drastically reduced people's daily activity level and caused their physiological decline (development). Meanwhile, the orders to shelter-in-place significantly limit individuals' access to informal support from family and friends (resulting in an altered social context). Effective individual-level service include reversing or reducing the physiological decline and improving individual capabilities, and stimulating the changes of physical-social context, e.g., providing alternative mobility options or on-demand home delivery. Large scale, chronic (e.g., reduced care eligibility due to budget cuts) or short-term (e.g., power outage caused by extreme weather) changes in physical-social context may produce a cascade of needs-for-service for a large number of older residents, which needs community level service at a proper spatial scale for a certain time. This trend requires that care-in-place care delivery model is (i) Sustainable, as the delivery is hierarchically managed at different levels to meet the needs with different spatial and temporal scales, serving not only service recipients, but also service providers; (ii) Aging-Friendly, as it is designated to meet the age-related needs, when they are needed, and as they are needed; (iii) Engaging, as some of them are recipient-initiated service requests to offer self efficacy; and (iv) Resilient: as the service volume and variety can be temporarily adjusted to meet the abrupt cascade of need for service caused by public emergency.

4. User experience: The new delivery model centers around each patient in a distributed fashion to best serve individual needs. Because this new care delivery model provides direct care to patients where they live, it minimizes exposure risk to communicable diseases, such as COVID-19. Advances in technologies, such as wearable sensors, cloud-based storage, artificial intelligence (AI), and other developments, can facilitate this new delivery model. The team develops three closed loop ML/AI infrastructures that fits well with the OSTP missions: EHR-Device, Device-Patient, and Patient-Provider. The key component is the mobile device integrated with ML/AI unbiased models. It functions as both a data collector and healthcare delivery agent. The EHR-Device loop extracts and validates clinically meaningful information using AI and ML technologies on mobile sensors and systems. The loop integrates and associates extracted information to establish a fair database or enhance an existing data warehouse for health disparities. Feedback from the EHR system shows the optimum technology criteria (e.g., form factor, data visualization, and data reporting) to optimize interaction with patients, caregivers, and healthcare providers in disparate communities. The Device-Patient loop collects patient feedback on the device. It provides alerts, tracking, and monitoring for end users. Automated programs and AI algorithms automatically reduce false alarms and sensor/device noise. The Patient-Provider loop facilitates the design of clinical trials to validate the ML/AI integration with applications. It further guides the selection of data-stream methods compatible with differing healthcare protocols (e.g., clinical trials, FDA regulations, HIPAA/HITECH compliance, hospital procurement, and VA healthcare system). As in our prior work, the usability of the sensors and devices is evaluated with representative individuals of the target population, to ensure privacy and user experience questions are addressed. The sensors and systems utilize ML/AI trained models to provide screening, evaluation, and assessment without bias. To establish and maintain a foundation of federated/distributed trust among multi-domain data custodians and disparity groups, the team plans to develop a Blockchain-based, semi-automated "honest broker" framework that uses online health applications.

5. Tool and training needs: We will leverage the technologies developed and the data collected in our C2SHIP program, as well as any new studies, to understand patient needs, preferences, and community/neighborhood supports. The developed infrastructures and collected databases will be used **to**

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develop innovative solutions that will improve the efficiency, quality, and impact of the process by which we turn observations in the clinic and community into interventions that improve the health of individuals with chronic illness and the public. We will align our efforts with existing approaches for using medical sensor data for both analytics and patient care. By designing new digital health technologies with usability and clinical workflows in mind, the training of health workers will be more efficient and more effective.

6. <u>Proposed government actions:</u> The explosive growth of "digital wellness" coupled with a shortage of skilled caregivers who understand modern technologies with medical applications has created an emergent need for automatic real-time personalized designs for in-place healthcare. Such designs require expertise in chronic illness care, surgical outcomes, post-discharge care, neurology, and emotional wellbeing. With the support of the Federal Government and leveraging our cross-disciplinary expertise in the C2SHIP to engage populations around the US through our partnered academic institutions, industrial members, and hospital/community affiliates, we can implement innovative solutions to meaningfully improve the decentralized and care in place delivery model. C2SHIP will keep patients out of the hospital, empower them and their caregivers to be engaged in the health ecosystem, and promote the ability to self-care and maintain wellness. The current healthcare workforce; students in medicine, nursing, biomedical engineering, and the allied health fields; and patients are experiencing an unprecedented increase in health technology and monitoring capabilities. With meteoric advances in wearable sensors, AI, remote patient monitoring, telemedicine, and patients who are increasingly tech savvy, the healthcare team is expected to stay continually up to date on the latest developments. Therefore, it is essential that training and development programs closely aligned with workplace technology advancements are available. During the COVID-19 pandemic, even the most reluctant users of technology have become more familiar with telemedicine, connected smart sensors, and remote health care for chronic diseases. We believe an immediate action is needed to better involve students, residents, and fellows from medical institutions in digital health projects to provide real-world experiences that help them provide the best care by engaging patients in their healthcare and keeping them safely in place. We will develop a strong education and training pipeline and a vibrant community of scholars, in particular targeting underrepresented groups. We will capitalize on the growing interest by implementing hands-on research opportunities and creative outreach strategies targeting the intersection of engineering, healthcare, the humanities, and industry.

7. <u>Health Equity:</u> The team eliminates bias at every step of sensing through design reconfigurations, synthetic data generations for sensor and system materials and designs. Our approaches summarized in the following entailed innovative solutions from bias discovery to bias modeling and developing a fairness index . In addition, we will manage and support the use of self-service tools to facilitate the implementation of translational and precision/personalized health research. Tools include NanoMine, JustSense, i2b2, REDCap and e-consent, and data access platforms including decentralized/hybrid health research. This team is involved in the following components: bias discovery, bias modeling and control, fairness assessment, and data access. To ameliorate health care disparities, fairness evaluation may be deployed at certain stages to detect the bias, to quantify its effects, and to identify its sources along the propagation stream, and optimally to allocate resources through NanoMine to rectify its detrimental effects at both stage-level and modality level.

8. <u>International models:</u> Through C2SHIP and some of our industrial members, we built partnerships with a few underserved countries in Africa. For instance, one of our industrial partners, Thinklabs, developed a digital stethoscope to support care in countries like Kenya and Nigeria who suffer from a shortage of skilled clinicians, by leveraging tele-medicine and digital health technologies. Another example is our partnership with Agile 8, another C2SHIP member that uses MetaVerse to facilitate remote visiting of patients in place using smart glasses. Thanks to our strong partnership with industries, we aim to empower low skilled medical staff in the underserved countries through digital health technologies, similar to the digital stethoscope and smart glasses, to provide care in place via remote communication with skilled health workers

CEO ACTION FOR RACIAL EQUITY

Jacqueline Ward, PhD
Assistant Director at White House Office of Science and Technology Policy

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
Attn: Community Connected Health
1650 Pennsylvania Avenue
Washington, D.C. 20504

March 31, 2021

RE: Connected Health RFI

Dear Dr. Ward,

CEO Action for Racial Equity (CEOARE) is pleased to respond to the request for information (RFI) on Strengthening Community Health Through Technology. We commend the Office of Science and Technology Policy (OSTP) on its commitment to enhance the health and well-being of Americans and its focus on exploring how technology and innovation can benefit community health for all Americans. It was also a pleasure to participate with you and several of our collaborators in "The Future of Healthcare Post-Pandemic" discussion. In this letter, we seek to provide our perspective and policy principles focused on applying a racial equity and health equity lens to telehealth and digital health policy.

About CEOARE

CEOARE is a Fellowship of over 100 companies that mobilizes communities of business leaders with diverse expertise, across multiple industries and geographies, to advance public policy in four key areas — healthcare, education, economic empowerment, and public safety.

Evaluating historically underserved populations, the CEOARE Fellowship has a policy portfolio focused on eight public policy issues that disproportionately and systemically impact the 47M+ Black Americans. Our mission is to identify, develop, and promote scalable and sustainable public policies and corporate engagement strategies that address systemic racism, social injustice, and improve societal well-being. Our two policy priorities applicable to OSTP's Community Connected Health initiative are: Expanding Access to Telehealth and Closing the Digital Divide.

Below, we respond to the specific RFI questions that implicate access to telehealth for Black Americans.

5. Tools and Training needs

Many underserved communities continue to experience inadequate access to consistent, culturally appropriate, and comprehensive care. We support efforts focused on enabling culturally competent, user-centered telehealth design and

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implementation, for significant and clinically meaningful community health including:

- Promoting access to diverse providers via telehealth platforms
- Gathering insights and perspective from the community and health equity organizations around telehealth as a tool to combat health inequities
- Encouraging healthcare and technology industries to collaborate with and advocate for community health needs in telehealth product and service design

For sustainable program success from implementation, both patients and providers need appropriate and culturally competent training and education to not only access telehealth services, but also to efficiently leverage services for improved health outcomes. We support efforts focused on digital health literacy, which fosters adoption, trust, and accountability, including:

- Culturally competent patient marketing, outreach, and education, within underserved communities
- Culturally competent healthcare provider training, translation, and accessibility around digital health services

6. Proposed government action

Barriers to health care in underserved communities can lead to increased health disparities and lower quality of life outcomes. Telehealth is one channel to expand healthcare access for underserved Americans to overcome these barriers. Through a joint health equity and racial equity lens, CEOARE advocates for permanence and equity in federal telehealth legislation, regulation, and product and service design as a solution to address the multidimensional needs of America's underserved populations. Below we highlight our policy principles related to actions the government can take to address the barriers in access to telehealth.

Medicare telehealth service constraints, geographic eligibility requirements, originating site restrictions, and distant site practitioner limitations severely hinder broader expansion of telehealth services. While we applaud Congress and the White House for including telehealth provisions in the recently passed omnibus legislation, we continue to support the elimination of inequitable restrictions and barriers to coverage for comprehensive telehealth services, including:

- Permanent coverage of telehealth flexibilities expanded, via waivers, during the Public Health Emergency ("PHE") – particularly, the removal of geographic eligibility requirements and originating site restrictions
- Broadband and end-user technology expansion policies targeting the digital divide, with special focus on policies that promote equitable access, affordability and use of telehealth services and technology
- Promotion of equitable telehealth access - facilitated by coverage of audio-only, video, and asynchronous telehealth modalities, prioritizing clinical appropriateness and patient informed consent

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- Support for community health centers, Federally Qualified Health Centers, and similar safety net providers as telehealth qualified distant sites
- Amplification of underserved community perspectives and patient voices in policy development and promotion

7. Health Equity

Data reported on telehealth usage, adoption, and outcomes need to be racially stratified and examined to understand the impact on underserved patients and to develop appropriate interventions to narrow health disparities. Preliminary results show promise, and it will be important to monitor and promote additional improvements in capturing the experience and perspective of underserved communities through data. <u>We support enhanced research that demonstrates the impact of telehealth and digital health expansion for underserved patients, including:</u>

- Evaluation of claims and other payer data (including modality, technology used) to assess telehealth utilization across populations based on race/ethnicity and other social and demographic factors
- Improvements in data collection, including adequate funding and infrastructure, to measure the effectiveness, utilization, quality, and outcomes of telehealth for underserved communities that include social factors
- Health equity research principles that provide a holistic understanding of utilization and barriers to telehealth/digital health access, and encourage evidence-based decision-making to guide future policy and enable equitable expansion of telehealth

Thank you for your leadership, and for the opportunity to provide a response to the community health request for information. If you have questions, please do not hesitate to contact Roz Brooks via email at ███████████████████████████████████

Sincerely,

CEO Action for Racial Equity

www.ceoactionracialequity.com

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March 29, 2022

Attn: Jacqueline Ward, Assistant Director
Office of Science Technology and Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: *Request for Information (RFI) on Strengthening Community Health Through Technology*

Dear Ms. Ward,

On behalf of Cerner Corporation, thank you for the opportunity to submit public comment on the White House Office of Science and Technology Policy's RFI on Strengthening Community Health Through Technology. For 40 years, Cerner has connected people and systems around the world to improve health outcomes. We use technology to create solutions that let communities and people engage in their own health. And as a leading supplier of clinical and management information systems, we believe our experience provides us with valuable insight in this subject area and are grateful for the ability to share that insight.

We support your efforts to explore how innovation in science and technology can lower the barriers for all Americans to accessing quality healthcare and lead healthier lives by meeting people where they are in their communities. We believe in a seamless and connected world where everyone thrives. Cerner is committed to connecting what matters by sharing information between providers and organizations across communities.

If you have any questions or if we can provide any additional information, please do not hesitate to contact me.

Sincerely,

Peter Henry
Senior Director, Government Affairs
Cerner Corporation

Successful models and positive user experiences

While the concept of addressing social determinants of health (SDOH) is not new, organizations are increasingly seeking guidance and technology capabilities to address the non-medical needs of their at-risk communities by screening patients for unmet social needs, connecting people to resources, and measuring the impact of interventions. For example, Roper St. Francis Healthcare, a four-hospital, nonprofit community provider in Charleston, South Carolina, is using Cerner's *HealtheIntent*® data and insights platform to strategically target and implement innovative community outreach programs to treat at-risk and under-served populations.

Geospatial mapping capabilities in *HealtheIntent*® have helped Roper St. Francis health providers gain insight into community characteristics such as locations of patients, clinical metrics, conditions, care utilization, and spend. This data, in combination with publicly available information such as SDOH, average income levels, and knowledge of other institutions frequented by patients (ex. churches) has helped with their outreach strategy. In one example, Roper St. Francis providers cross-referenced specific patient demographics with conditions such as diabetes and hypertension and provided literature, nursing resources, screenings, and outreach to the identified populations. After the program was implemented, there was more than a 30 percent increase for targeted populations in primary care visits and an improvement in National Quality Forum quality measures for hypertension and diabetes.

Generally, successful digital technologies allow organizations to identify community-level vulnerabilities and a patient's unique social needs. This capability assists organizations in providing targeted outreach through community programming. The ability to exchange bi-directional information with community-based organizations helps to close the referral loop, allowing care managers to realize if an individual has successfully followed through with a community-based organization. Public and private partnerships are essential as community healthcare providers provide care outside individual organizations. Through innovative grant funding, community providers can increase their engagement beyond the four walls of the health system and prove the value of payer-community based organization relationships.

Making actionable patient social data visible at the point of care empowers providers to ask the right questions of patients and give the best instruction and referrals when needed most. Using these insights clinicians are able to develop a unique patient-centric social care plan that is integrated with the clinical care plan – tasks can be assigned to the appropriate care team member, resources can be linked, and patients can be provided resources that help them find and use social services. Providers are able to glean insights and feedback from community-based organizations within their native EHR workflows at the point of care, and the information can be made visible to other care providers for a holistic view of a patient's history.

Barriers

Some barriers that impact this cyclical flow include maintaining the integrity/context of the data, the cost of implementing capabilities, identifying staff to screen and facilitate the referrals, and a comprehensive representation of local community-based organizations in a

platform. And measurement and metric strategies will be contingent upon, and supported by, interoperable data between vendors and community-based organizations, improved benchmarking across publicly available data, and improved clinical quality measure adherence.

It's important to note the advancement of health equity includes considerations of data collection and usage as it applies to quality, outcomes measurement, product procurement including SOGI and ethical AI, and health equity research and development.

Through screening data using standardized tools and assessments, providers can identify a patient's unmet social needs to connect patients to community resources. While evidence-based screening tools exist, there is variance among domains and subdomains, timeframes of experiencing social needs, and response types (i.e., yes/no vs. categorial responses). This lack of standardization and challenges of maintaining data context, results in data aggregation challenges, inconsistencies among data collected for specific social needs. The timeframe in which questions are asked can vary widely, making it difficult to understand the urgency of current needs and historical patterns.

Exchange of data can be limited by differing data sets and workflows within each organization in terms of who documents the information (e.g., a nurse performing an intake assessment, an administrative staff at registration, or a social worker or other clinician during a direct consult interaction) and how screenings are standardized, stored and scored, or weighted. Often organizations customize existing standardized screening tools, or they create a new screening tool allowing end users to focus on the top social needs of their communities and the social needs that can be intervened upon.

There are not widespread regulatory incentives to screen, document, or address patient social needs. As indicated above, this results in inconsistent use of screening tools. Therefore, standardizing patient data collection would result in care benefits, as outlined in USCDIv2. Best practices for achieving this result should include incentives to reduce variation in definitions to improve patient understanding of any given data point and create consistencies in the people and methods for collecting the data, as well as those leveraging the data to optimize care. Additionally, granularity of data should be considered. It is important for both individual and population level care and research to recognize context and intersectionality from the data being collected to prevent over-generalized understandings of unique patient situations.

Currently, there is hesitancy across organizations to collect social needs screening data in their electronic health records. Clinical staff are often unsure of how to initiate conversations around social needs given the sensitivity of the questions being asked, particularly if there are no resources available to address the needs expressed by a patient. Further, patients do not always agree that such questions are relevant to their clinical care. Patients often have concerns about confidentiality of sensitive information and worry about discrimination based upon their responses. Further complicating the matter, categories of race or ethnicity to which patients may self-identify are also inconsistent. Patients may not provide accurate or full

accounts of their social needs when a trusting relationship has not been established with their providers or when patients mistrust the technology being used in a clinical setting.

Trends from the pandemic

The pandemic has presented concerns about contributing SDOH risk factors for infection and negative health outcomes. There has been an increased market demand for SDOH data and a strong need for advancements in interoperability (e.g. state level immunization registries, immediate need for data insights at the patient level, community level, research level, etc.). Such data exchange has resulted in better data aggregation and standardization, benefiting individual health care, public health surveillance, and broad health research. For example, using data aggregation via the Cerner Learning Health Network (LHN), Children's Hospital of Orange County identified a history of malnutrition resulted in a higher likelihood of severe COVID-19. It was previously known that age, obesity, and other comorbidities impacted COVID-19 risk, but with this data, long-term malnutrition was recognized as an important factor. This work underscored the need for consistent access to nutritional care when treating certain patient populations.

Increased use of virtual care during the COVID-19 pandemic created new opportunities that empowered patients to take control of their own care. However, the digital divide between those who have access to virtual care and those who do not, became more apparent based on demographic factors, such as race, ethnicity, economics, and geography. A key component of virtual care is access to adequate internet service for both the patient and provider. This is complicated by factors such as limited broadband availability for many communities, digital literacy, and affordability of necessary technology. For virtual care to be truly valuable, digital health technologies should be tailored to individual patient circumstances and communication methods, especially for Medicaid and Medicare patients. There is no one-size-fits-all approach, and there should be a variety of means of patient outreach and engagement.

Proposed government actions

The Federal government has an opportunity to lead the advancement of health equity by supporting core tenants that effectively address SDOH. These include:

- **Standardizing data in structured formats and public health reporting that has mutually understood definitions**. This includes the development of national standards for capturing, documenting, and using SDOH data, encouraging the development of open-source solutions to promote the exchange of information between health and social service providers. The need for standardized SDOH screening data tailored to patient populations is crucial for government organizational SDOH planning, supporting key performance indicators and health equity initiatives.
- **Maintaining a standard of privacy regarding data sharing to support interventions to address social needs**. Information should be collected and shared judiciously and consistent with the preferences of individuals to maintain privacy.

- **Investing in approaches for aggregating data** from patient screening and health care encounters to inform community planning and interventions around SDOH.
- **Ensuring collaboration with community-based organizations including state and local entities** through inclusion in funding and consultation eligibilities for SDOH programs.
- **Continuing to update and incentivize flexible, value-based payment models** that leverage SDOH data for all payers.

Primary Care Physicians per 100K population with Certified EHR by County and State (2018 Meaningful Use and NPI Registry Data)

Char Miller, MPH Candidate at Simmons University

The Office of the National Coordinator of Health Information (ONC) was established with the HITECH Act of 2009 and resides in the US Department of Health and Human Services. Its primary goals are advancing the use of Health Information Technology and the sharing of standards-based health data. It has created a certification process for Electronic Health Records (EHR) systems where providers can attest to meaningful use of a particular system. In return, the providers receive incentive payments and bonuses with their Medicare payments. ONC continues to add more requirements to the certification, and eventually, plans on making certification a requirement for any provider wishing to receive Medicare reimbursement.

Unfortunately, the additional certification requirements increase both the cost and complexity of EHR systems; thereby, creating another barrier to care in rural or low-income areas. The upper map shows the number of primary care providers per 100K of the population that had a certified EHR system in 2018. The median is 13 and the mean is 20, with the red areas having no PCPS that were using certified EHR. The red and yellow areas across the west and southeast show where patients would have to travel hours to see a provider utilizing EHR and integrated record management. This would mean that they are likely having records faxed or mailed to any specialists or advanced care, and they are likely not being fully reviewed, thereby increasing the time to treat the patient and decreasing the thoroughness and quality of care.

Of particular interest is the area in the North Central including Minnesota, Iowa, Wisconsin, Pennsylvania, and Indiana. These counties are nearly all blue with more than 20 PCPs per 100K population across the states, even in rural counties. You can notice in the lower map the components that make up this number by state. The colored dots represent the number of all Primary Care Providers by 100K, with 83 to 90 being the middle quantile. This distribution going from a low of 62 to a high of 133 is normally distributed with most states falling between 73 and 95. The bulk of the variation comes from the state adoption percent of certified EHR, with percent ranging from 4% to 45%.
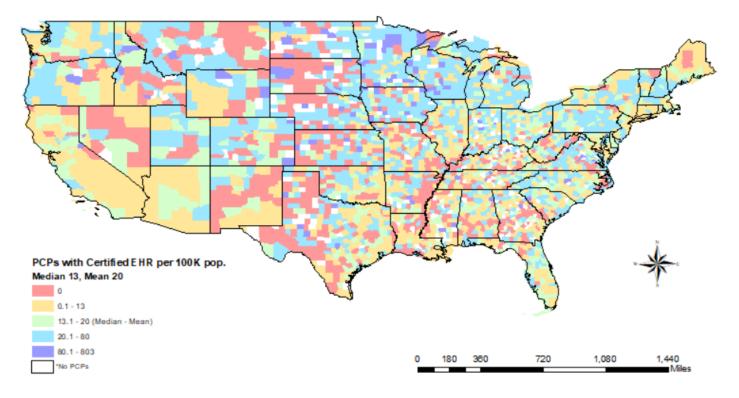
One of the keys to reducing or eliminating health inequities is the integration of care and data. Therefore, it is important that we take measures to encourage the use of certified EHR, especially in lower-income and rural areas. To achieve this, measures that many of the states have taken should be adopted across the country including the following:

- Grants for implementation and training for certified EHR for providers in low-income and rural areas
- State Medicaid Incentive Programs
- Tax deductions and rebates for cost and implementation of certified EHR
- Low-interest loans for cost and implementation of certified EHR
- Waiver of certification cost for Non-Profit or Open Source EHR
- County adoption of centralized EHR with licensing to providers in the county

Additionally, the central location of health data should reside within the county, state, or federal location. This will ensure that the patient is the owner and solicitor of the information, instead of the provider at the time. The average US adult will have 12 different jobs in their career, which means they will switch insurance and providers at least that many times. This will lead to information being missed and not transferred, as well as a substantial barrier to receiving appropriate and thorough care. This leads to the increased inequities seen with social determinants of health and the only way to compensate for this is to have patient owned and centralized data that can be received by all healthcare and social service providers as necessary.
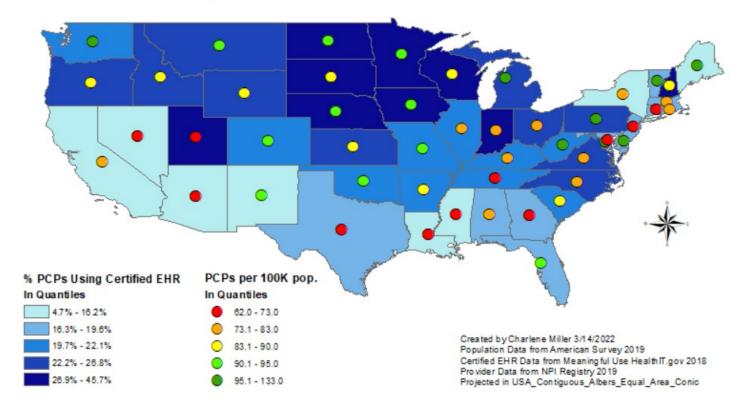
This integration of health and social services data is already happening in counties across the country and is helping achieve equitable whole-person health and services. For example, Alameda County, now houses health data and information in its behavior health database that can be requested and distributed to other service providers. These government databases can be built on the existing FHIR platform, and could even have a non-frills front end EHR system that could be free to providers in that geography (per final recommendation above.)

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Primary Care Physicians with Certified EHR per 100K Population

PCPs with Certified EHR per 100K pop.
Median 13, Mean 20

- 0
- 0.1 - 13
- 13.1 - 20 (Median - Mean)
- 20.1 - 80
- 80.1 - 803
- *No PCPs

0   180   360   720   1,080   1,440
Miles

Primary Care Physicians, % Using Certified EHR and # per 100K pop, by State

% PCPs Using Certified EHR
In Quantiles

- 4.7% - 16.2%
- 16.3% - 19.6%
- 19.7% - 22.1%
- 22.2% - 26.8%
- 26.9% - 45.7%

PCPs per 100K pop.
In Quantiles

- 62.0 - 73.0
- 73.1 - 83.0
- 83.1 - 90.0
- 90.1 - 95.0
- 95.1 - 133.0

Created by Charlene Miller 3/14/2022
Population Data from American Survey 2019
Certified EHR Data from Meaningful Use HealthIT.gov 2018
Provider Data from NPI Registry 2019
Projected in USA_Contiguous_Albers_Equal_Area_Conic

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Strengthening Community Health Through Technology

Connected Health RFI – White House Office of Science and Technology Policy

Charles Doarn, MBA, FATA, FAsMA
Professor and MPH Program Director
University of Cincinnati (UC)
Editor-in-Chief, Telemedicine and e-Health Journal
Special Assistant to the NASA Chief Health and Medical Officer (contract with UC)
Co-Chair FedTel

Over the past several decades, we have seen healthcare delivery change, often in drastic ways. In the late 1950s and early 1960s, NASA incorporated telemedicine into remote monitoring of astronauts in low earth orbit and on the surface of the moon. Over the next several decades, the construct of telemedicine and telehealth grew with federal efforts from many agencies and departments. In the early 1990's, the internet and the World Wide Web grew exponentially in capability and applications worldwide. This growth was concomitant with emerging technologies in computing power and communication modalities. Yet resistance remained with regard to adoption, utility and efficacy. Then came the smart phone and the plethora of applications that could be used.

In fact, Tom Friedman, Pulitzer prize winning author, posited in his book 'Thanks for Being Late' that the most important innovation of 2007 was the introduction of Apple's iPhone. This ushered in a myriad of capabilities, many of which had and continue to have an impact on healthcare. This so called 'digitization' of healthcare further expanded in the face of a global pandemic. Beginning in early 2020, worldwide lock downs meant that telemedicine and telehealth were the primary pathways for patients seeking continuity of care and medical personnel providing it. Another significant point is the use of the internet to support Internet Protocol (IP)-based videoconferencing, which permitted users to conduct video-teleconferences between their location and another at both short distances and long distances. These digital tools have been critical in the world's response to the pandemic in nearly every walk of life with a focus on health and education.

Coupled with the acceleration of computing power, storage, and wireless communication technologies, is the rapid growth in robotics, sensors, and artificial intelligence (AI). While much of this has been driven by the entertainment industry, the average individual can now purchase inexpensive devices that are embedded with these technologies at various point of sale locations. The pace of innovation and adoption is now at a breakneck speed.

The relaxation of guidelines, policies and funding strategies have provided a boon for telemedicine and telehealth. The proverbial genie is out of the bottle and consumers do not want to go back to the 'old' ways. Of course, the challenges and barriers we have been dealing with for the past several decades (ca 1970s) have slowly been ameliorated but there are many that

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remain. Some have nothing to do with technology but are more belief-based and perhaps even fear of change.

In the early 1990s, two actions took place that enabled more awareness of this growing field. The first was establishment of the American Telemedicine Association and the second was the establishment of a peer-reviewed journal by the Mary Ann Liebert Publishing Company. Both of these elements have been key in policy development and research. The Telemedicine and e-Health Journal (formerly the Telemedicine Journal) has published over 22,000 pages of scientific research that proves the utility of telemedicine and telehealth in 28 volumes. In fact, the journal has seen a nearly 3-fold increase in submissions since the beginning of the pandemic. What's more is that telemedicine and telehealth have been studied quite significantly on its utility and effectiveness, yet it remains questionable by many. This journal is not the only peer-reviewed journal. Most of the specialty journals have begun publishing research outcomes in more recent years. Liebert also introduced a new open access journal – Telemedicine Reports to provide yet another outlet for researchers. In addition, the Royal Academy publishes the Journal of Telemedicine and Telecare, now in its 28th year.

Both public health and healthcare worldwide are overburdened by the pandemic and are growing short staffed as each year passes. The implication is that many of us must wait for the care we need. The published research mentioned above is both national (US-based) and international and covers nearly every clinical discipline and level of provider. The empirical evidence continues to grow. While all of these peer-reviewed manuscripts cannot be listed, the following URL will provide a link to the publications (https://www.liebertpub.com/loi/tmj.2). As a result of the pandemic, telemedicine now has the support of patients, providers, and payors. The advantages are now embraced and an important fixture in the provision of care.

In an age where we have self-driving cars, appliances that are smart, avatars we can interact with, healthcare is poised to change dramatically and quickly. Medical education was forced to change in the pandemic. Providers of all kinds will incorporate telemedicine, telehealth, e-Health, mHealth, and connected health in ways that all can benefit. Equity in health can only be achieved if all have access and the community is engaged in this emerging paradigm.

NASA, the Department of Defense, and Veterans Affairs, must develop tools to provide healthcare to those in extreme environments. It is those hard lessons learned that have and will continue to benefit the rest of us.

In August of 2021, the Telemedicine and e-Health Journal published a special issue on vulnerable populations funded by the California Health Care Foundation. This author and many others from around the world have developed, utilized, and proven the utility of 'digital' future of health. The development of personalized care will continue marching forward and the barriers of access, licensure, equity, reimbursement will fall away and what emerges is a more holistic, easily accessible, and equitable healthcare system. Need drives innovations; innovation drives change, and there are those who will stand in the way of progress. History is littered with naysayers. It is our time to embrace innovation and change the way we do things.

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From:	Kitzman, Charles ███████████████████████
Sent:	Tuesday, March 22, 2022 10:37 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] RFI Strengthening Community Health

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Blue Category

Greetings,

I noticed the RFI on the Federal Register and am inquiring about the best process to provide feedback. Is it through you?

I am a chief information officer in far northern California and we have been exploring the use of remote patient monitoring devices for almost a year.
This includes blood pressure cuffs, weight scales, and continuous glucose monitoring devices. Our service area is primarily along the I-5 corridor in Shasta County, but we also serve as a specialty center for many of the rural and frontier clinics covering a very large multi-county geographic area.

These devices can save patients a lot of time and money by providing relevant clinical information without the burden of a visit.
Coupled with video technology, I suspect these tools will become a new paradigm in health care if properly supported and can have a demonstrably positive effect, especially in rural areas.

Kindly,
-ck

Charles Kitzman, MMI
Pronouns: He, Him, His
Chief Information Officer
Administration

███████████████

1035 Placer Street
Redding, CA 96001
>www.shastahealth.org<

February 28, 2022

White House Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

RE: 87 FR 492 Office of Science and Technology Policy Request for Information (RFI) on Strengthening Community Health Through Technology

To the White House Office of Science and Technology Policy:

Child and Parent Information Database System (CAPIDS) is a software start-up founded by Nicole Reyes Sime, a Haitian immigrant, cancer survivor, and Florida-based child protective investigator whose frustration with the lack of availability of information within the child welfare system led her to create a new and innovative solution. Currently, CAPIDS is the only company working to develop a nationwide database of child welfare reports.

CAPIDS appreciates the opportunity to submit comments on how technology can be used to address the barriers that exist to the health and wellness of children in the child welfare system. There are national problems that if resolved would save many children's lives. CAPIDS commends OSTP for seeking data-driven and evidence-based approaches to these important health issues.

Current Barrier

Most agencies and states currently hold state limited database records on individuals, investigations, family placement arrangements, and all relevant information involving a child and family. **These records are not uniform across agencies and are generally not accessible to authorized entities in each state and those attempting to assist in a difficult child welfare investigation.** Because child welfare reports are not listed in a uniform national database, it is difficult for child protective investigators, child welfare caseworkers and law enforcement to access this information, especially from outside the locality where the initial incident occurred.

If an individual is involved with a state's individual child welfare system for any reason, there is a report created and registered in that state's database only. In several states, the reports are only registered in the county that received the reports. **If no criminal charges were brought against the abuser, the case would not be listed in the system for agencies in another state or county.** A child welfare worker from another state or county would not know about it and would need to go through significant red tape to access those reports. However, that does not mean that the alleged abuser is not a threat to children. In other words, if the allegations of the individual

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were not severe enough to warrant an arrest, they may remain the child's caregiver and are free to move to a different locality with the child. Most child abusers are aware of this loophole, so they will move away from the area in which they have pending/closed allegations to another area where the abuse often continues. Sadly, when the alleged perpetrator moves out of the area, it's more difficult to hold them accountable and obtain their DCF history, which in turn keeps the child in the abusive situation.

We can no longer jeopardize the lives of our nation's children. Delays in receiving needed data from other localities hinder the progress of child welfare workers, even when they know that a child is being abused or recognize the signs of an abused child . Getting access to the family's child welfare history is a critical early step within hours of receiving a new case.

One can only imagine the frustration and the inefficiency child welfare workers as well as law enforcement face when making safety decisions in child abuse cases. When dealing with child safety, every second counts. Therefore, having full access to all DCF history of an allege perpetrator is an absolute must.
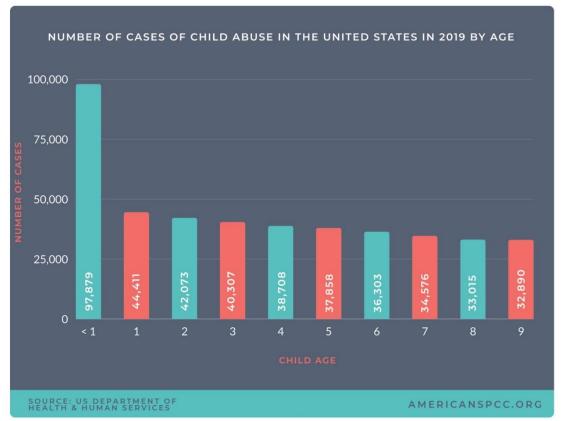
Data
Research has shown the number of child abuse cases received nationwide is staggering and the maltreatments continue to get worse. The American Society for the Positive Care of Children (American SPCC), a national 501(c)(3) non-profit, reported the following statistics on their website:

- **Highest rate** of child abuse is in children **under age one** (25.7 per 1,000).
- **1,840 children died from abuse and neglect in 2019**.
- **Five children die every day** from child abuse.
- **Seventy (70.3%)** percent of all child fatalities were younger than **3 years old**.
- **79.7% of child fatalities** involve at least **one parent**.
- Of the children who died, **72.9% suffered neglect**.
- Of the children who died, **44.4% suffered physical abuse** either exclusively or in combination with another maltreatment type.
- **45.4%** of children who die from child abuse are **under one year.**
- **Boys** had a higher child fatality rate than **girls** (**2.98** boys & **2.20** girls per 100,000)
- Almost **61,000** children are **sexually abused**.
- 2018 was the first year for which states are reporting the new maltreatment type of **sex trafficking**. For 2019, 29 states report **877 unique victims of sex trafficking**.
- For victims of the **sex trafficking** maltreatment type, the majority (**89.1%**) are **female,** and **10.4 percent are male**.
- It is estimated that between 50-60% of maltreatment fatalities are **not recorded on death certificates.**
- Child abuse crosses all socioeconomic and educational levels, religions, and ethnic and cultural groups.

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- **14% of all men in prison and 36% of women in prison** in the USA were abused as children, about twice the frequency seen in the general population.
- Children who experience child abuse and neglect are **approximately 9 times more likely to become involved in criminal activity.**

Retrieved from americanspcc.org on 02/24/2022

Interstate Data Exchange System

CAPIDS has been working tirelessly with our software developers to create an application that would solve this gap. The cloud-based, nationwide system will unify existing state and local databases into one centralized database of child abuse reports. This will help to facilitate easy retrieval of pertinent information when investigating child abuse. CAPIDS will help reduce the rate of child abuse by helping child welfare workers and law enforcement find information on their alleged perpetrators and the child without procedural delays.

The most effective decision making when dealing with child abuse cases happens at the initial contact, but this is only possible if all concerns are discovered prior to making contact with the family. Having access to all information about the parties to the case is critical in assessing the level of danger the child is in. A national database will help make it easier to catch child abusers and prevent them from evading justice. CAPIDS will not create nor generate any new reports; it

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will only bring together existing databases. The database will function in real time. Technology is changing and so should the process.

CAPIDS has a dedicated team of well qualified and informed individuals that will not stop until this idea comes to life. We know this system will close the gap and provide much needed change with how child welfare workers approach child abuse investigations, especially when dealing with transient families. Our legal team is also working relentlessly to secure partnership agreements with every state to build this powerful database to serve their needs.

Due to lack of timely available information on who caregivers are, their DCF history, and their relationship to the child, child welfare workers are often forced to make unfavorable safety decisions. Our database will bring an unprecedented solution to the nightmare of figuring out what to do with a family that moves around a lot and has questionable history.

Policy proposals have already been presented in Congress to address this issue on the federal level. For example, the House version of the Child Abuse Prevention and Treatment Act reauthorization (HR 485) includes a provision (Sec. 115) that would establish an electronic interstate data exchange system for child welfare reports through the Department of Health and Human Services.

We cannot stop people from moving, but we can change how we track abusive patterns.

Again, thank you for the opportunity to comment. The CAPIDS team is available to answer any questions that you may have. My contact information is listed below.

Nicole D. Reyes Sime
President/Founder
CAPIDS

Website: www.capids.org

601 W. Short Street
Lexington, KY 40508
888.417.3435

March 4, 2022

Dr. Alondra Nelson
Acting Director
White House Office of Science and Technology Policy
1600 Pennsylvania Ave NW
Washington, DC 20500

Submitted via e-mail to █████████████████
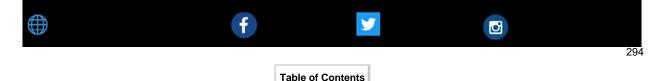
RE: RFI on Strengthening Community Health Through Technology

Dear Dr. Nelson,

Thank you for your interest in using innovation in science and technology to improve access for all Americans to high-quality health care. The Child Neurology Foundation (CNF) shares this goal and hopes that we can assist your efforts by sharing information about the use of telehealth and digital services by the child neurology community throughout the COVID-19 pandemic.

Established in 2001, CNF is a non-profit that works to support the whole child neurology community, connecting partners from all areas so children and their families living with neurologic conditions (cerebral palsy, epilepsy, autism, ADHD/ADD, muscular dystrophy, etc.) have the ongoing support, education, and advocacy they need to get the best quality of care possible. CNF's work reaches families in all 50 states, with primary programmatic areas including improving the patient care experience, attacking the effects of social isolation, confronting systems level issues, and supporting research for the advancement of new cures and therapies. CNF stands in its values of integrity, professionalism, stewardship, and collaboration.

1 in 5 children in the US live with a neurologic condition, which are wide-ranging with various causes, complications, and outcomes. Many conditions requiring life-long management of physical, cognitive, emotional, and/or behavioral symptoms. Despite the prevalence of neurologic conditions in the pediatric population, children and their families wait an average of 9 weeks in the United States to access a child neurologist. Our families also experience social and economic challenges with nearly half reporting financial hardships, and a quarter of living in poverty.

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Telehealth Trends During the Pandemic

CNF wanted to learn more about our community's experiences with telehealth during the pandemic and the responses revealed paradoxes. CNF first surveyed families in summer 2020 and then facilitated focus groups and interviews with caregivers and clinicians to dig deeper:

Families told us that their wait times were dramatically reduced, with half receiving a neurology appointment the same week of their request. They also reported their children's behavior was often better during telehealth visits and that they were more able to focus during visits. However, 39% of parents told us that they would never again choose telehealth for their child. Despite the convenience of telehealth, they were concerned about the lack of connection between their child and providers. They missed small talk with clinicians, saying those chats are where much of the healing happens, especially for children with behavioral challenges or intellectual disabilities.
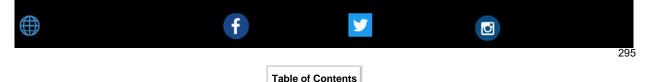
Clinicians also reported somewhat contradictory feedback, reporting that while they valued improved continuity of care—with fewer patients falling through the cracks as check-in conversations became easier—they were frustrated by less effective physical exams, distracted parents and distracting home environments, and sometimes felt like they weren't being heard.

Digital Access

To address some access issues our families experienced in the transition to a more digital world, CNF launched a Digital Access program in June 2021. We provide families with a child living with a neurologic condition with a Chromebook, an internet hotspot, and technology use training to access online resources, attend telehealth appointments, and connect with their communities online. We prioritized lower income families, with 64% of program participants having at least one adult in their household who is unemployed. Participating families represent over 30 neurologic conditions, with over half experiencing Autism Spectrum Disorder.

So far, our program is seeing positive results. Based on preliminary data: 36% of participating families use their device daily; 69% report improved telehealth visits once receiving their device and hotspot; 87% report increased ability to connect virtually with their support network and 67% are able to better access resources for their children's schooling.

However, we are also learning that more than hardware and improved internet access is needed. Many families have said that because of their children's complex health needs, the technology itself needs to be more accessible: trackpads are unusable for some children with movement disorders or developmental delays, and a Chromebook's built-in speakers may be insufficient for children with auditory-processing disorders or who are hearing impaired. In addition, our participating families have reported continued needs in accessing telehealth and other digital services, stating that 16% lack reliable transportation to attend follow-up health appointments

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in-person; 27% are under- or uninsured and 29% still struggle to access the internet because they live somewhere a data hotspot does not work well enough to have reliable, fast internet access for video visits. Moreover, 20% of our participating families still have difficulty finding a child neurologist they like for their needs, and 58% say they still need information and education to fully understand their child's complex health needs.

Recommendations

Improved education for clinicians and caregivers can address many of these challenges. Patient advocacy organizations like CNF are responding, working to develop tools and resources to set parents up for success in communicating with their children's health care providers. However, federal efforts are also needed in this area. To remove barriers for all Americans to access quality healthcare, we encourage you to support the most vulnerable Americans and the medical professionals who deliver their care. In particular, CNF recommends that you:

- Partner with nonprofits, academic health centers, and patient advocacy groups to provide continuing education opportunities for clinicians and their staff to offer higher quality telehealth services;
- Ensure that the Infrastructure Investment and Jobs Act actually provides high-speed reliable internet to all Americans as promised, beginning with rural communities least connected and families living in poverty with financial assistance;
- Provide families with assistance in securing the hardware necessary to get online and stay connected, ensuring that people with disabilities have additional hardware as needed for their own accessibility needs; and
- Continue to have those from the most vulnerable populations: the disabled, the poor, Indigenous communities and communities of color, lead this work, even after the end of the Public Health Emergency and through the endemicity of the novel coronavirus.

Thank you for the opportunity to highlight what we have learned as we have worked with our community over the past few years in digitally connected community health. CNF stands ready to assist you in any efforts to improve outcomes for these children and support their caregivers and families. If you have any questions, please do not hesitate to reach out to me at

Sincerely,

Amy E. Brin, MSN, MA, PCNS-BC
Executive Director and CEO
Child Neurology Foundation

Kristin Julason Damato
Vice President
Global Public Policy & Government Affairs

Dr. Alondra Nelson
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, DC 20502

701 Pennsylvania Avenue, NW
Suite 720
Washington, DC 20004

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March 31, 2022

VIA ELECTRONIC SUBMISSION TO █████████████████████

Re: 87 FR492 – Community Connected Health
Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson,

Cigna welcomes the opportunity to respond to the White House Office of Science and Technology Policy Office (OSTP) RFI on Strengthening Community Health through Technology. Cigna supports efforts to minimize diversion, which contributes to poor health outcomes and increases costs for the health care system.

Cigna Corporation is a global health services organization dedicated to improving the health, well-being, and peace of mind of those we serve. Our subsidiaries are major providers of medical, pharmacy, dental, and related products and services, with over 185 million customer relationships in the more than 30 countries and jurisdictions in which we operate. Within the United States, Cigna provides medical coverage to approximately 14 million Americans in the commercial group health plan market, predominantly in the self-insured segment. We also provide coverage in the individual Affordable Care Act insurance segment in several states, both on-and off-Exchange, to approximately 378,000 people. Additionally, we serve approximately 4.3 million people through our Medicare Advantage, Medicare Prescription Drug Program and Medicare Supplemental products. In all of the segments we serve, Cigna is focused on working to deliver health care that is affordable, predictable, and simple – so people can live healthier, more vibrant lives.

With this as background we offer the following comments.

Successful Technology/Digital Health models within the United States
Evernorth, a Cigna company, created the industry's first Digital Health Formulary – a reliable pathway for digital health that takes the guesswork out of choosing and implementing digital health platforms for providers. The formulary is focused on helping community health providers deliver health care and create better individual health outcomes. We have developed several best practices with community health providers which we would be willing to share with the OSTP. Examples of our digital health solutions in the Digital Health formulary include:
- Diabetes Prevention, Type 1, and Type 2: Omada Health, Livongo, and Lifescan – provide mobile phone-connected glucometer or smart scale, a digital platform for viewing

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- personalized insights, and coaching from diabetes certified educators and pharmacists specializing in diabetes care.
- Women's health: Wildflower Health – provides support for family planning, infertility, pregnancy, and postpartum care.

During the public health emergency we expanded our virtual care offerings through our MDLive® Virtual Care platform, including virtual dental, virtual wellness screenings and virtual maternity care in select markets, increasing virtual care offerings by three times. We provided virtual care for non-COVID-19 issues to customers at the standard in-office benefit.[i] We shared our findings in the white paper *Does Virtual Care Save Money?*[ii] Early results have that for 80% percent of patients who had not seen a primary care provider (PCP) in the past 24 months, more than 25% of these patients identified a PCP after their virtual care visit; 66% of these patients had a co-morbid chronic condition.[iii]

Offering virtual primary care supports access to health care for those who have deferred primary care frequently. Additionally, virtual behavioral health care can be a critical method to increase access to care via a private, digital process. Virtual behavioral therapy is high-quality care, as 78% of patients had objective improvement of their condition after three sessions with an MDLive® provider (as measured through Patient Health Questionnaire (PHQ-9) and/or General Anxiety Disorder (GAD-7).

Cigna is a founding member of the Vaccination Credential Initiative, VCI™. VCI™ is a voluntary coalition of public and private organizations committed to empowering individuals with access to verifiable clinical information, including a trustworthy and verifiable copy of their vaccination records in digital or paper form using open, interoperable standards.

A noted barrier to adoption of a vaccination credential is buy-in across provider and other health organizations. Currently there is no common standard for organizations to leverage Smart Health Cards, and adoption remains discretionary. Providers' willingness to adopt this technology would enable individuals to share their vaccination records, and when developed, additional clinical information, directly with providers' offices.

Health Equity
Digital health technologies are a foundational component in the collection and assessment of Social Determinants of Health (SDoH) data that may be indicative of health disparities. For example, Evernorth has invested in the development of an innovative social-spatial index that assesses major social challenges that might adversely impact our customers. Using this community-level spatial index, along with specific customer data, provides enhanced insight to social factors that may affect a customer's access or ability to receive quality care. Additionally, many employers have employees who live in areas highly impacted by SDOH. These employees and their families often have significant health-related social needs that lead to elevated health care costs, increased stress and behavioral needs, and lower quality of health and life. To truly address these challenges, we have to think beyond traditional methods of engagement to reach, build trust with, and address these patients' complex needs. Evernorth piloted a Community Health Worker program in Memphis in 2020 with positive results.

Trends from the Pandemic

The COVID-19 pandemic proves the importance of digital health technologies. MDLive experienced a 500% increase in virtual behavioral health needs. We anticipate this to continue after the pandemic as new methods of access encourage those who have not sought mental health treatment in the past to do so. The financial impact is real: global economic losses related to mental health disorders between 2011 and 2030 are estimated to total $16.3 trillion, nearly equivalent to those of cardiovascular disease, and higher than other chronic conditions. Furthermore, those experiencing behavioral health issues are likely to need additional care. A recent study shows that individuals with behavioral health conditions spend an average of $6,500 more per year than those without.[iv] Cigna has seen a reduction in the requests for laboratory and radiology procedures overall due to our virtual care offerings.

Proposed Government Actions

We urge the White House to:

- Support development of innovative digital health technologies including those that collect and can be used to assess SDoH data.
- Work with members of Congress to extend telehealth waivers and extensions beyond the current 151 days and specifically:
  - Eliminate the in-person requirements for visits as clinically appropriate.
  - Allow providers to practice across state lines
  - Permanent adoption of od audio only technologies
  - Support efforts to expand broadband 5G to provide more people with access to facilitate telehealth.
- Continue to support The Office of the National Coordinator for Health IT in the development of national interoperable standards, including those for a vaccine national credential.
- Support funding and programs for digital health literacy training for community health providers, staff and patients.

Thank you for your consideration of these comments. Cigna would welcome the opportunity to discuss these issues with you in more detail at your convenience.

Respectfully,

Kristin Julason Damato

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[i] https://www.cigna.com/about-us/corporate-responsibility/report/health-and-well-being/covid19-response (Accessed March,2022)

[ii] https://newsroom.cigna.com/convenient-cost-effective-and-high-quality-virtual-care-is-here-to-stay Accessed March,2022)

[iii] Ibid. (Accessed March, 2022)

[iv] Humana, IBM Watson Health Collaborate to Improve Health Benefit Transparency (ajmc.com) Accessed March, 2022)

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Cleveland Clinic

March 25, 2022

The Honorable Alondra Nelson, PhD
Acting Director
Office of Science and Technology Policy
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information on Strengthening Community Health Through Technology (3270-F1-P)

Submitted via e-mail at ███████████████████

Dear Dr. Nelson:

Cleveland Clinic is a not-for-profit, integrated healthcare system dedicated to patient-centered care, teaching, and research. With a footprint in Northeast Ohio, Florida and Nevada, Cleveland Clinic Health System operates 19 hospitals with more than 6,400 staffed beds, 21 outpatient Family Health Centers, 11 ambulatory surgery centers and numerous physician offices. Cleveland Clinic employs over 5,000 salaried physicians and scientists. Last year, our system cared for 2.9 million unique patients, including 10.2 million outpatient visits and 304,000 hospital admissions and observations.

The COVID-19 pandemic imposed significant challenges and hardship that exacerbated existing health disparities yet also opened new opportunities and possibilities for innovation that could pave the way for achieving equity. Expanded telehealth services made unprecedented improvements in access to care when hospitals and clinics were forced to limit in-person services during COVID-19. We commend the Office of Science and Technology for its exploration of how digital technology can address barriers to community care and are pleased to submit comments on this information request.

Barriers

Despite the omnipresence of digital technology in society, a digital divide unfortunately remains and needs to be overcome. Lack of internet access in rural and underserved urban communities is foremost among these barriers. Capacity limitations present another obstacle. We made an estimated 18,000 referrals last year to address social and behavioral health needs, but many community organizations weren't prepared to receive the sheer quantity of referrals. Technology literacy is another barrier; individuals in need of support in navigating electronic health records systems have been reluctant to sign up for patient-centered information portals. The burden of finding a provider – particularly given the limited number of available behavioral health care providers – and making an appointment too often falls on the shoulders of patients who face challenges in accessing and understanding electronic information platforms. Another potential pitfall is ascertaining if an issue is appropriate for a virtual visit. For example, parents may be frustrated if the virtual provider determines that an in-office visit for a child's medical examination is required after all.

User Experience

Digital technology optimizes our ability to meet patients where they are. We were able to overcome barriers of broadband access, web portal and internet literacy, and device ownership in some cases because our patients were already using their own smartphones. Solutions for these barriers should either involve making online patient

portals as easily accessible as FaceTime and Google Duo or to enhance security for these well-known synchronous virtual chat services to allow their use in health-related programs.

We are continuously conducting or exploring facilitation of telehealth in a patient-centered way. For our homebound, medically-complex patients telehealth has been invaluable. Cleveland Clinic-employed community paramedics integrated with the care team are deployed to patient homes to provide hands-on care as appropriate, including physical exams and medication reconciliation. Their services include assisting patients experiencing difficulties using technology during their virtual visits with their physicians. We have observed a reduction in inpatient admissions and emergency department visits, saved time during certain visits, and increased physician productivity as a result of this program.[1]

In our school-based program, we have explored including parents, school nurses, athletic coaches, and other school personnel in pediatric telehealth visits for a better understanding of asthma care plans.

Trends from the Pandemic

Since the beginning of the COVID-19 pandemic, Cleveland Clinic has expanded its use of telehealth by:

- **Developing a home monitoring program for patients who test positive for COVID-19:** Enrolled patients are called daily for a health status check; if their symptoms escalate, they are referred to a physician on virtual standby for additional assessment. The clinical monitoring is aided by an app within our patient portal that allows patients to report symptoms, along with pulse oximetry and temperature monitoring. The program has demonstrated success at keeping patients at home, preventing admissions and reducing the mortality rate.
- **Expanding remote monitoring of chronic conditions:** The COVID monitoring program was modeled on an existing Cleveland Clinic program to monitor patients with chronic conditions. These patients are monitored by a panel of nurses, who also can access data automatically uploaded by monitoring equipment such as blood pressure cuffs, pulse oximeter, glucometers, scales, pacemakers and sleep apnea machines. Patients with escalating symptoms are referred to a physician for further evaluation.

We observed a significant uptick in patient interest in continuing the use of telehealth and remote monitoring technology since the onset of the pandemic. Patients are asking our caregivers how they can obtain monitoring devices and continue remote medical visits. The advantages include improved convenience for patients and lower costs to the health care system.

Telehealth is particularly well-received by patients at our Center for LGBTQ+ Health. Many of our LGBTQ+ patients are especially vulnerable to COVID-19 due to a number of factors, with many working in essential care or frontline jobs and often relying on public transportation and experiencing certain prevalent health factors such as HIV status or tobacco use. Despite experiencing interruptions to their care because of the pandemic, virtual care has been essential for reducing exposure risks, and they adapted particularly well to this adjustment. We also

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[1] Podolsky S, Ulintz AJ, Bautista J, Zafirau W, Carroll D, Krestel C, Hixson E, Lapin B, Miller B, Wyllie R. "Community Paramedicine Pilot Reduces Emergency Department Visits and Hospital Admissions". *Academic Emergency Medicine, 2018;25(S1):S189.* https://doi.org/10.1111/acem.13424

Ulintz AJ, Podolsky S, Bautista J, Zafirau W, Carroll D, Krestel C, Hixson E, Lapin B, Miller B, Wyllie R. "Community Paramedics Reduce Time-to-Visit and Increase Physician Productivity". *Academic Emergency Medicine, 2018;25(S1):S189.* https://doi.org/10.1111/acem.13424

revised our intake process by leveraging electronic health records and telehealth visits to facilitate secure, safe, and inclusive gender affirming care that was positively received by our transgender and non-binary patients.[2]

Government Actions

While delivering care using digital technology are clear has clear benefits, these services can be administratively complex to implement. Coding and billing reforms for telehealth and remote monitoring would help streamline their administration and provide appropriate compensation for these services. **We encourage OSTP to collaborate with HHS and other federal agencies to find policy solutions that make it easier for health care providers and consumers to engage with digital technology.**

Health Equity

Health care systems are benefiting from using bi-directional care coordination software platforms like Unite Us (https://uniteus.com/sdoh/). Unite Us provides the patient, the community partner, and our caregivers an end-to-end solution to ensure that services, resources, and supports are providing the appropriate outcomes for the patient. Such platforms not only help us understand patient needs and make referrals to various social services but conduct follow-ups that allow us to determine if specific needs are being met. Most health care providers today, otherwise, do not have a feedback loop on social referrals and lack adequate capacity to collect data which leaves them handicapped as to the follow through or outcome of the patient referral.

We are leveraging this platform to embark on a program to address access to technology. The Digital Equity Program will provide access, devices, and connectivity to our most vulnerable patients so that they can use online resources to improve their health and well-being. Wherever our patients transact with our caregivers, whether it's a wellness visit or a trip to an emergency or urgent care facility, they will have opportunities to share their digital equity needs and request referral services to meet those needs. At the center of this program are our community health workers and primary care social workers who have specialized training to help identify a patient's unique digital needs and make referrals through the Unite Us platform to our community partners who can provide services including low-cost or no-cost devices, affordable high-speed broadband services, and digital literacy training.

Thank you for conducting a thoughtful process that allows us to provide input on this important issue and for your consideration of this information. Should you need any further information, please contact me at

Sincerely,

Steven Shook, MD, MBA
Lead for Virtual Health

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[2] Ng H, Zimmerman L, Ferguson B, Dimmock E, Harlan R, Hekman J, Obeid H. "Delivering Holistic Transgender and Nonbinary Care in the Age of Telemedicine and COVID-19". Prim Care Clin Office Pract 48 (2021) 213–226. https://doi.org/10.1016/j.pop.2021.02.008

Coalition to End Social Isolation & Loneliness

February 28, 2022

Alondra Nelson, PhD
Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Director Nelson:

On behalf of the Coalition to End Social Isolation & Loneliness (the Coalition) we appreciate the opportunity to submit information and recommendations related to the White House Office of Science and Technology Policy's (OSTP) request for information (RFI) on strengthening community health through technology. Established in 2018, the Coalition brings together a diverse set of national organizations including consumer groups, technology innovators, health care providers, patient advocates, and health plans to develop and advocate for federal policy solutions to address the issues of social isolation and loneliness in the United States. With a comprehensive policy agenda that focuses on public awareness, social and health services, technology, and research, the Coalition works to combat the adverse health effects of social isolation and loneliness and advance approaches that improve social connectedness for all Americans.

We commend your efforts to explore and act upon how innovation in science and technology can lower barriers for Americans to access quality health care. We believe these efforts will help Americans to lead healthier lives by meeting people directly in the communities they live, work, and play. The Coalition is particularly interested in providing information and recommendations related to:

1. the barriers to uptake digital technologies;
2. the lessons learned throughout the COVID-19 public health emergency
3. how the user experience is measured;
4. the requisite tools and training;
5. the ideas for potential government actions; and
6. the effects on health equity

Social isolation and loneliness, and the stigma associated with these issues, were prevalent prior to the pandemic. Evidence shows that social isolation and loneliness have an adverse effect on one's physical and mental health. For instance, social isolation and loneliness are associated with a 29 percent and 26 percent increased risk of mortality, respectively, comparable to that of obesity and

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smoking 15 cigarettes per day.[1] For older adults, social isolation and loneliness increase the risk of dementia and stroke by 50 percent and 32 percent, respectively. Not to mention, the risk of mental health disorders increases by 26 percent for older adults. [2] To that end, there are many promising digital technologies currently being deployed throughout the country in communities, long-term and acute care institutional settings, and in the home. In response to the OSTP's RFI, we are pleased to provide the following recommendations and comments to support strengthening community health through technology. The Coalition stands ready to assist OSTP in building out its larger Connected Communities strategy.

Barriers to Uptake and the Need for Tools and Training Among Diverse Communities

Technology literacy, including user comfort, and the lack of evidence related to digital health technologies (DHTs) mitigating social isolation and loneliness and/or providing social connections are among the major barriers to DHT uptake. Low levels of digital and health literacy are a primary issue of concern with DHT adoption. One study of patient-specific barriers found that some of the most often cited issues were difficulty using technology and fear of using technology.[3] As such, The Coalition suggests that the federal government invests in education and training interventions (e.g. awareness campaigns, targeted grants to community-based organizations) to encourage uptake, particularly among older adults.[4] This is particularly relevant for social isolation and loneliness DHTs as they are frequently targeted towards older adults who are less likely to be technologically literate.

Additionally, there are disparities seen across different racial, ethnic, and socioeconomic groups with respect to successfully implementing DHTs. For instance, owning a computer or having access to the Internet was reported one-fifth as likely in the African-American group as it was for European Americans and one-fourth as likely for the Afro-Caribbean group. The odds of Hispanic Americans owning a computer were reported one-third as likely and for having access to the Internet less than one-half as it was for European Americans. Furthermore, those who received Medicaid assistance were less than one-half as likely to use either the Internet or DHTs as were those who did not receive Medicaid, and a little more than half as likely to own the necessary technology. Investments in national connectivity plans, municipal broadband networks, and education systems are needed to provide older and underrepresented racial and ethnic populations the resources to maximize DHTs. [5]

DHTs are currently in a cycle of non-adoption due to a lack of evidence and insufficient evaluation. The evidence gap has been perpetuated by a disconnect between expedient, low-cost testing used

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[1] Julianne Holt-Lunstad et al., *Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review*, 10 Perspect Psychol Sci 227 (2015).

[2] Kathryn Parkman, *Elderly Loneliness Statistics*, Consumer Aff. (Jun. 17, 2021), https://www.consumeraffairs.com/health/elderly-loneliness-statistics.html.

[3] Sera Whitelaw, et al., *Barriers and Facilitators of the Uptake of Digital Health Technology in Cardiovascular Care: A Systematic Scoping Review*, 2 Euro. Heart J. 62 (Jan. 24, 2021), https://doi.org/10.1093/ehjdh/ztab005.

[4] Jessica Wilson, et al., *Barriers and Facilitators to Use of E-Health by Older Adults: A Scoping Review*, 21 BMC Pub. Health 1556 (Aug. 17, 2021), https://doi.org/10.1186/s12889-021-11623-w.

[5] Ruth M. Tappen, et al., *Digital Health Information Disparties in Older Adults: a Mixed Methods Study*, 9 J. Racial. Ethn. Health Disparities 82 (Jan. 7, 2021) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7790471/.

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in the beginning stages of DHT development and the more expensive evaluation processes that are needed to bring along essential stakeholders, like health care providers, investors, health systems, and governmental entities, to name a few. As a result, essential stakeholders are hesitant to adopt DHT.[6]

What Can the Federal Government Do?

The federal government is in a unique and important position to break down barriers to access and use of DHTs, particularly as it pertains to DHTs focused on increasing social connectedness and/or mitigating and preventing social isolation and loneliness. First, the federal government should allocate resources to community-based organizations focused on technology literacy and health literacy training. As we noted above, some of the most common barriers to DHT use is a lack of understanding or fear of the unknown. Supplying users with the knowledge mitigates the stigma of the unknown and allows users to competently use the DHTs.

The federal government also has an important role to play in advancing the evidence base for DHTs. As we stated previously, there are many more unknowns about the efficacy of DHT interventions on improving social connectedness and/or mitigating and preventing social isolation and loneliness. The federal government has an opportunity to advance this evidence base, by requiring recipients of federal grants to measure and report the efficacy of their DHT interventions. Finally, the federal government should consider fully funding programs that are already evaluating DHT interventions, like the Commit to Connect program housed within the Administration for Community Living.

Conclusion

The Coalition believes that DHTs present a promising future because they have the potential to encourage meaningful social connection for all Americans, particularly those who are most at-risk for social isolation and loneliness. While we recognize that there are barriers to optimal DHT uptake, the federal government can play a major part in advancing such efforts. Please consider the Coalition a resource on this important topic. For questions about our response, please contact Daneen Sekoni, Senior Policy Director, at █████████████████████

Sincerely,

███████████████

Andrew MacPherson
Founder & Chair
Coalition to End Social Isolation and Loneliness

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[6] *See* Whitelaw, *supra* note 5; *see also* Ramya Sita Palacholla, et al., *Provider- and Patient-Related Barriers to and Facilitators of Digital Health Technology Adoption for Hypretension Management: Scoping Review*, 3 JMIR CARDIO e11951 (Mar. 26, 2019), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6834226/

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COVER PAGE

White House Office of Science and Technology Policy: Request for Information (RFI) on Strengthening Community Health Through Technology

Document Citation: 87 FR 492, 87 FR 6630
Page: 492-493 (2 pages), 6630 (1 page)
Document Number: 2021-28193, 2022-02289

March 31, 2022

- **Submitter:** Code for America*, a 501(c)(3) Organization*
- **About us:** Please refer to next page for an overview of Code for America's programs.
- **Contact:** Ryan Ko, Chief of Staff,
  ███████████████████████████

CODE *for*
AMERICA

We're people-centered problem solvers showing that with the mindful use of technology government can work well for *everyone*.

We've been working for more than a decade

to show government can work for the people, by the people, in the digital age.

Too often, people who need access to services the most are not included in the design of government programs. We work shoulder to shoulder with community organizations and governments to build digital tools, change policies, and improve programs. Insights and ideas from real people guide us to real solutions that break down barriers to community needs and improve government in meaningful ways.

Our goal:

A resilient government that effectively and equitably serves all Americans

Who we are:

Technologists   Advocates   Organizers

Our programs:

Strengthening the social safety net

SNAP, TANF, Medicaid, WIC, LIHEAP, P-EBT, state-specific programs

Integrated Benefits: Making it easier for people to access their benefits in one place

GetCalFresh: Improving the delivery of food assistance in California

Insight & Impact: Strengthening government's capability for human-centered safety net delivery

Shrinking the criminal legal system

Clear My Record: Transforming the process of criminal record clearance

Promoting economic justice through tax benefits

EITC, CTC, EIP, add'l cash assistance programs

GetYourRefund: Helping families achieve financial stability with flexible cash

GetCTC: Ensuring all families can access the new child tax credit

Mobilizing a national network

Brigade Network: Meeting community needs across the country with volunteer people power

Community Fellowship: Pairing community members with lived experience with local governments to improve service delivery

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CODE *for* AMERICA

We're people-centered problem solvers showing that with the mindful use of technology government can work well for *everyone*.

Human-centered safety net services are digital health technologies that are key strategies to preventative health, managing cost, and improving life outcomes

Safety net programs such as SNAP, TANF, Medicaid, WIC, LIHEAP, tax benefits (e.g., EITC, CTC) are generally not thought of as part of the health ecosystem, but ought to be. Safety net benefits have significant downstream health impacts and work to support major social determinants of health, driving health outcomes at lower cost [23].

However, the safety net is not equitably digitized or modernized. Process inefficiencies such as long processing and wait times, administrative burden such as applications that rely on paper forms, or websites that are not mobile friendly or available only in English prevents access and creates both participation gaps[45] and churn. Simply put, the digital technologies that improve life outcomes by providing basic needs through safety net services are critical strategies to strengthening community health we must modernize the safety net to help people lead healthier lives more equitably.

Our learnings are informed by our decade of experience partnering with government on delivering human-centered safety net services

We have learned that systems change in the public sector requires a sophisticated approach blending expertise in program and product development, a flexible mindset, a passion for serving marginalized communities, and a deep knowledge of delivering equitable outcomes. Our approach starts with cross collaborative teams and processes to address some of the country's toughest challenges, all with a committed focus on centering marginalized, low income communities. We've partnered with government to design inclusive, human centered[6] systems that treat everyone with dignity and respect, implement policy changes that quantifiably strengthen the social safety net, and build equity analysis frameworks to evaluate policies and programs. We have

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[1] SNAP's Role in Improving Health and Lowering Medicaid Costs, https://www.manatt.com/insights/newsletters/health-highlights/snaps-role-in-improving-health-and-lowering-medic

[2] SNAP can help Ohio lower Medicaid costs, https://www.cleveland.com/opinion/2022/01/snap-can-help-ohio-lower-medicaid-costs-john-r-corlett.html

[3] SNAP Is Linked with Improved Nutritional Outcomes and Lower Health Care Costs, https://www.cbpp.org/research/food-assistance/snap-is-linked-with-improved-nutritional-outcomes-and-lower-health-care

[4] The SNAP Gap: A State-by-State Glance, https://frac.org/blog/the-snap-gap-a-state-by-state-glance

[5] The Earned Income Tax Credit Participation Gap, https://prosperitynow.org/resources/earned-income-tax-credit-participation-gap

[6] Human-Centered Government, https://codeforamerica.org/ideas/human-centered-government/

CODE *for* **AMERICA**

We're people-centered problem solvers showing that with the mindful use of technology government can work well for *everyone*.

significant expertise in removing barriers to access programs like SNAP[7] and EITC/CTC[8]. We are proud to have distributed $150 million in pandemic relief to undocumented immigrants[9], worked with native tribes in Minnesota to improve safety net benefits enrollment, helped families receive food assistance in rural geographies, and created the first human centered, mobile friendly applications for SNAP in California, integrated multi benefits in Minnesota, and EITC/CTC nationally.

Suggestion #1: Measure what matters

Understanding inequitable outcomes and delivery gaps is of critical importance. The existing system for evaluating safety net programs does not capture the human experience of accessing services. We published a more meaningful set of metrics that could be used as "vital signs" to effectively assess the true state of program delivery and measure progress over time. Please see https://codeforamerica.org/programs/social safety net/scorecard/the national safety net scorecard.

Suggestion #2: Center people with lived experience

Government decision makers must develop a deep understanding of the needs of the people the government serves, and prioritize those needs over all else. Government services should solve a complete problem for people, and meet them where they are in life. We have found that too often, government services start from government policy or operational considerations, not the needs of potential clients or beneficiaries. Please see https://info.codeforamerica.org/qualitative research and https://codeforamerica.org/ideas/human centered government/put people first/.

Suggestion #3: Utilize digital outreach to effectively reach vulnerable populations

Government's scale uniquely positions it to make a positive impact on low income Americans' everyday lives in a way few institutions can. Tools of the digital age, including online advertising, can help leverage that scale quickly and effectively. While non digital outreach remains important, digital outreach scales at lower unit cost, and must not be ignored. Please see https://www.codeforamerica.org/resources/digital outreach playbook.

Thank you for the opportunity to comment

We are grateful for the opportunity to comment and would be excited to share more with you (e.g., examples, case studies, and resources).

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[7] Food Benefits - Code for America, https://codeforamerica.org/programs/social-safety-net/food-benefits/
[8] Child Tax Credit for Non-Filers, https://www.whitehouse.gov/child-tax-credit/sign-up/
[9] Dismantling the Invisible Wall, https://codeforamerica.org/news/dismantling-the-invisible-wall/

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February 28, 2022
To: White House Office of Science and Technology Policy (OSTP)
Commenter: Collective Medical, a PointClickCare Company
Stakeholder Type: Technology developer
Re: Connected Health RFI
Submitted to ███████████████████

To whom it may concern:

On behalf of Collective Medical, a PointClickCare Company, it is our pleasure to submit input in response to the RFI on Strengthening Community Health Through Technology. Collective Medical is the nation's leading real-time care notification, activation, and collaboration platform. Our comments stem from more than a decade of sharing real-time patient insights for care coordination purposes and working with hospitals and care teams to ensure they have the information they need to deliver the best possible care to their patients. Together with PointClickCare, the healthcare IT market leader for the senior care industry, we form the largest combined acute and post-acute healthcare collaboration network in North America, with more than 22,000 post-acute and senior living facilities, more than 1,300 hospitals, and thousands of ambulatory care centers, health plans, and accountable care organizations (ACOs).

We provide technology for managing and sharing health information that is critical for improving community health, individual wellness, and health equity. Our platform and the care collaboration that it facilitates have been shown to improve patient outcomes among traditionally underserved populations, particularly in the areas of behavioral health and avoidable emergency department (ED) utilization. Notable outcomes include: Mid-Valley Behavioral Care Network achieved a **75% seven-day follow-up rate for behavioral health patients post-discharge**; Barlett Regional Hospital achieved a **63.6% retention rate for its Substance Use Disorder (SUD) program**—15% higher than the national average; Sturdy Memorial Hospital **reduced ED utilization from behavioral health patients by 78%**; and the State of Washington **reduced Medicaid ED visits by 10% year over year**. In light of these successes, we offer the following input and hope it will be useful as you explore how innovation in technology can lower the barriers people face in leading healthier lives.

Question 1. Successful models within the U.S.
Below are a few examples of how our platform supports community health in the U.S.

Mental health and SUD. The Collective platform surfaces awareness and enables collaboration across acute and ambulatory settings for patients with mental health and/or SUD care needs. We support this coordination in multiple ways including by providing critical insights and notifications to treating providers at the point of care and facilitating warm handoffs from the ED to community-based Medication Assisted Treatment facilities. In one state where our technology was deployed statewide with a focus on reducing unnecessary ED utilization and opioid prescriptions, **the state saw a drop in fatal opioid overdoses for the first time in six years**. In another instance, we supported a counseling and family services provider that moved

most of its workforce to remote telehealth so that clients could receive teletherapy during the pandemic. Collective produced reports to help case managers identify clients that needed support. Real-time data also facilitated communication with the care team, and they leveraged the platform to achieve a **90% follow-up rate for behavioral health clients after an ED visit**.

Homelessness and housing insecurity. Housing security is an important part of an individual's overall health and wellbeing, and many community providers need to be able to identify and address this risk factor in the patient care plan. One example of how our platform has supported this is in California, where local and regional care communities have implemented robust data sharing tools to improve services for unsheltered individuals. Discharge plans for these patients are shared on the Collective network for visibility across the care team. Collective also worked with hospitals to map a range of identifiers to identify individuals experiencing homelessness or housing insecurity. Two new icons were developed that display in the portal if the patient has a confirmed or suspected history of housing insecurity. Users of the platform have found this to be a powerful tool for identifying and improving care planning for unsheltered individuals who repeatedly use the hospital as a primary point of care.

Question 6. Proposed government actions
Below are recommended actions the Federal Government can take to support the transformation of community health through the uptake of innovative technology.

Create and fund a program to incentivize the adoption of technology. Meaningful Use has led to great strides in the adoption of EHR technologies. However, some provider types were not eligible for Meaningful Use incentives and therefore have lagged in the adoption of technology that is critical to support interoperability, health information sharing, care collaboration, and data collection. A program that incentivizes the adoption of technology across the care continuum (including long-term care) and incorporates best practices and lessons learned from prior initiatives will enable all providers to take advantage of the latest innovations and position them for success in value-based care initiatives. *Timeframe:* This program could start in the immediate future (0-2 years); a longer time period will be needed to achieve results.

Embed technology, interoperability, and electronic information exchange as consistent components of all federal health programs. It is truly encouraging that we have seen a focused Federal effort on advancing racial equity and supporting underserved communities, codified in national policy in an executive order that President Joe Biden signed in his first day in office. This "whole-of-government" equity agenda requires a foundational health data and technology infrastructure if we are to identify and address the disparities that exist today. Embedding technology considerations and resources alongside equity as consistent components of federal health programs can help community stakeholders adopt needed technologies. *Timeframe:* This could begin in the immediate future and continue on an ongoing basis.

Establish grant opportunities for communitywide collaboration via technology. Our work with communities across the country has shown a powerful network effect when a group of providers within a community adopt shared tools and become part of a patient-centered care

collaboration network. For example, Washington state care teams using Collective to collaborate on maternal care for a broad range of coordination work **have collectively seen avoidable ED utilization by pregnant women drop by 54%**. Providing grants to communities to adopt proven technologies such as this and/or to test new innovations at the community level would cultivate emerging innovations. *Timeframe:* Grant opportunities could be made in the immediate future; a longer time period will be needed to achieve results.

Question 8. International models

PointClickCare operates in both the U.S. and Canada. We have significant experience working to advance community health through technology in the Canadian province of Ontario, a nearly 15-million-person, single payer, publicly funded health system. A few examples that could be applied within the U.S. healthcare system are provided below.

System-wide Clinical Data Exchange. In 2019, PointClickCare rolled out a product for clinical data exchange between hospital-based EHRs and SNF-based EHRs such as PointClickCare. Given that we are the system of record in over 90% of Ontario's SNFs, we approached the Ministry of Health about piloting (and ultimately scaling) this solution across the entire health system. We conducted a successful validation pilot at a single hospital in 2020. In late 2021, the government committed funding to scale the solution system-wide by 2024. This includes ~120 hospitals and over 500 SNFs. The project will demonstrate the value of solutions that tackle broad community health challenges, such as transitions of care and care coordination.

Medication Safety Technology Program. Medication management is a complex system that is ripe for inefficiency, waste, and abuse. These challenges are especially acute in senior care, where most older adults in institutional care are on multiple medications at any given time. Technology can help alleviate many of these challenges and strengthen overall approaches to medication management by improving oversight, reducing the reliance on paper, and decreasing medication errors. The Ontario government recognized this need and launched the Medication Safety Technology (MST) Program. The program provides SNFs with dedicated funding to procure technologies that support better medication safety, including medication administration, pharmacy integrations, automated dispensing cabinets, decision support tools, and ePrescribing. This type of infrastructure has huge potential to improve community health, especially considering how much is spent on prescriptions in Canada and the United States.

In closing, we would like to thank you again for the opportunity to submit input. We applaud the important work that the OSTP and the Community Connected Health initiative are doing to advance community health and we would welcome further discussion on this topic.

Sincerely,

William Charnetski
EVP, Health System Solutions and Government Affairs

February 23, 2022

Dr. Alondra Nelson
The Office of the Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue NW
Washington, District of Columbia 20502

Comments Submitted Via Email at ████████████████████████

Dear Director Nelson:

The College of Healthcare Information Management Executives (CHIME) would first like to congratulate you on your recent posting as the Director of the Office of Science and Technology Policy (OSTP). We look forward to continuing our relationship with OSTP and please know CHIME is available and willing to assist in anyway possible to help OSTP accomplish their mission. Additionally, CHIME and its members welcome the opportunity to submit comments in response to the OSTP *Request for Information (RFI) on Strengthening Community Health Through Technology* published in the *Federal Register* on January 5, 2022.

CHIME is an executive organization dedicated to serving chief information officers (CIOs), chief medical information officers (CMIOs), chief nursing information officers (CNIOs) and other senior healthcare IT leaders. With more than 5,000 members, CHIME provides a highly interactive, trusted environment enabling senior professional and industry leaders to collaborate; exchange best practices; address professional development needs; and advocate for the effective use of information management to improve the health and healthcare in the communities they serve.

Community health sits directly at the center of the work CHIME and its members strive to achieve. The policy issues CHIME interacts with daily all function to strengthen the care available to patients in their community. If providers are not able to provide care where and when the patient wants to receive that care, then truly the nation cannot build a health system that is patient centered with a focus on increasing equity. Community Connected Health continues to be a goal the healthcare community is ready to meet and – as stated in your RFI posting – the COVID-19 pandemic has only further demonstrated that the technology and will is present.

In 2022, CHIME laid out an aggressive set of policy priorities that we know will help strengthen the health system, help lower barriers to accessing care and will increase the ability for all patients and providers – regardless of socioeconomic status, background, or societal standing – to access and deliver care. We continue to applaud the work the Biden-Harris Administration is doing to make healthcare work for everyone and urge you to continue improving the health system by making permanent the COVID-19 innovations that have brought our system into the 21st Century, such as telehealth. Our specific recommended areas of focus to continue developing the health system include:

1. **Cybersecurity**

    The gap in health equity is never more apparent than it is in healthcare cybersecurity. Large well-resourced health systems can better protect their networks and data better than smaller under

College of Healthcare Information Management Executives (CHIME)
710 Avis Drive, Suite 200 | Ann Arbor, MI 48108 | ████████████ | www.chimecentral.org

resourced ones. This lower cybersecurity floor for smaller, under resourced providers leaves the whole health system vulnerable, especially as the government and nation works towards a more interoperable future with increased sharing of health data and interoperability.

Health data has never been more valuable, and providers have never been under more threat for compromise. 67% of CHIME members surveyed last year[1] indicated they'd suffered a security incident. That number is projected to increase in 2022 as the gap in cybersecurity funding continues to widen. Trust in the health system is in grave danger if patients cannot know for certain that their health data will be protected. Patients will share less information with their providers if they fear that information could be posted or sold on the internet. This is incredibly crucial to remember when discussing health equity, as those utilizing under resourced providers less protected from cyber intrusion are at a higher risk to have their health data compromised. The U.S. government must do more to raise the security floor across the board to ensure all providers are on a level playing field and ensure those facing health inequity are not also more vulnerable to cyberattack.

Cybersecurity does not just mean network security and data protection. Often the privacy aspect of cybersecurity is overlooked. New regulations taking effect at the end of this year will open the sharing of data to largely unregulated third-party applications. It is crucial for the government to respond with strong privacy protections for patients in the face of increased data sharing. If the cybersecurity of these apps cannot be verified and protected, then securing the providers themselves will be for nothing. As highlighted in our letter to ONC and CMS earlier this year[2], the provider community continues to harbor significant concerns related to a patient's ability to understand and protect their health information in a third-party app enabled ecosystem.

2. **Interoperability**

Interoperability has been a fixture policy issue at the center of health IT for almost two decades. The fight for a better more connected health system continues today with the implementation of the Office of the National Coordinator for Health Information Technology (ONC) and Centers for Medicare & Medicaid Services' (CMS) information blocking/sharing regulations. We continue to support the implementation of these rules and urge both ONC and CMS to continue providing technical support on the nuances of the laws. Community Connected Care relies on the ability for data to be exchanged and while information blocking/sharing aims to open the flow of data. If providers large and small lack a detailed understanding of the laws then they will fall short of their goals. It is crucial for this education from ONC and CMS to continue to shrink the knowledge gap.

Despite these laws coming into place, there are many providers that continue to be left out of the information sharing and interoperability conversation. Care handoffs within the U.S. are far from perfect, especially when it comes to the long-term post acute care (LTPAC) community. Left out of HITECH, ARRA and the Promoting Interoperability Program, LTPAC providers have been left trying to patch together interoperability solutions on their own using non-certified electronic health records, or retrofitting certified records designed for use in other provider settings. If the nation is to achieve full connected community care, these LTPAC providers must have the support needed to participate in smooth and secure digital care handoffs. We urge the Biden-Harris Administration to prioritize raising the interoperability floor for all providers, including LTPAC.

3. **Broadband/Telehealth**

We applaud the Biden-Harris Administration for the work it has already accomplished related to broadband expansion and telehealth sustainability. The job is not done though, it is crucial for the National Telecommunications and Information Agency (NTIA) to monitor and ensure the broadband

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[1] https://chimecentral.org/wp-content/uploads/2021/10/2021-CHIME-AEHIS-Cyber-Survey-1.pdf
[2] https://chimecentral.org/wp-content/uploads/2021/08/Coalition-Letter-to-CMS-and-ONC-on-FHIR-Based-APIs-Final.pdf

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infrastructure monies are spent appropriately. If this funding is misused, federal programs run the risk of being half finished – a problem broadband initiatives have faced in the past. A second failure to secure implementation of high-speed broadband will risk the ability for future programs to find support and funding. High-speed broadband is a crucial piece of closing health equity gaps given the links research has drawn between access to reliable internet and health disparities. Rural and underserved areas have long struggled to secure affordable high-speed internet that patients and providers can reliably access. This limits the ability for patients to interact with the health system and for providers to care for patients. This is especially the case with telehealth, which relies on consistent access to high-speed internet.

In synchronization with the broadband effort, the Biden-Harris Administration must do all it can to extend the telehealth flexibilities allowed under the COVID-19 pandemic permanently. We applaud the efforts undertaken by CMS in 2021 to extend telehealth permanency within its authorities, but more must be done. While the Administration is largely left waiting for Congress to pass permanent extension, there are additional areas where telehealth flexibilities can be codified permanently. Those areas include in expansion of the audio-only flexibilities and the redefinition of a telecommunications system to include audio-only telehealth. While the nation awaits Congress to act, we encourage you to re-examine the definition of a telecommunications system and ensure audio-only telehealth is enabled permanently for all moving forward.

4. **Patient Identification**

The ability to accurately identify a patient is crucial in protecting them from medical errors and to ensure patients and physicians can trust a Community Connected Care health system. Patient identification is most important in conversations related to health equity, as non-white patients are misidentified at a higher rate than white patients. CHIME applauds the work already underway to create more standards, such as the postal address standard developed by ONC, to improve patient identification and matching. This is a good start, but more must be done to protect patients. While HHS is banned by Congress from developing a unique patient identifier, it is crucial for the Administration to provide as much support as possible to shift Congress towards lifting the ban. That begins with the release of the ONC Patient Matching report that is more than a year overdue. ONC must release this report as soon as possible given that much of Congress has stated they will not act on this crucial issue until the report itself is released.

CHIME shares the same belief as the Biden-Harris Administration that a more sustainable Community Connected Care health system is possible. We hope you will review our above suggested areas of focus and act on the crucial topics contained within them to better advance the care community. Until everyone can engage with the healthcare system in an effective and consistent manner, there is no way for a full community connected care model to succeed. We believe the above policy priority focus areas can bring this nation closer to that community connected health goal. If you have any questions related to healthcare, or our letter, please contact Mari Savickis, Vice President of Public Policy, at

Sincerely,

Russell P. Branzell, CHCIO, LCHIME
President and CEO CHIME

The Colorado Office of eHealth Innovation (OeHI)[1] - an Office of the Lt. Governor - and the Colorado eHealth Commission- a governor appointed advisory committee to OeHI and steering committee for Colorado's Health Information Technology (IT) Roadmap efforts - submit the following response to the Request for Information (RFI) from the White House Office of Science and Technology Policy, published in the Federal Register on January 5, 2022.

In 2021, OeHI, in partnership with the eHealth Commission and a broad group of stakeholders, updated the Colorado Health Information Technology Roadmap (Roadmap)[2]. The 2021 Roadmap recommends needed policy, technology, and funding solutions to achieve its three goals: shared data, access, and improved health equity. The Roadmap defines a vision for transforming Colorado's current patchwork health IT infrastructure into a more cohesive and integrated system that enables inclusion and equitable access to data and information that can better serve all Coloradans. This RFI response pulls from the Roadmap's goals and strategies. (Roadmap Figure 1, pg. 7)

(1) Technical/Cost Barrier: Connectivity and Integration- Although most Colorado hospitals are connected to a health information exchange, many providers — especially rural safety net providers, behavioral health, oral health, long-term services and supports, and social supports such as food and housing providers — are not able to share information broadly through the health information exchanges. (Roadmap, pg.11) Many rural health care facilities cannot afford to implement and maintain an electronic health record and connect with a health information exchange. (Roadmap, page 19) Around one in ten households in rural Colorado lack broadband, and approximately 130,000 households do not have a computer or access to a digital device. (Roadmap, pg. 18) Connection of certain providers can be more complicated due to the privacy and consent protections for substance use disorders, behavioral health, and social interventions as prescribed by federal and individual state laws.

The Infrastructure Investment and Jobs Act (Pub.L. 117-9) and federal COVID-19 relief address broadband and afford opportunity for IT enhancements, but they fall short in terms of ensuring sufficient symmetrical upload and download speeds, addressing longer-term needs for operations beyond the COVID-19 pandemic and sustainability beyond initial connectivity, and more closely meeting actual monthly service and hardware costs for low-income households. While baseline award amounts or carve-outs for technology have been established in some instances, there remains competition for limited resources, uncertainty about sustainability of current resources, and an uneven and competitive field that caters to the more administratively able entities and households, leaving behind some of the more under or un-resourced service areas and needs.

Broadband is associated with healthcare access and overall quality of life through better social connections and economic opportunities, thereby improving social determinants of health, as well as community and individual resilience[3]. Broadband must be recognized on par with utility or railway service. Health providers and Community Based Organizations' (CBOs) utilization of electronic health records and social-health information exchanges supports more holistic treatment, population health, and jurisdictional policy that is data-informed. Patients having access to, and exerting greater direction over, their health information empowers them.

Recommendation: Increased action and funding from the Federal Communications Commission for universal broadband, with a focus on investing in fiber and sustainable technology for under- or un-resourced areas.

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[1] Accessed 2/1/22 at: https://oehi.colorado.gov/

[2] Accessed 2/1/22 at: https://oehi.colorado.gov/2021-colorado-health-it-roadmap

[3] Accessed 2/8/22 at: https://www.benton.org/publications/broadband-policy2020s

(2) Reimbursement/Policy Barrier: Telehealth- The state of Colorado continues to recognize the positive potential effects of virtual or remote services, including audio-only, as an outcome of the COVID-19 pandemic and an enhancement to existing in-person services. These potential effects include: fostering independence and preventive health, managing intensive or chronic care needs (e.g., neonatal, end-of-life, behavioral health) and care continuity post-pandemic, reducing the use of more expensive hospital care and infection risks, expanding services to remote service areas and in times of increased demand, maximizing the health workforce, and access to remote expertise and/or at a time and manner conducive to one's life demands and responsibilities.[4] Colorado is also exploring the potential of remote patient monitoring for supportive services and potentially chronic disease management. Colorado continues to support policy that ensures reimbursement parity with in-person services and connection of the telehealth providers to electronic health records and social-health information exchanges[5]. Reimbursement parity is necessary to maintain the continued exploration of, and ongoing improvements in, virtual and remote services, and to ensure their complement and coordination with other health and social supports provided to the same individual. When a patient feels vulnerable or is managing a new condition or circumstances, they need to have their health or social information and access to a patient-informed health provider or CBO.

Recommendation: Federal agencies, including Centers for Medicare and Medicaid Services, should support virtual and remote services on par with in-person visits continuing after the national public health emergency expires. Federal agencies should support further study of implementation, consistent application and best practices across states, and safeguards are necessary in the coming months and years to refine reimbursement policy, improve patient safety and care regardless of location, and bolster care coordination and integrity.

(3) Other Barrier: Social Determinants of Health Integration- As the concept of health expands outside clinical and pharmaceutical interventions, more attention is being paid to other drivers of health and well-being[6]. Social supports, behavioral health providers, transportation, long-term care and support, as examples, are critical to holistic care coordination, but are constrained by funding, technology limitations, complicated federal and state consent and privacy laws, and/or human resource capacities. Community-based organizations may operate at financial disincentives to accept a new referral, though acceptance for service could offset an adverse health impact. In addition, the social determinants of health underpin the advancement of health equity and may be leveraged to counter misinformation, distrust, and mitigate effects of an adverse event, such as an economic downturn. Examples from Colorado include the Denver housing program[7] and the Community Information Exchange[8]. North Carolina's NCCARE360[9] also offers a promising path. Federal grant funding and typical public opinion, however, tend to favor more clinical and pharmaceutical interventions, rather than interventions addressing the social determinants of health.

Recommendation: Greater federal funding opportunities through multiple agencies, including the Centers for Disease Control and Prevention (CDC) and the U.S. Department of Health and Human Services, for social determinants of health and their integration into health technology, including interoperability, are increasingly needed. An assessment of current consent and privacy laws at the

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[4] Accessed 2/8/22 at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577680/ and https://www.cchpca.org/

[5] Accessed 2/8/22 at: https://www.primehealthco.com/rtlc

[6] Accessed 2/8/22 at: https://health.gov/news/202201/equity-and-enhanced-individual-and-community-resilience-are-integral-meaningful-recovery?source=govdelivery&utm_medium=email&utm_source=govdelivery

[7] Accessed 2/3/22 at: https://www.9news.com/article/news/local/federal-government-offers-denver-millions-expand-housing-program/73-45031d49-b436-40db-8b55-6f424b808a66

[8] Accessed 2/3/22 at: https://ciesandiego.org/wp-content/uploads/2021/12/Community-Profiles-FINAL.pdf

[9] Accessed 2/3/22 at: https://nccare360.org/ and https://governor.nc.gov/news/north-carolina-creates-nation%E2%80%99s-first-statewide-infrastructure-connecting-healthcare-and-human

federal level should be led by The Office of the National Coordinator for Health Information Technology to provide more consistency across programs, jurisdictions nationwide, and/or greater ease in provider navigation.

(4) Other Barrier: Work Complexity- Health IT is highly technical and sophisticated work to do it well, the work involves a vast network of stakeholders, including a diverse workforce, providers, CBOs, governmental agencies, and consumers or patients. Stakeholders' support policy that allows for scalability, flexibility, and more often includes considerations of marginalized populations, geographic features, culture, adequate responsiveness capabilities, and unique jurisdictional practice or models. The continued focus on direct services as hospitalizations for COVID-19 continue, the pandemic's economic impacts, and neglected or delayed health or social service needs, have created significant time demands and constraints, limiting the willingness and ability of stakeholder engagement activities. In addition, stakeholders can present with multiple views, technology tools, and can require more intensive engagement efforts, up to and including a high-profile person from the profession or region to serve as a liaison. Human connection and administration require resources.

No designated funding exists for administering agencies in major U.S. jurisdictions to support health IT governance, grant and program administration, and innovation. Rather, funding must be within the scope of Medicaid (with match) and is otherwise compiled piecemeal through various government agencies, scarce or sometimes confusing competitive processes, and fees or private resources[10]. Reliance on fees pose a particular hardship for smaller or rural healthcare providers and CBOs, and may add to current strains caused by the COVID-19 pandemic, including workforce shortages. As a result of funding shortfalls and inconsistencies, jurisdictions can fall to fragmentation and fail to realize their health IT visions in full.

Recommendation: Federal support and investment should be made so that states and territories have at least a minimal number of employees (or baseline operations) to: foster greater centralization, administer a governance structure, apply for grants and funding through advance planning documents (APDs), serve as a technical assistance and innovation point of contact, and adequately support the use of digital health technology and social-health information exchanges by health providers, CBOs, and patients. This non-compete funding could be administered by The Office of the National Coordinator for Health Information Technology and be subject to planning and reporting requirements.

OeHI and the eHealth Commission encourage the Biden-Harris Administration to seize the unprecedented context--the new awareness from the pandemic, enhanced embrace of digital technologies, and the momentum for pandemic recovery--to accelerate digital health and more holistically propel our nation's health outcomes forward. OeHI and the eHealth Commission appreciate this opportunity to supply information.

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Stephanie Pugliese, Director, Office of eHealth Innovation, 130 State Capitol, Denver, CO 80203;
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[10] Accessed 2/8/22 at: https://www.medicaid.gov/medicaid/data-systems/health-information-exchange/federal-financial-participation-for-hit-and-hie/index.html

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March 31, 2022

White House Office of Science and Technology Policy
Re: Request for Information on Strengthening Community Health Through Technology

Submitted electronically: ██████████████████████████

To whom it may concern:

[Community Catalyst](#) is a leading non-profit national health advocacy organization dedicated to advancing a movement for health equity and justice, which partners with local, state and national advocates to leverage and build power so all people can influence decisions that affect their health. This is why we tirelessly engage and organize communities' voices to ensure their preferences are prioritized in health and health care decision-making.

We are confident that digital health technology can catalyze innovative care solutions that promote health equity, particularly for BIPOC communities. So, we eagerly submit comments on Strengthening Community Health Through Technology – (1) providing overarching points on digital health, (2) community health, and (3) responding to specific asks of the RFI.

Overarching Comments[1]

Community Voices Crucial to Digital Transformation
As the White House considers digital health policies, it is imperative to ensure diverse community voices are centered in the design and implementation of such tools and policies. To increase efficacy, we suggest employing an array of means to ensure community voices are embedded: regional listening sessions (in multiple languages), trusted community partnerships, and infusing resources into communities where this can have a particularly powerful impact.

Need for well-resourced Digital Infrastructure
Without ample resources, the digital divide between resourced and disinvested communities will continue to grow. Resources must support infrastructure required to create impact, including providing access to high-speed internet and devices in communities with highest need, tools and trainings to communities and providers, developing tools for all levels of health literacy that incorporate cultural humility, and ongoing dialogue with communities to be responsive to their needs.

Specific Responses to RFI

Successful Models

We recommend considering the following models when developing new policies and practices:

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[1] We recommend this article: https://jamanetwork.com/journals/jama/article-abstract/2785583.

1. Cityblock Health, a tech-enabled health and service provider for divested communities.[2]
2. [Project ECHO](Extension for Community Healthcare Outcomes (ECHO)) – use video-conferencing as a platform to train primary care providers who treat complex diseases.

Barriers

Barriers are chiefly manifest in BIPOC groups who may not have access to [digital infrastructure] , have limited digital health literacy, limited access to tools/training, and are rarely engaged by decision-makers as equal partners in improving access to digital tools.

Trends from the pandemic

The COVID-19 pandemic fueled widespread digital innovation, but also revealed structural inequities that worsened communities' risk factors for COVID-19 mortality. In a recent [JAMA publication], researchers explored spatial and racial disparities in county-level COVID-19 mortality rates , using cross-sectional data for US counties. Across all communities, places with limited internet access had higher mortality rates, particularly in urban communities. They concluded that more awareness is needed about technological access to reliable information, remote work, schooling opportunities, resource purchasing, and social community. Groups with limited internet access remain understudied in pandemic research. [Another study] evaluated COVID-19 mortality rates and neighborhood characteristics in Chicago. Authors report that higher death rates were seen in neighborhoods with fewer households with broadband internet. So, while we applaud digital innovations to strengthen community health, we must stress the importance of co-designing applications, policies, and strategies alongside people with low SES, those with disabilities and illnesses including substance use disorders, and those without internet and broadband access.

Proposed government action

Recommendations for improving digital health services, including a specific focus on people with substance use disorders:

COVID-19 upended the health system and particularly services for people with substance use disorders. The pandemic worsened the substance use disorder crisis in [every state] across the country, and overdose deaths reached an all-time high, topping [100,000] in 2021. Like many health providers, some treatment/ recovery providers closed, while others moved to remote or virtual operations. While some providers have returned to in-person operations, the need for accessible treatment and services continues to grow. This is especially urgent among BIPOC and other marginalized communities who faced inequitable access to treatment and services before the pandemic. We recommend policymakers meet this need, in part, by investing in telehealth services to strengthen community and social services infrastructure. Based on engaging people with lived experience through focus groups in the [Peers Speak Out] project, we propose these recommendations for virtual services for substance use disorders, during COVID-19 and beyond.

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[2] Consider reviewing this article on Cityblock Health and their role during the pandemic through use of telehealth: https://www.ama-assn.org/practice-management/digital/return-health-telehealth-case-study-complex-care-coordination.

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While centered in the lived experience of people with substance use disorders, these improvements could help improve access to digital health services at large:

- Expand broadband and Wi-Fi, and purchase/loan mobile devices for virtual services.
- Continue virtual services beyond the COVID-19 public health emergency period.
- Provide community-based hubs where people can safely learn how to use virtual services/platforms, get assistance using them and where those who do not have devices (phones/computers) can safely access these privately for appointments and groups.

Also, policymakers should prioritize funding and resources to providers so they can offer culturally effective virtual services. This could include funding for providers to:

- Continue to expand virtual services even when it is safe to return to in-person services, but maintain both as patient-chosen options.
- Develop a directory of virtual services, including what services are available and how they can be accessed. Concentrate on virtual services promotion and on-the-ground outreach to community members in highest need areas.

Incorporate advanced training for providers on culturally effective services and active listening, like nonverbal cues, and motivational interviewing as this can be difficult in virtual settings.

Health Equity

Key vulnerable groups – those at risk of social exclusion and at greater risk of being excluded from digital health service – include older people, unemployed individuals, migrants, those with low SES, mental health and substance use service users and others whose conditions or disabilities contribute to access barriers, as well as BIPOC and LGBTQ+ communities that face racism and discrimination. To ensure that our strategies are inclusive, we recommend applying the Crawford and Serhal's Digital Health Equity Framework to address these digital determinants of health: (1) individuals' access to digital resources, (2) use of these resources for health seeking, (3) digital health literacy, (4) beliefs about the potential help or harm of digital health care, (5) values and cultural preferences about the use of digital resources, and (6) integration of digital resources into community and health infrastructure. Since there will always be a need for in-person health care interactions, innovation in this space should be pursued alongside digital transformation, allowing more choice in person-centered care. As we pursue a path that raises the significance of digital transformation in communities, our north star must be digital health equity or equal opportunity to benefit from knowledge and practices related to digital technologies that improve health.

Thank you for the opportunity to provide input on this matter and any related issues in the future.

Sincerely,

Dr. Brandon G. Wilson, DrPH, MHA
Director, Center for Consumer Engagement in Health Innovation
Community Catalyst

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RFI on Strengthening Community Health through Technology
White House Office of Science and Technology Policy
Submitted: February 28, 2022

ORGANIZATIONS
- Community Health Design Corps (CHDC), a Delaware Statutory Public Benefit LLC. Founded 2021. www.chdesigncorps.com
- Activate Care (AC), a Delaware corporation. Founded 2012. www.activatecare.com

INTRODUCTION
CHDC advances tech-enabled, community health workers (CHW) and community paramedics across healthcare and social services to engage, care for and connect populations experiencing disparities and poor access to needed services. We offer *care system design and integration as a service* to health plans, healthcare and community-based organizations. Service channels include training and education, integration, evaluation, governance, sustainability and policy.

After a decade of working with the community health workforce, including CHWs, Activate Care has gained a deep understanding of how to address social risk in complex populations as evidenced by their extraordinary platform. For populations experiencing high disparities and poor access, including rural communities, combining CHDC's care system design and integration services with Activate Care's multi-faceted platform creates a valuable and proximate, connected community care solution.

THE CHDC MODEL
TRAINING & EDUCATION – Excellence in training is critical to developing an effective community health workforce. Seasoned, culturally fluent CHWs are preferred trainers especially for the foundational course which is intended to address care coordination, advocacy, education and other skills. The baseline course bolsters CHW capacity, is requisite to program or disease-specific training, includes recognized core competencies and incorporates CHW Core Consensus Project recommendations. Equally important is a course for CHW supervisors to gain the skills and cultural fluency necessary to successfully recruit, retain and integrate CHWs. Continuing education, including motivational interviewing, culturally responsive care, mental health for non-clinicians and other relevant topics serve to expand workforce capacity.

INTEGRATION – In order to integrate CHWs into a healthcare and social service network, CHDC assists with program design, implementation, management, iteration and evaluation. As well, with input from stakeholders, CHDC elevates awareness, guides the development of operational and clinical protocols and lends technical assistance to ensure fit and functionality from frontline to entity and ecosystem levels.

EVALUATION – A limited set of key metrics, stratified by race and ethnicity, are essential to establishing baseline and pre-program comparative data points across chronic disease outcomes, healthcare utilization, SDoH and client engagement. As well, CHW workforce data can be entered continuously on Activate Care's technology platform. Though more advanced case and randomized control trials lend crucial statistical insight, most parts of the country are missing basic descriptive data on social drivers and services, client engagement and the community health workforce. Thus, simple pre/post analyses to gain early traction, inform stakeholders and initiate policy

COMMUNITY HEALTH
DESIGN CORPS

ActivateCare

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RFI on Strengthening Community Health through Technology
White House Office of Science and Technology Policy
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discussions are valuable and more readily attainable than their high labor, cost and complexity counterparts. Equally important is data collection in six-to-twelve-month intervals over two to three years or longer in order to glean reproducible best practices and use cases, embed the program into network culture and iron out first-year variations in utilization and health outcomes.

Entrenched and inequitable systems and policies that limit basic health, social services, education and supplies to millions of Americans along lines of race, socioeconomic status and zip code cannot be overcome in one-year quality and utilization cycles or rapid rounds of revenue generation. Thoughtful adoption and iteration over time is needed. Though focusing on the 5% highest utilizers might decrease cost, programs that incorporate rising-risk and whole populations and emphasize prevention, risk reduction and social drivers are more likely to decrease health disparities while increasing life quality and expectancy. In the short-term, this is more difficult to quantify so proxy measures such as completed preventive diagnostics, self-reported overall health, lifestyle variables and improvements in social determinants may be used.

GOVERNANCE – Frontlines/manager and director/executive level committees are established at the beginning of the program to inform decision makers, coordinate care, develop system-wide protocols and fine-tune program details. Depending on the program, members may include stakeholders from health care, health plans, public health and community-based organizations as well as CHWs, community paramedics and healthcare providers. Primary care plays a pivotal role lending clinical oversight to the program and developing procedures to streamline orders/requests generated by the community health workforce in order to decompress workload and gain buy-in from other primary care providers, nursing leadership and the healthcare system.

SUSTAINABILITY – As Medicaid, Medicare and private insurers transition from fee-for-service to value-based care, it is important to model CHW sustainability within these, budgetary and blended payment systems. Whether or not a particular state has a Medicaid SPA allowing CHWs to bill with CPT codes, CHWs who perform CPT functions can enter the corresponding codes onto Activate Care's platform which then aggregates and reports these values to better understand a population's social need and to calculate the value add of CHW services. Similarly, in value-based plans, CHWs use the platform's PRAPARE tool to screen for social drivers, then enter Z-codes for each social diagnosis onto the platform where a provider or biller find and input them into EMR or billing software to invoice payers or state Medicaid. Z-codes increase patient and population risk scores, raising subsequent PMPM payments. Even if social risk stratification software is not available at the healthcare organization or health plan, better understanding of the population and its potential value in a risk-based contract is gained. Finally, in either model CHWs can enter codes on the platform whether employed by healthcare, a community-based organization or a health plan.

POLICY & ADVOCACY – Insight gained from this model can increase awareness, inform policy, align payment models and improve technology distribution towards advancing equitable population health and a connected community health workforce.

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ActivateCare

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RFI on Strengthening Community Health through Technology
White House Office of Science and Technology Policy
Submitted: February 28, 2022

THE ACTIVATE CARE PLATFORM

Activate Care's HIPPA-compliant, **CareHub** platform allows deep functionality by connecting the healthcare, social service and HIE/SIE networks of an individual client or population into a single, integrated data-sharing ecosystem. Here, **Care Team** members across healthcare, social services, public health, education and other entities can access **Communication** software, a **Community Care Record**, a joint bio-psycho-social **Care Plan**, SDoH screening through **PRAPARE**, closed-loop **Referrals** and other tasks according to their privacy compliance level. Trained in these features, CHWs are the platform's "power-user," able to communicate with the entire Care Team, document findings, request provider or social work orders, enter workforce data and record CPT or Z-codes for financial modeling. All of this elevates CHWs, establishing them as valued Care Team members. Additionally, at the individual and population level, the platform collects, aggregates, displays on dashboards and customizes reports on social determinant, demographic, programmatic, client engagement and healthcare utilization data with the flexibility to add additional ecosystem-specific metrics.

COMMUNICATION – Care Team members exchange information by asynchronous text, documentation, video conferencing/telemedicine and uploaded documents. This multi-directional exchange builds relationships, increases team cohesion, breaks down silos within and across entities and alleviates weeks of lost time by fax and snail mail.

The COMMUNITY CARE RECORD allows the Care Team to convene, design, manage, reimburse and continuously improve care for an individual or population. Here, relevant information from multiple care delivery systems is surfaced for each member, enabling privacy compliance while streamlining processes and making workflows more intuitive. This record allows a longitudinal, integrated client journey where their Care Team members are together in a shared space that is modern, efficient and intelligent to each user in every sector.

The CARE PLAN is a collaborative, dynamic Care Team strategy to address a client's bio-psycho-social goals within the context of their home, family and neighborhood. For example, for controlling diabetes the Care Plan may include caregiver nutrition education, insulin pen home delivery in a pharmacy desert, addressing food security, locating safe walking spaces and monitoring blood glucose levels. A similar wholistic approach may be applied to mental illness and social drivers as well.

SDoH SCREENING & REFERRALS – Activate Care trains CHWs to manage social risk through interval screening of clients with PRAPARE and to initiate social service Referrals for social workers and providers. This closed-loop system allows for Referral entry, proof-of-receipt, fulfillment and reporting back to the ordering social worker or provider. As well, aggregated Referrals and social determinants data allows population-based decision making on overarching social needs such as transportation.

CHDC's design and integration services together with Activate Care's multi-dimensional platform advances connected community health in high disparities populations.

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Strengthening Community Health Through Technology

Social determinants of health -- such as lack of transportation or stable housing -- can have a detrimental effect on a person's ability to adhere to care plans and often lead to more costly treatments. But the traditional healthcare model in the United States (US) is wired to primarily address <u>medical</u> conditions, not the underlying <u>social</u> conditions that impact the person's health.

In addition, the current underlying processes that allow for modifications to the US healthcare system are slow and not well suited to rapid changes that are needed during a pandemic. Processes like federal contracting and top-down approaches to innovation and implementation may need to be updated if our country is going to succeed in strengthening community health through technology.

Community-Health.Net offers the following suggestions to strengthen the Community Health infrastructure in America:

1. Improve the process for identifying and QUICKLY implementing innovative new technology in the community health space by relying on "**people-powered" solutioning**,

2. Undertake **a safe electric vehicle (EV) travel** initiative to allow people to travel during public health emergencies that shut down congregate travel arrangements (planes, trains, busses) and to create some resiliency in the US supply chain for delivery of medical items and services from point A to point B,

3. Build the infrastructure for a new housing program -- called **Habitat for Independence** – that focuses on helping indigent people become first land-owners, then home owners and eventually becoming financially independent,

4. Support vocational training (**vo-tech**) programs at the high school and community college level to create the workforce of nurses, case managers, construction workers, solar panel installers, etc that will be needed to fully strengthen our communities.

Below are more details about each of these community health infrastructure improvements.

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Combs-Dyer Consulting
dba: Community-Health.Net

	People Powered Solutioning	Safe e-Travel	Habitat for Independence	Vo-Tech
Definitions	Encourage Americans to think big and work together to accomplish important things.	Helping American electric vehicle (EV) manufacturers to build more charging stations in rural America, interstate rest stops, and state/national parks. Helping Americans take longer, safer road trips.	Assisting people who live in public housing to become landowners, homeowners, and get on a path towards financial independence.	Promoting vocational training at the high school and community college level.
Successful Models in the U.S			Decades ago, Sears created a mail-order homes, a program that brought homeownership to the reach of many more Americans. A move toward more simple floor plans and roof-lines will allow the private sector to create configurators that would allow Americans to save for and buy houses a new way.	
Barriers	• Resistance from some media organizations that thrive on controversy to drive viewership • Resistance from some internet platforms that rely on click-bait to drive revenue	The fossil fuel industry may not welcome the US shift to EVs.	Public housing complex developers will likely not support the notion of empowering people to become landowners and homeowners. Some in the banking industry may not be supportive of fair-minded consumer protections.	The for-profit education sector may be disappointed if a larger share of federal and state funding was directed to vo-tech programs.

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Combs-Dyer Consulting
dba: Community-Health.Net

Trends from the Pandemic	The pandemic made some Americans feel powerless.	Most Americans did not feel comfortable taking long trips in planes and trains during the pandemic.	Congregate Care settings for elderly Americas were some of the hardest hit spaces during the pandemic. Very small assisted living facilities are uncommon in America.	Online school does not work well for hands-on training programs.
Tools and Training Needs	People need safe online platforms, podcasts, and video content to hear about: 1. big problems that need solving, and 2. good ideas for from each other about how to solve big problems.		People need a safe, ad-free app to find help them find housing opportunities and to learn about programs to help them become land owners, home owners and learn good strategies for becoming financially independent.	An app is needed to match vo-tech instructors with community needs (e.g., construction, home care, etc.)
Proposed Government Action	Provide assistance to keep fraudsters and hackers out of platforms that are focused on people powered problem solving.	Eliminate regulations that stand in the way of building a EV charging network that would benefit microbusinesses (such as a residential landlord)	Create a land grant program to support wealth-building	Support the development of a Community Need Matcher platform.
Health Equity	Focusing on working together to create solutions to housing, transportation, and training needs in America will strengthen our community health infrastructure and improve social determinants of health.			

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March 31, 2022

Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, District of Columbia 20504

RE: **Connected Health Initiative Response to the Office of Science and Technology Policy's Request for Information on Strengthening Community Health Through Technology (87 FR 492)**

We write on behalf of ACT | The App Association's Connected Health Initiative[1] (CHI) to provide comments to the Office of Science and Technology Policy (OSTP) on how digital health technologies are used now and should be used in the future to transform community health, individual wellness, and health equity.[2]

CHI is the leading multistakeholder policy and legal advocacy effort driven by a consensus of stakeholders from across the connected health ecosystem. CHI aims to realize an environment in which Americans can see improvements in their health through policies that allow for connected health technologies to advance health outcomes and reduce costs. CHI members develop and use connected health technologies across a wide range of use cases. We actively advocate before Congress, numerous U.S. federal agencies, and state legislatures and agencies, where we seek to promote responsible pro-digital health policies and laws in areas including reimbursement/payment, privacy/security, effectiveness/quality assurance, health data interoperability, and the rising role of artificial/augmented intelligence (AI) in care delivery (among other areas). We share OSTP's commitment to leveraging innovation in science and technology to lower barriers for all Americans to access quality healthcare by meeting people where they are and prioritizing those traditionally underserved by healthcare.

Access to traditional healthcare facilities remains one of the major social determinants of health and is often stratified along income and racial lines. As co-founders of the Health Equity and Access Leadership Coalition, CHI co-released a report highlighting how wearable devices, among other innovations, can contribute to reducing the divides in health outcomes across racial lines.[3] The remote collection of health data through wearables can help ameliorate disparities in access by allowing personalized diagnostics to occur outside of traditional healthcare institutions. For example, fitness trackers that collect valuable data, such as sleep patterns, activity, and stress levels can automatically share relevant information with clinicians, therapists, or coaches so that they can use granularized data to create more personalized care routines without requiring an in-person visit. Certain mental health apps also show untapped potential to significantly benefit engaged users' mental health.[4]

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[1] http://connectedhi.com.
[2] 87 FR 492.
[3] *See* Appendix 1.
[4] https://www.sciencedirect.com/science/article/abs/pii/S0165032717316786

Amid the COVID-19 pandemic, many turned to digital health platforms, tools, and services to consult with caregivers to avoid the risk of exposing themselves or others to the virus. Wearable ownership and use increased in 2020, with 43 percent of respondents using wearables, compared to 33 percent in the year prior.[5] Additionally, during COVID-19, more than half of all owners and users of wearables reported using them to manage a diagnosed health condition.[6] Sixty-two percent of physicians reported in a recent study that they believe wearable devices would increase the overall quality of care for their patients.[7] The Administration should, regardless of congressional action, appropriately preserve exemptions and allowances made for all digital health modalities (both synchronous and asynchronous) past the end of the public health emergency (PHE); many such allowances now clearly highlight that many legacy restrictions on digital health tools' use no longer serve the public interest.

Care providers, patients, and others who rely on innovative digital health products and services expect their data is secured, particularly their sensitive biometric data. Aside from advocating federal privacy legislation, CHI leads advocacy for the development of frameworks that will responsibly support the development, availability, and use of such AI innovations, including by developing good machine learning practices specifically for AI development and risk management of AI,[8] as well as targeted recommendations on how to improve transparency for caregivers and patients.[9] Patients, as well as stakeholders throughout the healthcare value chain, have strong interoperability, data security, and privacy expectations, and, as such, ensuring that the data collection and use practices reflect those expectations by utilising the most advanced technical protection mechanisms (e.g., end-to-end encryption) is a market-driven necessity.

In contemplating how to address health equity by bridging the digital divide, we strongly urge OSTP to recognize that the use of patient-generated health data (PGHD) is integral to the future of the American healthcare system. The demonstrated benefits of the monitoring and timely action on PGHD include reduced hospitalizations and cost, avoidance of complications, and improved care and satisfaction, particularly for the chronically ill. For example, the Department of Veterans Affairs has long provided a compelling use case for virtual chronic care management, which ultimately resulted in a substantial decrease in hospital and emergency room visits.[10] Emerging technologies like telemedicine tools, wireless communication systems, portable monitors, and cloud-based patient portals that provide access to health records are revolutionizing remote monitoring (RM).[11] In addition to helping low-income communities, healthcare providers will also benefit from the cost savings resulting from responsible use of PGHD. Monitoring of PGHD demonstrably improves patient engagement and management of chronic and persistent diseases. OSTP should also work closely with both the National Telecommunications and Information Administration and Federal Communications Commission as they implement legislation intended

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[5] https://rockhealth.com/insights/digital-health-consumer-adoption-report-2020/
[6] Ibid.
[7] https://vitalconnect.com/5-key-attributes-medical-wearables-seeking-adoption-hospitals/
[8] The CHI's good machine learning practices for FDA-regulated AI are available at https://bit.ly/3gcar1e.
[9] The CHI's *Advancing Transparency for Artificial Intelligence in the Healthcare Ecosystem* is available at: https://bit.ly/3n36WO5.
[10] Darkins, Telehealth Services in the United States Department of Veterans Affairs (VA), *available at* http://c.ymcdn.com/sites/www.hisa.org.au/resource/resmgr/telehealth2014/Adam-Darkins.pdf.
[11] The global wearable medical devices market is expected to progress from US$2.73 bn in 2014 to US$10.7 billion by 2023, predicted to progress at a 16.40% CAGR from 2015 to 2023. See http://www.medgadget.com/2016/05/global-wearable-medical-devices-market-to-reach-us10-7-bn-by-2023-as-increasing-incidence-of-chronic-pain-creates-strong-customer-base.html.

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to provide and maintain new broadband infrastructure needed to support digital health and to mitigate disparities in the healthcare context.

CHI also urges OSTP to support the use of health data and PGHD through artificial intelligence (AI) in research, health administration and operations, population health, practice delivery improvement, and direct clinical care. The Administration's policies should contribute to investments in building infrastructure, preparing personnel and training, as well as developing, validating, and maintaining AI systems with an eye toward ensuring value, ultimately offering a pathway for the voluntary adoption and integration of AI systems throughout the care continuum.

Further, the Administration's approach must embrace the critical role digital health technologies can play in advancing value-based care to make the American healthcare system more equitable and effective. Evidence clearly shows that digital health technologies helped expand access to healthcare during the COVID-19 pandemic and can address the massive toll chronic illnesses take on Americans and our healthcare system, but underutilization of digital health technologies is still present, and policy needs to better enable connected health technologies to improve health outcomes and reduce costs. CHI's Value-Based Care Task Force, recognizing a failure to date to meet Congress' mandate of a shift from the traditional fee-for-service approach to one that incents value and better outcomes in the Medicare and CHIP Reauthorization Act of 2015 (MACRA), has identified key challenges to the responsible use of digital health technologies in advancing value-based care and developed corresponding recommendations to policymakers on how to overcome them.[12] We strongly urge the Administration to consider and act on the recommendations in this report, which is also appended to this comment.

CHI shares OSTP's vision of a seamless and interoperable healthcare ecosystem that leverages the power of PGHD and can be realized through the trusted framework. Providers of public and private health plans and their beneficiaries now expect access to seamless and secure patient data across the care continuum, where "[i]ndividuals are able to easily integrate and compile longitudinal electronic health information across online tools, mobile platforms and devices to participate in shared decision-making with their care, support and service terms."[13] We support, and urge new policy activities related to this request for information to align with parallel efforts by this Administration to develop the trusted framework for the responsible use of PGHD, and we detail many of the actions the Administration can, and should, take ensure that all Americans have access to quality healthcare and are able to lead healthier lives through receiving care in their communities. To help OSTP in identifying opportunities for ways it can best connect underserved communities across America with digital health innovations, we have developed an agency-by-agency list of recommendations detailing steps that can be taken today, without Congressional action. We encourage OSTP (and others) to leverage these suggestions, and commit to assist in putting them into practice in any way the CHI can.

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[12] https://www.connectedhi.com/blog/2021/7/14/the-value-based-care-revolution-will-stall-without-health-tech.
[13] ONC, *Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap* at 73.

We thank OSTP in advance for its consideration of our views and look forward to engaging further in the future.

Sincerely,

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RECOMMENDED STEPS FOR STREGNTHENING COMMUNITY HEALTH THROUGH TECHNOLOGY

(Recommendations provided by Executive Agency, organized alphabetically)

Agency for Healthcare Research & Quality (AHRQ)

AHRQ plays an important role in developing knowledge, tools, and data needed to improve the healthcare system and help Americans, healthcare professionals, and policymakers make informed health decisions. CHI appreciates AHRQ's efforts to date to explore the cost savings and improved patient outcomes associated with digital health innovation through evidence reviews. Over the last few years, CHI engaged with AHRQ to propose several evidence reviews to explore the benefits of digital health tools and services in the context of disease prevention, as well as medication adherence. As AHRQ is a trusted and valuable resource for legislative and agency policymakers, we believe such explorations play a key role in informing any potential regulatory action.

AHRQ must play a leading role in examining ways to explore the benefits of digital health tools, not just Medicare telehealth services (which are in practice a very limited set of live voice/video condition-specific services and do not include asynchronous products and services). AHRQ can do this today through rapidly completing new evidence reviews and other studies on such topics as quickly as practicable. In these activities, it is critical that AHRQ no longer be constrained by legacy methodologies that have resulted in numerous digital health-related reviews ignoring the obvious benefits of new technologies' use throughout the continuum of care.

<u>Centers for Medicare & Medicaid Services (CMS)</u>

CMS has incredible opportunity to leverage the immense value of health innovations, including telehealth and remote patient monitoring as well as other modalities and technologies, that improve healthcare outcomes and secure significant cost savings, and provide support to digital health to transform community health, individual wellness, and advance health equity.

Physician Fee Schedule (PFS)

CMS has enabled the expanded use of telehealth (which is restricted to live voice/video calls in Medicare due to statutory restrictions). CHI supports the expansion of support for such services both during and after the PHE.

CMS has also enabled the use of remote physiologic monitoring (RPM) services for both acute and chronic conditions in Part B, representing a monumental step forward in advancing the use of digital health tools in the care of America's most vulnerable populations. CMS' policies for RPM payments should be aligned with the vision of the creator of the CPT codes capturing these activities, the American Medical Association's (AMA) Digital Medicine Payment Advisory Group (DMPAG). Moreover, glaring gaps in coverage remain for RPM's use in Medicare, particularly with respect to Federally Qualified Health Centers (FQHC) and rural health clinics (RHC) that are effectively prevented from using such technologies entirely. CHI welcomes the opportunity to provide detailed recommendations, consistent with our advocacy to CMS on its Physician Fee Schedule, on how CMS can align its approach to RPM with the CPT codes it is utilizing to support such services.

New use cases continue to emerge that fall outside of even the newest payment allowances made by CMS shine light onto inequities and disparities in healthcare that can and should be addressed through improved CMS payment policies. These use cases must be addressed rapidly to responsibly enable new technologies such as AI to improve beneficiary outcomes. As the CPT process finalizes and valuates new CPT codes to address them, CMS should rapidly activate and pay for new CPT codes developed to address these new use cases. CHI has recently pulled together a list of recommended steps that should be taken by CMS as soon as possible based on the consensus of the digital health community, which include:[1]

- **Remote Supervision:** CMS must enable greater efficiencies in medical workforce and patient safety by permanently allowing the supervision of professionals through real-time audio/video technology across as many services

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[1] [cite to CHI's 11 Feb 2022 letter to CMS]

as possible. CMS has already changed the definition of "direct supervision" during the PHE for supervision of diagnostic tests, physicians' services, and some hospital outpatient services, enabling a supervising professional to be immediately available through "virtual presence" using real-time audio/video technology instead of being physically present. In the 2021 Fee Schedule, CMS finalized the continuation of this policy through the end of the CY in which the COVID-19 PHE ends. CMS should make permanent "virtual presence" for physician services including Remote Therapeutic Monitoring Treatment Management Services (CPT® Codes 98980 and 98981). Such non-face-to-face services do not require hands-on involvement by clinical staff/auxiliary personnel, but do require complex care coordination, device interrogation, and ongoing patient communication, and virtual presence would allow billing providers to leverage clinical staff for those tasks.

- **Remote Physiologic Monitoring:** We continue to support CMS' payment for remote physiologic monitoring (RPM) CPT® codes 99091, 99453, 99454, 99457, and 99458. Given the demonstrated role of RPM tools in treating chronic and acute illnesses (and the increasing number of COVID-19 cases negatively impacting underserved beneficiaries), CMS should continue flexibilities for RPM services where applicable and provide new policy-level clarifications, including:

  o CMS should revisit the 16-day data requirement for CPT® codes 99453 and 99454. 16 days of monitoring over a 30-day billing period is an excessively high bar on patient compliance, with no known medical necessity for such an established number.

  o CMS should permanently permit RPM services to be furnished to both new and established patients, and for consent to be obtained verbally. During the PHE, making RPM services more widely available has proven to be efficacious and supportive of CMS' program integrity goals, demonstrating that limiting RPM services to established patients only has no benefit. Reinstating such a limitation would be counterproductive to caring for beneficiaries, particularly those with acute conditions.

  o CMS should consider allowing multiple providers the ability to report RPM practice expense (PE) CPT® codes 99453 and 99454. Under current policy, only one provider, in a 30-day billing period, may bill CPT® codes 99453 and 99454 for a given patient. That undercuts the ability for multiple specialists from remotely monitoring a single patient, even when monitoring and treatment by multiple patients is medically necessary.

  o CMS should consider clarifying if there are any extraordinary provider documentation requirements when reporting RPM and RPM Treatment Management Services (RPM-TMS) codes.

- **Remote Therapeutic Monitoring:** We support CMS' adoption, coverage, and payment of Remote Therapeutic Monitoring (RTM) and Remote Therapeutic Monitoring Treatment Management Services (RTM-TMS) CPT® codes 98975,

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98976, 98977, 98980, and 98981. While the community is excited about using new RTM tools to improve beneficiary care, several areas of need for clarifications have emerged:

- o At present, the RTM codes are general medicine codes, which means RTM services cannot be furnished by clinical staff/auxiliary staff personnel under general supervision. We encourage CMS to work with CPT® and to consider creating temporary Healthcare Common Procedure Coding System (HCPCS) codes that mirror the current RTM-TMS codes (CPT® codes 98980 and 98981) but which are evaluation and management (E/M) services, and therefore are billable by physicians/QHPs. CMS should further categorize these new temporary HCPCS codes as care management services so they may be billable under "incident to" general supervision.

- o CPT® has signaled that it intends to create various supply codes (CPT® codes 98976, 98977, and, in 2023, 989X6 for cognitive behavioral therapy). Given that CPT® codes 98976 and 98977 presently have the same valuation, CMS should consider streamlining these and future codes by combining them into a single, general supply code (similar to RPM CPT® code 99454) for RTM supply.

- o As current RTM-TMS codes are categorized as general medicine codes, CMS has not clarified which other non-physician providers, other than physical therapists and occupational therapists, may bill them. CMS should consider clarifying which non-physician providers are allowed to bill RTM-TMS codes, as permitted by provider benefit category and scope of practice.

- o Similar to our proposals for RPM, CMS should revisit whether 16 days of monitoring is excessive for RTM services which are premised in therapy adherence and therapy response.

- o CMS should permit multiple providers the ability to report RTM per-patient per-30 days, in step with similar updates we request CMS make for RPM above.

- o In the CY 2021 PFS, CMS addressed an important array of ongoing concerns related to RPM use in the PFS. Given the similarity between the RPM and RTM code families, those concerns and questions for RPM are germane to RTM services. Therefore, we ask that CMS clarify the following for RTM:

  - ▪ CMS should clarify that, similar to RPM and RPM-TMS, the new code family of RTM and RTM/TMS are subject to the same clarifications governing RPM codes, particularly in areas including consent; synchronous/real-time audio conversations being considered as part of "interactive communications"; and the

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availability for RTM to be used for both acute and chronic disease treatment.

- That like RPM, the RTM-TMS codes are general medicine codes that can be billed without restriction as to which medical specialties may perform RTM services.

- That both during the PHE and permanently, RTM can be furnished to both new and established patients, and that consent may be obtained verbally.

- That during the PHE, CPT® codes 98975, 98976, and 98977 are subject to similar waivers RPM codes enjoy whereby "at least two days of data" would satisfy the requirement for 16-days of data for patients with a COVID-19 diagnosis or those suspected of having COVID-19.

- That a patient's automated subjective inputs are included within the scope of RTM as long as (1) such data points are collected by devices that meet the FDA's definition of a medical device under the Food, Drug & Cosmetic Act and (2) where the data cannot be corrupted by fallible and unreliable self-reported data (i.e., transcribed by the patient).

- **Artificial Intelligence (AI):** CMS' efforts to responsibly bring AI to the Medicare system in a way that will advance health equity and benefit all patients. Consistent with detailed recommendations provided to CMS separately,[2] we encourage CMS to:

  o Leverage, and utilize as a baseline for taxonomy of medical AI, the CPT Editorial Panel's Appendix S[3] to harmonize CMS' the framework of medical AI, along with the CHI AI Task Force's general health AI policy recommendations,[4] recommended good machine learning practices for FDA-regulated AI,[5] and recommendations addressing how to create and maintain the trust of both healthcare professionals and patients in health AI tools.[6]

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[2] https://actonline.org/wp-content/uploads/CHI-AI-Ltr-to-CMS-Feb-9-2022.pdf.

[3] https://www.ama-assn.org/practice-management/cpt/cpt-appendix-s-ai-taxonomy-medical-services-procedures.

[4] The CHI Health AI Task Force's deliverables are accessible at https://actonline.org/2019/02/06/why-does-healthcare-need-ai-connected-health-initiative-aims-to-answer-why/.

[5] The CHI's Good Machine Learning Practices are available at https://bit.ly/3gcar1e.

[6] The CHI's recommendations on necessary policy changes to enhance transparency for healthcare AI are available at https://bit.ly/3Gd6cxs.

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- Recognize that Software as a Medical Device "SaMD" (including AI SaMD) is appropriately categorized and paid for as direct practice expense (PE). CMS must update is PE methodology to properly classify SaMD and AI software as direct PE.

- Reinforce its commitment to engaging in dialogue with digital health community to inform new steps forward towards an expanded and nationally-harmonized approach to AI's use in Medicare.

- **Medicare Diabetes Prevention Program:** CMS is long overdue to offer virtual Medicare Diabetes Prevention Program (MDPP) services yet continues to refuse to propose meaningful changes that would do so. We strongly encourage CMS to, in its CY 2023 PFS rule, permanently expand the MDPP to support virtual providers and virtual encounters.

- **Medicare Telehealth Services:** CMS should continue support for telehealth services beyond the end of the PHE to the maximum extent possible. We urge for the appropriate expansion of Medicare telehealth services in the CY 2023 PFS. We also support CMS' decision to retain all services added to the Medicare telehealth services list on temporary (Category 3) basis until the end of CY 2023, and strongly urge CMS to propose support for such services past the end of CY 2023 in light of COVID-19's ongoing effects.

  Further, although we support CMS' position on mental health services via audio-only telehealth, we strongly urge CMS to reconsider requiring the billing physician or practitioner to have furnished an in-person, non-telehealth service to the beneficiary within the six-month period before the date of the telehealth service. It is questionable whether such a restriction is medically necessary and is inconsistent with CMS' general approach to telehealth services. CMS should, in the case of mental health services use its mandate to provide maximum flexibilities for telehealth services thereby ensuring equitable access to all.

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Another area overdue for action by CMS in its Physician Fee Schedule is diabetes prevention. About one in three Americans have prediabetes, which puts them at heightened risk generally, and specifically for COVID-19. While there is a significant and growing body of empirical evidence showing the benefits of connected health technology for diabetes, this condition imposes a significant burden on CMS' Medicare program and its beneficiaries, with a spend of more than $104 billion every year treating this preventable disease.[7] However, diabetes care is well-suited to digital medicine innovations because it requires interpretation of many kinds of data that can be captured through automation and biosensors. CMS can address the burden diabetes places on the Medicare program by:

- Immediately removing in-person requirements from Medicare DPP services for the remainder of the COVID-19 PHE under emergency authority.
- Including virtual diabetes prevention program providers who are CDC-recognized as part of the Medicare Diabetes Prevention Program (MDPP) under section 1115A(c) of the Social Security Act. CHI supports this proposed expansion, and the classification of the MDPP in Part B, as a timely and necessary step to address the diabetes crisis in the United States. CMS has already acknowledged the use of connected health tech products and services will be vital to the success of the MDPP.[8]

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[7] Seema Verma, *CMS Encourages Eligible Suppliers to Participate in Expanded Medicare Diabetes Prevention Program Model*, CENTERS FOR MEDICARE & MEDICAID SERVICES, (Apr. 20, 2018) https://www.cms.gov/blog/cms-encourages-eligible-suppliers-participate-expanded-medicare-diabetes-prevention-program-model.

[8] 85 Fed. Reg. 50074 (Aug. 17, 2020).

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- Supporting virtual diabetes self-management training (DSMT), which would eliminate cost- and time-consuming barriers to utilization of DSMT. CMS should also define certified diabetes educators (CDEs) as providers of DSMT. A 2014 report by the American Medical Association-convened Physician Consortium for Performance Improvement National Committee for Quality Assurance found an overwhelming majority of DSMT is carried out in primary care offices by non-"qualified diabetes educators."[9] CMS has the regulatory authority in the DSMT authorizing statute,[10] which states a certified DSMT provider is "a physician, *or other entity or individual designated by the Secretary*" [emphasis added] that provides DSMT and other Medicare services, to define a CDE. Recognizing CDEs as providers of DSMT care, including in telehealth, would help to address this gap in diabetes care.

Quality Payment Program (QPP)

In the context of Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)[11] implementation, we encourage the Biden-Harris Administration to prioritize an outcome-based approach, like those identified by Congress in MACRA, as opposed to an approach dependent on quantitative metrics. An outcome-based approach can support the inclusion of digital health tools in providing patient care as any part the Quality Payment Program (QPP).

Utilization of digital health tools in the Merit-based Inventive Payment System (MIPS) and in Alternative Payment Models (APMs) and the ideal of a value-based U.S. healthcare ecosystem remains unrealized, and MACRA's implementation has not approached realizing congressional goals for the widespread development and uptake of APMs due to significant vulnerabilities in the existing process (e.g., a complete lack of coordination between the Physician-Focused Payment Model Technical Advisory Committee and the Center for Medicare & Medicaid Innovation, neither producing successful physician-led models). As a result, APMs that encourage the responsible use of innovative digital health tools are severely lacking.

CHI strongly encourages the Biden-Harris Administration to undertake a new effort to identify regulatory changes needed at the federal level to advance value-based care in the American healthcare system by leveraging digital technologies, with a focus on eliminating healthcare disparities. Such an effort should also prioritize new ways to

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[9] American Medical Association-convened Physician Consortium for Performance Improvement National Committee for Quality Assurance. Adult Diabetes: Performance Measures. January 2014.

[10] 42 U.S.C. 1395x(qq).

[11] Medicare Access and CHIP Reauthorization Act of 2015, Public Law No. 114-10, 129 Stat. 87 (2015).

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incent innovation by private payers to systemically advance value-based care. CHI commits to work with HHS and any impacted stakeholders to develop a consensus path forward that will bring the vision of value-based care to fruition.

Initially, CMS can make major progress in QPP towards this goal through:

- Through the continued evolution of the Prompting Interoperability (PI) Program, CMS should reduce the reliance on CMS program participation and the use of Certified Electronic Health Record Technology (CEHRT). The Health Information Technology for Economic and Clinical Health (HITECH) Act incented physicians to purchase and use electronic health records (EHRs). Digitizing medical records has helped reduce issues associated with paper charts and records, including legibility, access, and loss. However, excessive regulation and overly prescriptive federal requirements have created unintended consequences. Program participants are now bound to use poorly functioning CEHRT products—built primarily to measure and report on CMS requirements—and are disincentivized from adopting truly useful technology. CMS should identify methods to reduce the overreliance on CEHRT in its programs and allow for physician and patient choice to drive the adoption and use of health IT products, such as by leveraging the value of connected health technology innovations that build on CEHRT.

- HITECH permits a professional to satisfy the demonstration of meaningful use of CEHRT and information exchange through attestation. HITECH also permits reporting via "other means specified by the Secretary," granting the Secretary the authority to allow provider attestation across all EHR reporting programs. CMS should create broad categories of PI objectives allowing physicians to attest "yes/no" to the use of CEHRT itself to achieve those categories. CMS should reevaluate the need for numerator/denominator requirements in its EHR reporting programs.

- Giving Medicare Advantage (MA) health plans the flexibility to use telehealth and RPM services as a basic benefit of service. Under its existing authority, CMS can provide a menu of remote monitoring or consumer-oriented information technology categories that primary care and specialty doctors would use for care improvement.

- Developing, and publicly releasing, a comprehensive vision of a diverse array of connected health products and services, including telehealth and remote monitoring, playing an integral role in the success of APMs.

- Using Medicaid waiver authority to permit states to include dual eligibles in their telehealth programs and establish programs for dual eligibles like Diabetes Prevention Programs, as age appropriate.

- Waiving Medicare's telehealth restrictions (under Social Security Act Sec. 1834(m)) for all shared savings programs and alternative payment models (APMs), including payment bundles and medical home demonstrations.

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Medicare Advantage

CMS should provide MA plan sponsors with the discretion to make the determination that different digital health services are clinically appropriate, and to offer those services to beneficiaries as needed. CMS should make clear that those services that do not meet the definition of Medicare telehealth services (in other words, all services that are not live voice/video calls) do not face the onerous restrictions of Section 1834(m) of the Social Security Act. Currently, regulations provide that MA plans to cover Part B benefits provided via electronic exchange as "additional telehealth benefits" (including RPM) and as a basic benefit as defined in § 422.101. We strongly encourage CMS to re-approach its implementation of Section 50323 of the Bipartisan Budget Act of 2018 to ensure MA plans' alignment with CMS' established approaches to Medicare fee-for-service telehealth services, as well as to remote patient monitoring and other "remote communications technology" that CMS has expressly stated do not fall under 1834(m) and its restrictions.

In addition, CMS should also modify its Medicare Advantage (MA)/Part D and Accountable Care Organization risk adjustment policy to incorporate diagnoses from digital health-enabled remote encounters, including audio-only telehealth services where clinically appropriate.

Medicare Shared Savings Program

CMS should exercise its statutory authority under 42 U.S.C. 1395jjj(f) to waive Medicare Shared Savings Program payment and program requirements as appropriate to allow for one-sided and two-sided risk models under a waiver of telehealth restrictions. This would help providers that use APMs to reduce costs and meet statutory requirements. CMS recently exercised relevant waiver authority on several aspects of telehealth for two-sided risk models only. Doing so more broadly would further the success of APMs.

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Home Health Prospective Payment System (HHPPS)

CMS has included remote monitoring expenses used by a Home Health Agency (HHA) to augment the care planning process as allowable administrative costs that are factored into the costs per visit. Such a change ensures that remote patient monitoring is utilized on a cost per visit basis when it is used by an HHA to augment the care planning process and will result in a more realistic HHA Medicare margin calculation. Remote monitoring will be helpful in: (1) augmenting HHA services in the patient's plan of care; (2) enabling HHAs to more rapidly identify changes in a patient's clinical condition and to monitor patient compliance with treatment plans (further enabling more effective and efficient review and appropriate alteration of plans of care); and (3) augmenting home health visits. However, CHI strongly urges CMS to align its definition in the Home Health Prospective Payment System (HHPPS) of "remote patient monitoring" with that captured in relevant CPT codes. While CMS correctly and proactively distinguishes between "remote monitoring" services and "telehealth" in this and other rulemakings, CHI suggests that CMS, in the HHPPS, contribute to a common definition of "remote patient monitoring" across its beneficiary programs (e.g., consistency with relevant CPT codes).

The HHPPS is also overdue for modernization to permit the use of digital health innovations that would benefit both providers and beneficiaries. CHI requests that CMS undertake a new effort, including a public consultation, to address ways the HHPPS can be modernized and improved, and we commit to work with CMS and any other impacted stakeholders to develop and advance consensus policy changes.

Centers for Medicare and Medicaid Innovation (CMMI)

Even CMMI's newest models do not adequately focus on exploring innovative technological healthcare delivery mechanisms. A 21st century healthcare system should embrace the array of new technologies available, such as RPM technologies and asynchronous store-and-forward methods, which enable the delivery of healthcare solutions beyond the four walls of a hospital room or doctor's office. The Biden-Harris Administration should prioritize a new CMMI path which embraces the use of new technologies in Medicare and Medicaid that will widely benefit beneficiaries.

CMMI should also take new steps to reduce the burdens for potential model applicants. CMMI should articulate consistent requirements that are applicable to all models being tested, rather than developing separate requirements for each. The burden for applicants and participants could be reduced through uniform processes, expectations, principles, and rules that span models like population health and chronic conditions that are being tested. To align payers with the goals of the CMMI models and incent their participation, CMS should build upon the QPP to encourage the development of models that are based on existing structures and payment models and allow existing networks to apply as Advanced APMs to make these entities eligible for Medicare bonuses and programs like MIPS and the QPP. In exploring the benefits of telehealth as defined in 1834(m), CMS should use its established authority to waive the backward-facing and outdated restrictions. CMMI should also focus on exploring new and innovative remote monitoring technologies (which are not telehealth under 1834(m) and therefore do not face its geographic, originating site, etc., restrictions). We further urge CMMI to build upon the successes of the Veterans Health Administration in its use of connected health technologies.

CMS should further exercise its statutory authority, such as 42 U.S.C. 1315a(d)(1), in the case of CMMI Models to waive payment and program requirements as appropriate to allow for one-sided and two-sided risk models under a waiver of telehealth restrictions. This would help providers that use APMs to reduce costs and meet statutory requirements. CMS recently exercised relevant waiver authority on several aspects of telehealth for two-sided risk models only. Doing so more broadly would further the success of APMs.

CMMI should also recognize and build upon the incredible successes of some Medicaid systems, such as the University of Mississippi Medical Center, the University of Virginia, and Boston Children's Hospital. In these states (and some others), Medicaid programs have taken steps to support not only telehealth but—more importantly—remote monitoring innovations that bring PGHD into the continuum of care based on demonstrated improvements to patient outcomes and significant cost savings. CMMI can and should play a crucial role in proliferating these successes.

Durable Medical Equipment (DME)

CMS should, under its existing authority, discard the arbitrary limitations it places on DME payments to support the responsible uptake and use of digital health technology innovations. CMS' approach today to DME either entirely excludes or insufficiently supports the use of software in medical equipment that is increasingly essential to cutting-edge care. CMS is long overdue to provide a pathway for coverage under DME for software as a medical device (SaMD) that is primarily utilized for a medical purpose even when there are other uses of the software or the product the software is in. DME coverage of software should also extend to SaMD therapeutics cleared by the FDA. In addition, support for such software in DME should be unbundled, with needed updates to the software supported as DME supplies when they are integral to the functioning of the underlying DME software.

CMS can take modest steps today to improve the DME program. For example, while CMS established that "therapeutic continuous glucose monitors (CGMs)" can be billed to CMS for both the DME component and an all-inclusive supply allowance, in 2018, local Medicare contractors issued a coverage determination that resulted in rejection of the supply allowance if a smart tablet or smartphone-compatible mobile medical app is used in conjunction with the CGM device and biosensors. This interpretation by Medicare contractors was not dictated by law and resulted in a programmatic policy that would ignore the many efficiencies of secure connected medical technologies that have the ability to ease the burdens on patients while reducing costs to Medicare in DME payments. CMS has the ability to change their course under existing authority and appears to have intervened to address the decisions of local Medicare contractors in this specific instance; however, due to the continued confusion created by Medicare contractors and CMS' policy correction regarding CGMs, CHI strongly urges CMS to ensure that the use of dual-use connected technology as DME is permitted widely through its DME rules.

DME enabled by internet connectivity and new, innovative features can and should be permitted to meet CMS' requirement for face-to-face encounters. Care providers can leverage connected health technology to obtain DME PGHD for continual evaluation and treatment of conditions. Such capabilities negate the need for an annual demonstration of medical necessity through their ongoing collection and transmission of PGHD. Therefore, CMS should eliminate this annual certification requirement when RPM can demonstrate medical necessity.

Food and Drug Administration (FDA)

The U.S. Food and Drug Administration (FDA) can advance the agency's patient safety mandate and the Administration's priorities through enabling the responsible use of cutting-edge digital health tools. The FDA's approach to emerging technologies will also

continue to influence the wider healthcare ecosystem that is working to shape new coverage policies, developing clinical practice guidelines, and pioneering new software-driven medical tools that save lives.

CHI encourages FDA to take several actions that will provide a pathway for the benefits of connected health tools to be realized by clinicians and patients throughout the care continuum while also enhancing patient safety. We offer the following recommendations for consideration:

- **Support the Digital Health Center of Excellence:** CHI supports the creation of the FDA's Digital Health Center of Excellence (CoE) as the central place within the agency for the advancement of digital health technology such as mobile health devices, software as a medical device (SaMD), wearable medical devices, and technologies used to study medical products. We urge you to prioritize the Digital Health CoE as it continues to build capacity and expertise.

  Digital health policy is most appropriately dealt with by the Digital Health CoE with Center for Devices and Radiological Health's (CDRH). CHI, therefore, remains concerned with the Center for Drug Evaluation and Research's (CDER) proposed approach to the Prescription Drug-Use-Related Software (PDURS) that departs from the CDRH work to modernize the FDA's approach to the regulation of SaMD. We recommend that PDURS policy development be primarily led by the Digital Health CoE to ensure alignment with the widely-supported approach developed by CDRH for SaMD.

- **Improve the Medical Device Regulatory Process While Protecting Patient Safety:** CHI commends the FDA's risk-based approach to the regulation of medical devices. Specifically, CHI applauds the FDA's use of enforcement discretion for low-risk devices. We support the FDA pursuing all opportunities to modernize and streamline the medical device approval process, particularly for SaMD. For Americans to benefit from the latest advancements in medical devices, there must be enhancements to the FDA's approval process so there is a reduction in time-to-market while still ensuring patient safety and caregiver trust. The FDA has made significant progress in crafting the Software Pre-Certification Pilot Program (in which CHI members participate) based on extensive public input at multiple stages, public workshops, and the experiences from the pilot program. It is essential that the FDA continue to support and build on its significant investment in this important effort under the Administration, laying the groundwork for a full Software Pre-Certification Program. CHI commits to support FDA moving the Software Pre-Certification Pilot Program forward in order to effectively and responsibly speed time-to-market for trusted developers of SaMD.

  CHI also commends FDA's continued development of digital health-related

guidance documents and urges for continued consultations with impacted stakeholders as they are developed.

- **Deliver the Promise of Artificial Intelligence and Machine Learning-Enabled Technology to American Patients:** Artificial/augmented intelligence (AI) and machine learning (ML), powered by streams of data and advanced algorithms, have incredible potential to improve healthcare, prevent hospitalizations, reduce complications, and increase patient engagement. Yet, applications of AI in healthcare have also given rise to a variety of potential challenges for policymakers to consider, including quality assurance, adaptiveness, ethics, oversight, notice/consent, and data bias. The FDA must take a leading role in responsibly bringing AI medical devices to the marketplace, and we support FDA's continued leadership to develop a governance framework for AI meeting the definition of a medical device under the Federal Food, Drug, and Cosmetic Act (FD&C Act).

  As part of its commitment to responsibly advance AI in healthcare, CHI has assembled a Health AI Task Force consisting of a range of innovators and thought leaders. CHI's AI Task Force has developed a range of resources, including a position piece supporting AI's role in healthcare, a set of principles addressing how policy should approach the role of AI in healthcare, and a terminology document targeted at policymakers.[12] Even more recently, CHI's AI Task Force has developed good machine learning practices, specifically for AI development and risk management of AI meeting FDA's definition of a medical device,[13] as well as recommendations on ways to improve transparency for caregivers, patients, and others necessary for the appropriate uptake of AI tools across the care continuum.[14] We urge FDA to build on these digital health community consensus recommendations, and to directly address the role of AI in new standalone guidance providing a scalable, risk-based approach be taken when handling regulatory and enforcement discretion.

- **Fully Leverage Real-World Data (RWD) and Real-World Evidence (RWE) in FDA Processes and Decision-Making:** CHI stands in agreement with the FDA's public acknowledgement that RWD and RWE can and should play an important role in the FDA's efforts to address patient protection at the supplemental phase, monitor post-market safety and adverse events, and to make regulatory decisions. CHI members widely use RWD and RWE to support product design, clinical trials, and studies to innovate. The use of RWD and RWE has been critical to the response to the ongoing public health emergency. We

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[12] The CHI Health AI Task Force's deliverables are accessible at https://actonline.org/2019/02/06/why-does-healthcare-need-ai-connected-health-initiative-aims-to-answer-why/.

[13] CHI's good machine learning practices are available at https://bit.ly/3gcar1e.

[14] CHI's recommendations on necessary policy changes to enhance transparency for healthcare AI are available at https://bit.ly/3Gd6cxs.

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encourage FDA to fully leverage this important data by engaging our members in its processes, particularly in the supplemental and post-market phases. Noting our appreciation for FDA's ongoing efforts with respect to RWD and RWE, FDA should prioritize widespread changes to processes and policies when it comes to using RWD and RWE to make timely informed decisions. We urge FDA to finalize relevant guidance as soon as practicable, consistent with our recommendations filed with FDA.[15]

- **Enable Digital Health Technologies to Better Assist in Clinical Trials:** Traditionally, in the context of clinical trials, there has been a limited use of DHTs that leverage PGHD due to the costs associated with distributing, connecting, tracking, and maintaining mobile devices during an investigation. With the revolution of smartphone adoption, clinical investigations can now largely discard these concerns, particularly when embracing the "bring your own device" (BYOD) model. Such models may utilize specialized instruments as accessories to smartphones/tablets/etc., enabling a much more complete evaluation of a patient's condition across a diversity of types of data and use cases.

- **Advance Interoperable Data Exchange:** CHI supports FDA's efforts to ensure the safe, secure, and effective exchange using de-identified data between devices, products, technologies, and systems. We believe that FDA can and should lead in collaborative efforts addressing medical device interoperability between all stakeholders through collaboration with other federal agencies.

- **Continue the Development of Cybersecurity Best Practices for Medical Devices:** CHI supports FDA's continued efforts to guide medical device makers in addressing the cybersecurity threats faced by SaMD and software in a medical device (SiMD). We commend FDA's efforts to encourage the timely sharing of threat indicators between both the public and private sector so that new threats may be addressed rapidly and effectively. We encourage FDA to continue this work while ensuring that the distribution of critical security updates is not delayed by overly burdensome reporting requirements.

- **Maintain International Digital Health Policy Leadership:** CHI supports FDA's ongoing efforts to address emerging technology issues with other regulators[16] and within the International Medical Device Regulatory Forum (IMDRF), producing important frameworks for regulatory approaches that utilize a risk-based and scalable approach (such as the IMDRF's *Software as a Medical Device (SaMD): Clinical Evaluation*[17]). As our members' new technologies begin to enter regulatory processes, FDA's leadership in correlating this arena to existing domestic law and regulation is needed more than ever. We encourage

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[15] https://www.regulations.gov/comment/FDA-2021-D-1128-0046.

[16] *E.g.*, https://www.fda.gov/news-events/press-announcements/fda-brief-fda-collaborates-health-canada-and-uks-mhra-foster-good-machine-learning-practice.

[17] http://www.imdrf.org/docs/imdrf/final/technical/imdrf-tech-170921-samd-n41-clinical-evaluation_1.pdf.

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FDA to continue the FDA's engagement in the IMDRF, and for FDA to clarify IMDRF guidance and positions where consistent with U.S. law.

CHI also appreciates FDA's commitment to driving innovation and patient protection by leveraging the public-private partnership model and welcomes such engagement. For example, we welcome FDA's participation in a new CHI dialogue on digital health and quality assurance aimed at bringing the ecosystem closer together in responsibly advancing the use of connected digital health tools, which will also feature digital health innovators, providers, payors, and patients that will share needs and expectations about new digital health technologies and what needs to be demonstrated to drive adoption in health systems and plans.

Indian Health Service (IHS)

Digital health innovations offer immense value to those who rely on the IHS and should be fully leveraged to assist American Indians and Alaska Natives who need comprehensive health services. In partnership with the Federal Communications Commission, IHS should advance broadband coverage to all who rely on the IHS and pair such efforts with new deployments of telehealth, RPM, and other digital health tools.

National Institutes of Health (NIH)

NIH plays a key role in developing knowledge, tools, and data needed to improve the health care system and help Americans, health care professionals, and policymakers make informed health decisions. CHI appreciates NIH's efforts to date to explore the role of digital health technologies in improving care, and strongly recommends that NIH set an imperative for increased exploration of digital health tools in healthcare, including the growing role of AI in healthcare. CHI also supports NIH's efforts to modernize its governance of health data to responsibly enable new research and development, including NIH's genomic data sharing policy.[18]

National Telecommunications and Information Administration (NTIA)

National Telecommunications and Information Administration's (NTIA) implementation of the Infrastructure Investment and Jobs Act (the Act), including the Broadband Equity, Access and Deployment program, the Middle-Mile Broadband Infrastructure Program,

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[18] [cite to CHI comments to NIH]

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and the Digital Equity Planning Grant Program,[19] is absolutely essential to realizing connected healthcare communities across America. With approximately 133 million Americans suffering from some form of chronic illness, particularly for those that live in rural areas, our healthcare system requires a shift to support continuous contact with patients. The issue is complicated for Americans with chronic conditions in underserved communities across rural, suburban, and urban geographies. Lack of access to broadband and/or audio-visual capable devices is another major impediment to receiving high quality technology-enabled care for many Americans, including seniors in minoritized and marginalized communities where there were significant health disparities before COVID-19 that have become much worse during the pandemic. For example, according to the Federal Communications Commission, 628,000 tribal households lack access to standard broadband.[20] An even greater light now shines on the inequities and disparities across American society, and in healthcare specifically, due to the COVID-19 pandemic.[21] Based on data from 14 participating states, the Centers for Disease Control and Prevention (CDC) reported that age-adjusted COVID-19–associated mortality among American Indian and Alaska Native persons was 1.8 times that among non-Hispanic Whites.[22] Likewise, in an October 2020 article Government Technology reported that less than half the population in certain parts of Alabama, which are minoritized communities, have internet access, and two of these Alabama counties have no internet access at all.[23] Marginalized urban communities have also been excluded from broadband service and need to rely on audio-only visits, because even when cities have broadband, many residents of these communities do not have access to it in their homes. A June 2020 report of the National Digital Inclusion Alliance describes data showing that the United States has more than three times as many urban as rural households living without home broadband of any kind.[24] Connected health technologies offer the ability to bridge the digital divide and provide needed disease prevention and treatment to America's most vulnerable citizens – as long as there is access to a robust broadband network to facilitate patients sharing essential data with their caregivers from their homes.

CHI supports the Administration's commitment to effectively allocate $48 billion to fund the various programs created in the Act. Realizing Congressional goals in the Act, and

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[19] *Infrastructure Investment and Jobs Act Implementation*, 87 Fed Reg 1123 (Jan. 10, 2022).

[20] https://www.reuters.com/article/us-health-coronavirus-usa-rights-trfn/coronavirus-crisis-threatens-internet-opportunity-for-native-americans-idUSKCN24T06B.

[21] CHI has co-released a new report, titled Advancing Health Equity Through Technology, which addresses disparities in America's healthcare system and offers numerous recommendations for federal-level action, will assist NTIA in exploring the relationship between the digital divide to health inequities. This report is appended to the CHI's comment.

[22] https://www.cdc.gov/mmwr/volumes/69/wr/mm6949a3.htm.

[23] https://www.govtech.com/network/pandemic-worsens-internet-disparity-in-alabama-black-belt.html.

[24] https://www.digitalinclusion.org/digital-divide-and-systemic-racism/.

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the future of the United States digital economy, will require a robust and sustainable internet infrastructure that supports the use of technologies in underserved communities across the country to improve patient outcome and improve the care team experience. A consistently growing body of evidence demonstrates that connected health technologies improve patient outcomes, reduce hospitalizations, enrich patient engagement, and reduce costs. Digital health tools, increasingly powered by artificial/augmented intelligence (AI), leverage patient-generated health data (PGHD) and social determinants of health (SDOH), and include a wide range of digital health products, including mobile medical solutions, digitally enhanced screening and treatment technologies, clinical decision support, and cloud-based patient portals. With the growing number of communities and populations on the wrong side of the digital divide, access to broadband to support a connected continuum of care is increasingly vital to America's healthcare system, especially as remote patient monitoring solutions continue to grow in use and capability.

Building on the above, we offer the following recommendations to NTIA:

- **A Policy Development Process that is Inclusion of All Viewpoints and Needs:** We encourage NTIA to work with as diverse a set of stakeholders as possible, including those at the frontlines providing healthcare to America's most vulnerable populations and communities, to shape grant program requirements and commend NTIA's collaborative approach initiated through this call for written views and its listening sessions. We also support NTIA's efforts to work with other federal agencies to ensure that new grants authorized by the Act build on lessons learned in effectively using broadband-enabled connected health tools to serve communities of need, including the Federal Communications Commission, the Centers for Medicare and Medicaid Services, state Medicaid policymakers, and others.

- **Technology and Modality Neutrality:** No two communities in America are identical, and there are numerous broadband-enabled technologies that can be used to meet and sustain connectivity needs for connected healthcare depending on their unique needs. To ensure that grants are used most effectively to respond to local needs, requirements should be flexible and avoid technology and/or modality mandates. For some deployments, laying fiber may be the most effective path to success, while in others (such as where macro sites alone will not be sufficient to manage traffic congestion) small cell deployment can add density to a network to help manage increasing traffic. NTIA's grant requirements should reflect modality/technology neutrality across its requirements for deployments.

- **Alignment with Existing Federal Definitions and Metrics:** We urge NTIA to align its definitions and requirements with existing agencies and requirements where possible. For example, we support NTIA's reliance on the FCC's definition of broadband. Further, health sector agencies can offer immense help to NTIA in addressing certain underserved populations and use cases (e.g., the Office of

the National Coordinator for Health IT's efforts on social determinants of health[25]). NTIA is strongly encouraged to build on and align with existing federal agency insights and approaches, not only to leverage these other agencies' expertise, but to avoid the confusion that can be caused by conflicting federal definitions.

- **Consider a Broad Range of Health Indicators in Grant Awards and Administration:** Access to technology, access to broadband, and digital literacy are SDOH, and NTIA determinations of need in evaluating and overseeing grant applications should ultimately lead to connecting the most number of underserved Americans as possible and enabling key connected health use cases. Better broadband maps, developed in collaboration with the FCC (including its Connect2Health effort[26]), will drive more efficient and equitable access to broadband connectivity that will enable the use of a suite of digital health tools and services. More accurate and granular mapping, supplemented by new insights provided in SDOH datasets, can greatly assist in identifying unconnected and underserved communities for this purpose.

  CHI recognizes access to broadband internet as a SDOH and we believe it is vitally important to continue and broaden efforts to provide broadband internet access to all Americans. Several of CHI's members participated in a COVID-19 telehealth impact study in 2020. Over 64 percent of respondents indicated technology challenges for patients as a barrier to sustainable use of telehealth. Perceived barriers for patients included lack of access to technology and internet/broadband, and low digital literacy. Ensuring access to broadband access and two-way audio-visual technologies would have a tremendous impact on alleviating challenges to access of digital health technology. In addition, initiatives to measure and strengthen digital literacy, with an emphasis on programs designed with and for historically marginalized and minoritized populations would help ensure that these communities can effectively use digital health tools once they have access to them.

- **Flexibility in Requirements for States and Territories:** America faces a growing digital divide across a wide range of populations, in both urban, suburban, and rural areas of the country, and all should benefit from the grants authorized by the Act. States and territories should, for example, use competitive bidding processes to minimize costs when determining funding awards and amounts. NTIA can best support states and territories administering grants by enabling their ability to flexibly shape and manage programs, within the technology-neutral parameters set by NTIA, to best meet the unique and evolving needs of their populations. NTIA should provide support to states and territories in the leadup to grant awards and as those authorities administer the grants they

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[25] https://www.healthit.gov/topic/health-it-health-care-settings/social-determinants-health.

[26] https://www.fcc.gov/about-fcc/fcc-initiatives/connect2healthfcc.

receive. A partnership between NTIA and its state and territory grantees, and the communities the Act is intended to benefit, will result in the most effective leveraging of funding, which may include building onto existing public and/or private programs intended to address equity and inclusion, particularly in the healthcare context.

While providing this flexibility, NTIA can also assist states and territories through the development of guidance and key use cases (which should include connected healthcare scenarios).

- **Ensuring Transparency and Oversight while Minimizing Compliance Burdens:** As the ongoing public health emergency of COVID-19 continues to exacerbate the existing need for broadband-enabled remote care, particularly in unserved and underserved communities, we urge NTIA to include program rules that allow rapid deployment and implementation while avoiding overburdensome administrative/compliance requirements. We urge NTIA to draw on its extensive experience in administering the Broadband Infrastructure Program (BIP) and Broadband Technology Opportunities Program (BTOP), and experiences from other federal programs, to ensure transparency and oversight while avoiding overburdening grantees with reporting obligations. States and territories should be encouraged to develop grant administration plans that prioritize transparency, build on existing resources at all levels, and that consistently consult with their underserved communities including health departments, medical providers, and community health organizations.

CHI commits to continued collaboration with NTIA to bring broadband-enabled connected health innovations to all Americans, especially those in unserved and underserved communities.

HHS Office for Civil Rights (OCR)

CHI is a longtime advocate for certainty and clarity regarding HIPAA requirements, and urges OCR to work with us to:
- Provide up-to-date and clear information about what is expected of technology companies for compliance with the HIPAA rules, and identify the implementation standards that can help technology companies conform to the regulations;
- Provide more clarity on HIPAA obligations for companies and services that store data in the cloud; and
- Engage regularly with technology companies to provide compliance assistance.

OCR seeks to engage in ongoing outreach to the range of stakeholders affected by the HIPAA rules, including the developers and range of users of connected health technologies. For example, we recommend that OCR convene a working group to

investigate whether current rules or internal practices within a large organization hinders data sharing for research and population health initiatives due to misperceptions about HIPAA. These regulatory processes should result in more clarity for providers, technology makers, and patients to understand how all stakeholders can most efficiently make healthcare information interoperable without incurring liability while allowing for seamless care coordination.

CHI urges OCR to update their guidance for providers and physicians and to undertake targeted educational campaigns to better reach their intended audience. We suggest that in order to address some of the "grey" areas physicians continue to encounter, such as whether HIPAA permits text messaging, how to distinguish between patient-directed third-party access to protected health information and a third-party access request for information, and even distinctions between how to share mental health information generated by a general medical facility versus substance use disorder information generated in a Part 2 facility, OCR creates situational guidance similar to the "Health App Use Scenarios & HIPAA" guidance document from 2016. In creating these guidance documents, we urge OCR to strategize ways to alert physicians, patients, and other health care industry stakeholders to new and existing guidance during the development process, and in ways that target the intended audience.

CHI also recommends that OCR:
- Issue guidance specifically related to text messaging and chat services as soon as practicable. Such guidance would help CEs understand how they may or may not use text messaging and chat services in the course of patient care, including care coordination and communication with family and caregivers, and decrease fear of HIPAA violations leading to OCR enforcement. Similarly, CHI encourages OCR to provide clarity as to how push notifications will be treated under HIPAA.
- Remedy a lack of clarity with respect to sample Business Associate (BA) Agreement language around the topics developers care about, such as cloud storage and PGHD; and a lack of bargaining power on the part of startups. CHI strongly encourages OCR to provide sample BA language or transparency measures, through its regulatory changes and/or issuing guidance targeted at both developers and providers, provide such clarity regarding BA Agreements (e.g., CHI encourages OCR to issue guidance specifically for providers as to when they need a BAA with and external technology partner).
- Answer questions around connected device maintenance and authorization that are currently unanswered and create unnecessary steps that disrupt treatments and care continuums.
- Reinforce the important role encryption has in protecting personal health information, as the use of encryption is critical to meeting obligations under the above-noted HIPAA security and privacy rules. OCR should issue guidance clarifying that certain telehealth, CBTS, and RPM tools that are fully end-to-end encrypted are mere "conduits," and, therefore, do not require BA Agreements. The guidance should clarify that the providers of such telehealth services should

only store electronic protected health information (ePHI) on a temporary basis incident to the transmission service. Specifically, the guidance should clarify that some storage of call related metadata counts as "random or infrequent," so long as that information is being used to support the service and the storage is for a temporary period of time necessary to support the service. This clarity would enable patients and providers to rely on highly secure means of communication without putting all parties through unnecessary red tape.

- Ensure that the revised HIPAA regulations do not curtail AI innovations by taking a technology neutral approach to any regulation, and that OCR ensure (through future guidance or rulemaking) that emerging technology innovators have clarity as to when HIPAA rules may be triggered.

Office of the Inspector General (OIG)

Anti-Kickback Statute (AKS)

As clinicians remotely monitor patients at home who may have COVID-19 and other acute and chronic conditions, there are ongoing concerns that any equipment or access to software platforms provided free of charge may inadvertently trigger liability under the AKS. HHS' Office of the Inspector General (OIG) should clarify that providing access to software-based platforms for patient generated health data (PGHD) analytics or telemedicine at no/low cost does not violate the AKS. Additionally, the operative definition for "remuneration" in this statutory provision, at 42 U.S.C. 1320a–7a(i)(6), is broad, and we recommend that the HHS OIG also provide clear guidance that giving patients a device to communicate with a care team is not considered a beneficiary inducement. These clarifications will enable the provisioning of RPM, telehealth, and other tech-driven healthcare tools without triggering AKS liability.

Furthermore, OIG should clarify that utilization of a device with multiple functions, such as a smartphone or e-tablet, does not violate the AKS and the CMP when it is primarily used for managing a patient's healthcare, including the social determinants – e.g., finances, scheduling, and transportation – that impact a patient's health. Multi-function devices are essential to the successful and responsible application of connected health technology to improve outcomes and reduce costs. However, many existing interpretations of the AKS regulations and guidance prohibit such devices from reaching the patients who need it most. Multi-function devices offer the ability in clinical trials to validate the identity of trial participants and allow health care functionality to be integrated into the other digitized aspects of a patient's life, such as their email and text message communications, personal finances, or navigation, making patients more likely to use a multi-function device, while also giving providers real-time information about a patient's status (e.g., blood pressure or heart rate).

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Office of the National Coordinator for Health Information Technology (ONC)

ONC's support for the 21st Century Cures Act's trusted exchange framework and common agreement provisions comes at an important time. At a time when millions of patients' traditional medical care has been disrupted by the COVID-19 pandemic, CHI appreciates ONC's finalizing regulations that will equip individuals with their own medical data and facilitate the sharing of that information in standardized manner. Recently, as part of an effort to allow health organizations to focus efforts exclusively on COVID-19 response, the agency delayed implementation of those regulations. While some aspects of the rule are now in effect, enforcement of provisions on application programming interfaces (APIs)—which are software tools that will allow different systems to more easily communicated—were postponed from May 2022 until December 31, 2022. As the current delay has afforded the healthcare industry an additional seven months to implement these regulations, ONC should commit to the new timeline for implementation and indicate that it will not postpone the regulations further in the future. ONC's finalized rule generated significant support from a wide variety of groups—including EHR developers, health care providers, and public health organizations. Despite those benefits and broad support, ONC—under this new interim final rule—delayed implementation of the API requirements for seven months to the end of 2022, which is six years after Congress first required them via Cures. As ONC has already decided to provide that additional implementation time via the interim final rule, ONC should not delay enforcement further—both because of the importance of these provisions to improve patient care but also because the necessary changes would not represent a significant burden on the industry.

ONC, in the final rule establishing API requirements, explicitly indicated that it would only update the current version of EHR requirements (the 2015 edition) instead of creating a new version given that the changes build on existing capabilities. For example, referring to the data that APIs would need to provide patients and providers, ONC indicated that the updates "were intentionally limited to a modest expansion that most health IT developers already supported, were already working toward, or should be capable of updating their health IT to support in a timely manner." As the necessary changes to support the API requirements are both limited and related to existing capabilities, EHR vendors and providers have sufficient time to make the upgrades laid out in the regulations, and further delays beyond those outlined in the interim final rule are unwarranted and would be opposed by us in the future. By committing to enforce the API requirements according to the timelines currently in place, ONC can provide patients, technology developers, and health care providers with clarity on the evolution of health information technology capabilities and ensure that data is made available when and where it's needed.

Unfortunately, CHI continues to collect experiences of flagrant disregard for and/or gross misinterpretation of information blocking rule requirements from across the healthcare ecosystem, particularly by developers of certified health IT. We urge ONC

(and OIG) to complete needed rulemakings that will clarify requirements and set expectations for enforcement as soon as practicable.

Further, CHI supports the U.S. Core Data for Interoperability (USCDI), which currently reflects the same data classes referenced by the 2015 Edition Common Clinical Data Set (CCDS) definition and includes Clinical Notes and Provenance. CHI further supports the USCDI expansion process, which should occur annually based on stakeholder input. We also support the "glide path" for additions to the USCDI which should reflect technology and competitive neutrality principles as it incrementally expands data classes.

Finally, CHI notes its support for ONC's Model Privacy Notice (MPN) effort,[27] and recommends that the MPN be updated through a collaborative process that engages the public.

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[27] https://www.healthit.gov/topic/privacy-security-and-hipaa/model-privacy-notice-mpn.

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March 30, 2022

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

BY ELECTRONIC SUBMISSION

Re: **White House Office of Science and Technology Policy - Connected Health Request for Information**

The Consumer Technology Association (CTA®) appreciates the opportunity to submit comments in response to the White House Office of Science and Technology Policy's (OSTP) Request for Information (RFI) seeking input regarding how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity. Our comments will focus on how digital health can be better used to address health equity issues.

As North America's largest technology trade association, CTA® is the tech sector. Our members are the world's leading innovators—from startups to global brands—helping support more than 18 million American jobs. CTA® owns and produces CES®—the most influential tech event in the world. CTA's® Health Division strives to advance the use of technology-enabled health solutions to deliver better outcomes and reduce overall health care costs.

The increasing availability of digital health tools is an important step toward realizing the potential for technology to help address health disparities. CTA® has identified two significant barriers to widespread digital health adoption in medically underserved communities: 1) lack of access to broadband; and 2) lack of health literacy, particularly as it applies to digital health.

Access to Broadband

Many current digital health products work most effectively with a broadband connection. The range of tools and the speed at which they are being made available to health care providers and consumers highlight how critical it is that quality broadband service be accessible to all populations. Like disparities in other areas, there are disparities in access to broadband technology. Many consider access to broadband a social determinant of health. Research shows that 44% of adults in households making less than $30,000 annually do not have a high-speed internet connection. Another analysis shows that 38% of households earning less than $20,000 lack a broadband subscription. A Microsoft study concludes that almost 163 million people in the United States do not use the internet at broadband speeds. The study contends that "[t]he government's most current broadband statistics come from the FCC and

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suggest 25 million Americans lack access to a broadband connection. There's strong evidence, though, that the percentage of Americans without broadband access is much higher than the figures reported by the FCC." The digital divide persists even as Americans with low incomes have made gains in technology adoption, and the government other institutions have invested billions in subsidies and grants to carriers to sustain, extend and improve broadband in rural America.

Given the trend to provide and package health information and health decision-making guidance online or through digital tools, underserved communities are at a disadvantage. Older U.S. adults show significant differences in computer ownership, internet access and use of digital health information across racial and ethnic groups. A study showed participants who were older, less educated, had a lower income and from particular ethnic groups (Black, Afro-Caribbean, or Hispanic) were up to five times less likely to have access to digital health information than those who were younger, more highly educated, had a higher income, or were White.

While important steps have been taken toward reducing broadband disparities, much work remains to be done. We recommend that the Administration develop an awareness campaign to educate state and local governments about available broadband-based funding—and develop resources to guide those governments in supporting effective broadband models and initiatives.

Health Literacy

Approximately half of American adults exhibit low health literacy and consequently struggle to find and use health information. Health literacy is an individual's capacity to obtain, process and understand basic health information needed to make appropriate health decisions. The Agency for Healthcare Research and Quality indicates that only 12% of adults have proficient health literacy. Over a third of adults "have difficulty with common health tasks, such as following directions on a prescription drug label or adhering to a childhood immunization schedule using a standard chart." Low health literacy is associated with negative outcomes including overall poorer health and is more prevalent among certain population groups.

Digital health literacy is the ability to seek, find, understand and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem. And low digital health literacy tracks closely with disparities in socioeconomic status, education, race and geography and age.

To address the gaps in digital health literacy, CTA® recommends that the Biden Administration encourage state and local governments to develop a network of digital hubs that can train, educate and support patients and health care providers in using various digital health solutions. These programs will need to: (1) educate consumers about the benefits and limitations of digital health tools and how to maximize them most effectively; (2) tailor program materials to ensure appropriate cultural and linguistic fit; and (3) include training specific to the health care workforce to ensure care providers are sufficiently able to assess, adopt and implement new health technologies into health care services.

Successful Models Addressing Health Equity

CTA members are devising innovative programs to promote health equity. Here are a few examples:

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- **Fitbit Health Equity Research Initiative**: Many underserved communities have higher rates of chronic disease and poor health outcomes due to structural and long-standing inequities. Fitbit's Health Equity Research Initiative is supporting underrepresented, early-career researchers who are working to address health disparities in these communities. Research questions include improving postpartum care for rural Black women, examining sleep health in transgender youth, preventing the progression of type 2 diabetes in Hispanic adults, the impact of systemic racism on Black and Hispanic pregnant women, the impact of building healthy habits with under-resourced adolescents, and reducing cardiovascular disease risk factors in Hispanic families.

- **Rimidi Diabetes Program**: Rimidi, a digital health company, developed and implemented a digital diabetes self-education program to bring diabetes education to individuals at-risk and in need of better solutions for their diabetes care. Rimidi's eight-lesson, video-based digital course is accessible via smartphone and web browser and is tailored to reflect community demographics and resources.

- **AIR Louisville:** Asthma affects 7.8% of people in the United States and disproportionally affects Blacks (13.4%) and people with incomes below the federal poverty level (11.1%). Propeller Health, a digital health company that creates products to treat chronic respiratory disease, partnered with the city of Louisville, Kentucky to launch AIR Louisville, a cross-sector effort to improve respiratory care outcomes of area residents. AIR Louisville's objectives were to help people control their symptoms, identify hot spots of respiratory disease symptoms and their environmental correlates, use the collected data to guide policy decisions, increase community awareness of air quality and health, and engage diverse local partners to make the collaboration sustainable. Patients on Propeller significantly improved their health outcomes—with a 78% reduction in rescue inhaler use and a 48% increase in symptom-free days.

* * * * *

CTA® thanks OSTP for the opportunity to comment on this RFI and welcome the opportunity to discuss these issues in more depth. If you have any questions, please do not hesitate to contact René Quashie ███████████).

Respectfully submitted,

Consumer Technology Association

Michael Petricone
Senior Vice President, Government and Regulatory Affairs

René Quashie
Vice President, Policy and Regulatory Affairs, Digital Health

CORE
Community Organized Relief Effort

March 31, 2022

Office of Science and Technology Policy
Eisenhower Executive Office Building
Washington, D.C., 20502

<div align="center">

Re: Connected Health RFI

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To Whom It May Concern:

Since March 2020, CORE (Community Organized Relief Effort) has filled critical gaps in COVID-19 response. Through dozens of mass vaccine and testing sites, mobile units and special projects, CORE has provided over 6 million free tests and 2 million vaccines across the globe. This response exposed CORE to various health information systems, ranging from paper-based forms to Google Sheets, to all-in-one software platforms. Please find below CORE's responses to specific questions in the Connected Health RFI informed by our COVID-19 response.

Question 1: Successful models within the U.S.

The following presents CORE's system-agnostic recommended specifications for each element of mass site operations data management.

SCHEDULING/PRE-REGISTRATION: Mass offerings of testing and vaccine resources require an intuitive user interface allowing patients to self-schedule and pre-register among various locations, dates, and times. This allows administrators and providers to focus on optimizing site operations. Pre-registration should primarily be offered via public link (URL) which can be published through government websites, social media, news outlets, and any other public-facing communication, with an option to register onsite for those facing technology barriers. Pre-registration should link patients to a personalized and private portal, which compiles PHI (test results, proof of vaccine, appointment times, etc.), and allows for two-way communication between the patient and administrators (appointment reminders, options to reschedule, cancellations, etc.). Vaccine patients should automatically receive a single-use link for second dose appointment upon administration of first dose. Once a patient begins the scheduling and pre-registration process, the system should "hold" appointment slots for a set amount of time to allow patient to complete booking. The functionality to create "split scheduling pools" for a unique location ensures first-dose patients will only see first dose appointment availability for that location, and second-dose patients will only see second dose appointment availability.

REGISTRATION: Once patients arrive onsite, the system must be able to indicate delivery of services. The registration system must collect all CDC-required data elements and PHI for vaccination and testing (i.e., electronically signed consents, authorized access to medical record, etc.) and any reporting information required by state or local health departments. A multi-screen and intuitive wizard should guide onsite staff (many of whom are volunteers or community workers unfamiliar with health systems) through the process of checking a patient in for their appointment. Onsite staff should be able to check a patient in for their appointment using minimal information. Site staff should be able to register patients onsite quickly and easily, and update patient information.

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Onsite health providers should be able to chart relevant encounter information such as patient refusal, medical factors that preclude vaccine administration, or adverse reactions.

ADMINISTRATION: The system back-end should allow administrators to easily add or delete clinics, clinicians, and vaccinators. Additionally, the system should generate appointment reminders via text or email with the ability for patients to respond. The ability to generate semi-private links for identified groups was particularly helpful to preserving state-created eligibility tiers.

VACCINE INVENTORY: Administrators may leverage existing inventory systems within clinic, hospital or disaster response infrastructure or build out appointment or health systems to track and report out on acquisition, storage, distribution, administration of vaccines, daily usage, waste, on-hand vaccines per site, on-hand vaccines in storage, and other relevant inventory data.

DATA STORAGE AND ANALYTICS: Patient information must be stored in a secure, encrypted data repository within a HIPAA-compliant architecture. The system should be equipped to interface and communicate with public health or government reporting systems primarily through a daily batch of files or real-time HL7 messages. System should generate follow-up questionnaires and track monitoring and evaluation metrics to develop longitudinal analysis of response.

DASHBOARDS: The fluid nature of the pandemic required accurate and customizable dashboards to support frequent operational and programmatic evaluation. These dashboards should be fed directly from the administration and registration systems to provide a seamless flow of critical data. Ideally, the dashboards should show aggregated data in real-time that will directly impact site operations, such as scheduled appointments, no-show rates, site throughput metrics, and vaccine inventory and usage data. The dashboards should also provide information about community beneficiaries such as demographic information, zip codes, and insurance.

Question Two: Barriers

CORE's COVID-19 response prioritizes vulnerable groups and communities that face compounding, overlapping issues – including barriers to technology. Many community members lack the devices or connectivity to the internet to successfully register for testing or vaccine appointments. Particularly in CORE's LA Skid Row operations, CORE frequently encountered patients experiencing homelessness who had no access to a laptop or cell phone. Many community members who needed access to free COVID-19 resources also struggled with digital literacy and needed onsite assistance navigating appointment systems. Many vaccine-hesitant individuals who cited distrust of the government also expressed a discomfort with sharing their personal information in an online registration system for privacy reasons.

Organizationally, CORE faced many technological barriers as well. Most of CORE's operations were outside in parks and parking lots to reduce the transmission between patients. This prevented sites from tapping into the existing Wi-Fi or internet. CORE in turn purchased costly Mi-Fi pucks with unreliable connectivity. The cost and unreliability of devices increased as CORE expanded operations abroad.

Question Four: User Experience

CORE's response was highly dependent upon public buy-in and willingness to use online systems. Given the needs and hesitations of our target beneficiaries, exceptional consideration was given to optimize user experience.

CORE formed robust partnerships with cross-disciplinary stakeholders like labs and healthcare providers to create customized systems that served as single points-of-entry for public, private and targeted pre-registration, and scheduling. These systems were designed to shoulder as much work as possible from the patient. This included features like automating eligibility screening according to state tiers, digitally collecting as many required data elements as possible prior to onsite engagement, and digitally capturing consent forms prior to a patient's visit. Additionally, these systems allowed for automated appointment notifications and two-way, HIPAA-compliant communication between patients and administrators. Oftentimes, real-time and accurate answers to simple questions such as "Can I bring my child with me?" or "Where is the best place to park?" meant the difference between a patient getting vaccinated or not.

As CORE shifts from the response to recovery phase in our domestic markets, we aim to adopt the single point-of-entry philosophy to blue sky programming. Our ResourceConnect program leverages in-house technology to screen participants for eligibility across a robust matrix of local, state, and national community social programs to connect qualifying individuals to these resources.

Question Six: Proposed Government Actions

Through CORE's work we have identified systemic, bureaucratic, and information inefficiencies that complicate the flow of critical resources across the continuum of the disaster cycle. Despite the rapidly enhanced technologies available, humanitarian service delivery has remained generally undigitized or systemized. There is a need to streamline and simplify, shifting the complexity away from affected individuals and response organizations. Responding to this gap in current humanitarian capacity and leveraging our experience, CORE is piloting COREConnect, a highly accessible, browser-based web application. COREConnect is not only a technical application, but a novel approach to coordinating disaster relief and resource coordination efforts. This model and others may help the industry innovate and better utilize disaster resources.

COREConnect is a dual-modality application that consolidates and streamlines resource distribution during the immediate disaster response and the long-term recovery. COREConnect's Disaster Response Mode (DR) enables local organizations, governments, and nonprofits to collaborate within a single platform which aggregates critical basic needs and resources available during a disaster event. The COREConnect Resource Coordination Mode (RC) streamlines needs identification, eligibility verification, application assistance, handoff facilitation, and follow-up during the recovery and preparation phases of the disaster cycle. COREConnect and its accompanying methodology will make it easier for response organizations to provide resources and for individuals to get their needs met quickly.

Over the next six months, the COREConnect team will focus on additional design and development activities to enhance the application as well as opportunities to pilot this technology and approach. With federal funding and support, this application could be ready for large-scale implementation in 1-2 years. Once launched at scale, this system will enhance the impact of financial and physical resources allocated during a crisis. By ensuring supply and demand are matched, the application reduces waste and ensures the most vulnerable can quickly have their urgent needs met.

CRISIS TEXT LINE |

February 28th, 2022

White House Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Re: <u>Request for Information (RFI) on Strengthening Community Health Through Technology</u>

Expanding and improving mental health services and interventions via text is a key solution to strengthening community health. At <u>Crisis Text Line</u> (CTL), a national nonprofit organization, we are on the front lines of providing mental health support and crisis intervention, having supported over 6.7 million conversations with texters in crisis in the U.S. since our August 2013 launch. CTL provides anyone, in any type of crisis (from bullying, to self-harm, to suicide, and every crisis in between), access to confidential and free 24/7 support via a medium people already use and trust: text.

<u>1. A successful model within the U.S.</u>
A texter reaches out to 741741 to speak to a crisis counselor and CTL triages texters in the queue based on their risk level. Like a hospital, we engage with texters in order of severity, not time. So, even during times of high volume, those most in need get help fast. On average, texters who indicate a high risk for suicide when they text CTL are connected with a crisis counselor within 60 seconds.

A completely free service, CTL provides empathetic listening and collaborative problem solving to help individuals with whatever crisis they are facing. We do this by activating our network of trained volunteer crisis counselors to take conversations with in-the-moment guidance and oversight from our staff of mental health professionals. In accordance with national best practices in suicide prevention, we asses every texter for risk of suicide. Of an average of 3,500 conversations per day, approximately 2-3% meet criteria for imminent risk of suicide. Our goal is to always de-escalate the suicide risk by empowering the texter to find healthy coping mechanisms to work through their crises or by collaborating with them to form a safety plan. Less than 1% of our conversations result in the need to engage emergency services (called 'active rescue'), where the texter is at imminent risk for suicide and is unable to form a safety plan. An active rescue is required when our professional mental health staff determine that not engaging emergency responders will likely result in the loss of life.

<u>2. Barriers</u>
With the current behavioral workforce capacity shortage, there is a significant need to scale text-based crisis intervention and the use of volunteers and/or paraprofessionals to meet current demand for mental health services. In response to this shortage, Crisis Text Line has developed a program, in collaboration with 21 schools of social work, that allows masters-level social work

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students to earn clinical field hours as a crisis counselor, which they can do remotely during hours that fit their schedule. Beyond gaining crisis intervention experience and earning clinical hours for their practicum, MSW students are building critical skills in resource vetting, supervision, and coaching.

3. Trends from the pandemic

The need for text-based mental health support has expanded dramatically during the course of the pandemic. In a similar way to telemedicine, text-based mental health support and intervention allows for continual and anonymous access to this support, wherever an individual is located. Our research showed that in 2020, texters experienced more grief, eating disorders, and anxiety than in previous years. Young texters were also 52% more likely to contact us overnight in 2020 and 2021 than in 2019.

During the pandemic, frontline workers that engaged with Crisis Text Line had a higher number of conversations associated with depression than non-frontline workers. Children of frontline essential workers reported higher levels of bereavement and other stressors than the general population. Results revealed that younger frontline essential workers (age 14 to 24 years) were more likely to connect with CTL for self-harm, suicidal thoughts, depression, and abuse than older workers (age 25 to 44 years) during the pandemic. Workers were more likely to report higher rates of suicidal thoughts than similar demographics with no association to workers. Among children of frontline workers, the risk for self-harm was particularly high for ages 13 and under. Findings from this research demonstrate the significant mental health burden shouldered by frontline essential workers and an especially alarming trend in more severe crisis concerns, like suicidal thoughts.

4. User experience

At Crisis Text Line, we are continually incorporating the feedback of texters and volunteer crisis counselors. Approximately 20% of texters respond to a post-conversation survey after they have received crisis counselor services. In our nine years of service, we've had an 87% satisfaction rate, and 60% of texters mentioned sharing something new with us they hadn't told someone else before. CTL maintains a high quality service by providing in-the-moment oversight of text conversations by mental health professionals. We additionally share at least one resource with a texter in about 1/3 of our conversations. CTL has vetted a list of 350 English-language and 185 Spanish-language resources that fall into the following categories: (a) in-the-moment support (*e.g.*, 54321 grounding); (b) self-help guides, (*e.g.*, antidepressant skills worksheet); (c) databases for ongoing care (*e.g.*, 211, findhelp.org); and (d) online peer support groups (*e.g.*, LiveWell Foundation.)

5. Tool and training needs

Crisis Text Line has invested significant resources in building and implementing an unparalleled platform for crisis intervention and mental health support via text. We created and patented an advanced triage system that utilizes algorithms to queue conversations based on severity and risk, rather than order in which texts are received. Our machine learning system reads initial messages to identify texters at high risk of imminent harm, and it ensures these individuals are moved to the front of the queue to receive support in under one minute.

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Our platform includes robust training for crisis counselors and innovative digital tools which serve the public good. In order to offer this free service, we rely on volunteer crisis counselors who complete a self-paced online training which includes development of skills like collaborative problem-solving and active listening; education of issues that texters may face like abuse or bullying; and practice with conversations through a shift simulator which emulates real-time communication on the platform. CTL also utilizes a machine learning predictor tool that identifies spikes of 25%-50% increased volume within six hours, which gives us the ability to prepare for an increased volume of texters.

6. Proposed government actions
Having real-time insights into mental health needs by geography can help inform public policy responses, such as with specific events like hurricanes or mass shootings. For example, researchers worked with Crisis Text Line to study health-seeking behaviors before and after Hurricane Florence in 2018. They found significantly more conversations discussing anxiety and stress, and suicidal thoughts in the two weeks after the hurricane compared to the time before the hurricane. Based on this evidence, the authors highlighted a crucial need to rapidly scale up mental health support for young people navigating a weather-related disaster and stated that "these findings highlight a new application for text-based crisis support services to address the mental health consequences in youth following a weather-related disaster, as well as the potential for these types of crisis platforms to measure situational awareness in impacted communities."

With the launch of the new 988 shortcode for mental health crises, there is a unique opportunity to elevate and expand on the use of text-based services that could inform public health responses at the state and federal level.
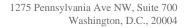
7. Health Equity
Providing mental health services and support via text is an important tool to reduce health disparities given the universality of texting in comparison to access to specialty providers. As a modality, health support via text also provides less-biased support to those with accents, who may feel unsafe contacting a phone-based hotline or are deaf/hard of hearing, given there is no voice exchange. At Crisis Text Line, we are embedding equity into our service framework, focusing on trauma-informed training and cultural competency. We are intentionally expanding our reach to support more BIPOC and gender non-conforming texters.

8. International models:
Crisis Text Line has successful affiliates in the UK ("Shout"), Ireland and Canada (Kids Help Phone.) These affiliates are service partnerships with our technology in order to provide free, 24/7 mental health support and crisis intervention via text.

Thank you for your commitment to increasing access to and awareness of behavioral health care and mental health resources. Crisis Text Line is here as a resource for any follow-up questions or concerns.

CVSHealth.

March 4, 2022

White House Office of Science and Technology Policy
725 17th Street NW, Washington, D.C., 20500
Submitted electronically via email

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

CVS Health appreciates the opportunity to respond to the White House Office of Science and Technology Policy (OSTP), Request for Information (RFI) on Strengthening Community Health Through Technology. We agree with OSTP that digital health technology has the potetential to transform community health, individual wellness, and help address health disparaties in our nation. Our response is set forth below.

1.   Bring Digital Tools from Commercial Insurance Into Medicare Advantage
Aetna's Next Best Action (NBA) program
Since 2018, Aetna has been using the Next Best Action (NBA) program to encourage a variety of healthier actions, such wellness appointments, screenings, vaccinations, lower-cost sites of care, medication adherence, and lifestyle changes among our health plan members. Each of these recommended actions are designed to benefit members both physically and financially by helping them to lead healthier lives and reducing unnecessary medical spending. The actions are identified by using predictive models, which leverage health care data, such as past behaviors and preferences, and feeds it into a predictive AI algorithm to identify key moments where it can suggest a beneficial decision, service, or product. The program's scale, combined with its personalized approach, has the potential to improve outcomes among harder-to-reach, disadvantaged communities by directing them towards simple steps that could improe their long term health outlook. The biggest barrier in these communities is bridging the digital divide, and getting them access to technological resources that would allow them to access this information.

Digital Rewards
The NBA technology supports the Aetna Health Rewards program, which is a digital program that offers up to $200 a year in rewards to Commercial and Medicare Advatage members for completing health actions. These actions include wellness visits, preventative screenings, physical activity, choosing lower-cost sites of care, and management of specific conditions. Each action item is assigned a financial value, which can then be redeemed online in the form of gift cards, coupons, transportation, discounted services, charitable donations, or vouchers for medical services. For commercially-insured members, this program has resulted in positive outcomes including a 4% increase in lower-cost radiology center utilization, a 2% increase in in-network provider appointments (as opposed to out-of-network), and a 1.4% increase in necessary scheduled colonoscopies. These actions help members save money on necessary procedures and screen for conditions that are more easily managed when caught early. Medicare members are also using this digital rewards center, although at this time, Medicare members most often choose to redeem their rewards via a physical gift card in the mail instead of an instant digital gift card.

Another example of a rewards program aimed to improve individual and community health is Attain by Aetna, a health app that combiness wearable fitness device activity with health history in order to offer personalized health goals. Members who opt in, can connect a compatible wearable device to the Attain app to track their activity toward goals focused on physical activity, nutrition, sleep, mindfulness, in addition to receiving information and reminders on subjects like doctor's visits, screenings, and vaccinations. Each action the user is invited to complete is assigned a point value, which the user earns after completion and can be redeemed for financial rewards such as gift cards to popular retailers. The promise of rewards motivates users to check in regularly and complete these actions – in fact, 78% of its monthly active users, ranging across age and gender, check in at least once a week. These check-ins lead to behaviors that add up, especially for the most at-risk users: sedentary users show a 14% increase in active calories burned. Across the entire enrolled user population, Attain has resulted in a 21% increase in primary care wellness visits, a 28% increase in flu shot rates, and a similarly strong performance across other metrics. Attain's frequent engagement and behavior change outcomes together have resulted in an observed medical cost savings of $10 per month per user, suggesting that these actions can improve health and reduce overall costs. **We are encouraged by the results we are seeing in the commercial population and would welcome a review by the OSTP of existing Medicare rules, particularly related to awards and incentives, as well as applicable fraud, waste and abuse laws to determine if there are ways to broaden these types of initiatives to Medicare.**

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2. Expanding Telemedicine Based on Lessons from the Public Health Emergency

Throughout the pandemic, telehealth has provided access to quality care for millions of patients across the country. Even now, with the return of in-office appointments, telehealth continues to broaden access to quality care – particularly in rural areas with fewer providers and for mental and behavioral health services. We are concerned, however, that tens of millions of Americans could lose access to telehealth care unless Congress acts. Without it, Medicare beneficiaries will lose access to telemedicine services when the Public Health Emergency (PHE) expires.

During the pandemic, we saw telehealth visits spike from 500,000 visits in 2019 to 17 million in 2020, and more than half (57%) of respondents to our 2021 Health Care Insights used a virtual visit to connect with a healthcare provider.[1] (source). Aetna observed significant rises in telehealth utilization – in 2020 telehealth accounted for 13 percent of all primary care visits, 6 percent for specialist visits, and 38 percent for mental and behavioral health visits.

There are several actions Congress and the Administration can take to sustain telehealth access including:
- Allowing Medicare beneficiaries to access health care from wherever they are by removing Medicare's outdated "originating site" requirements;
- CMS codifying in regulation that "audio-visual" telehealth-obtained diagnoses may count toward risk adjustment on a permanent basis.
- Making permanent the High Deductible Health Plan-HSA telehealth flexibilities provided by the CARES Act that expired at end of 2021, so patients can use their HSAs to cover telehealth services prior to reaching the deductible.
- Having CMS take steps to continue allowing providers who are providing telemedicine services from home to continue doing so after the PHE ends.
- CMS codifying the allowance to initiate telehealth without pre-existing relationship or in-person exam.
- Allowing medical providers of telemedicine services to operate and serve patients across state lines.

Opponents of these changes may point to the absence of measurable data and the threat of increased costs, neither of which are valid. Telehealth providers, including CVS, *do* have data, and our statistics provide compelling reasons for advancing telehealth as a more permanent option for care. Specifically, over the last year of the pandemic, our data indicates that the total cost of primary care and specialty services among our customers has not increased despite continued telehealth use with the return of in office visits. At the same time, our data shows that telehealth provided access to much needed mental and behavioral health services, the demand for which has skyrocketed since the onset of the pandemic. We believe that access to telehealth can also be an important tool to *reduce* future health costs, providing easier access to more regular management of chronic conditions like diabetes and kidney disease.

3. Expanding Telehealth Access for Dialysis Patients

Expanding access to telemedicine and digital tools for home dialysis patients represents a critical way to modernize dialysis care in the United States. If home dialysis patients are fully empowered with access to virtual care and digital technologies that help keep them connected to their care team and provide essential remote monitoring, their confidence, treatment adherence, and sense of safety greatly increases.

The *Advancing American Kidney Health* Executive Order from 2019 set a national goal of increasing the adoption of home dialysis and kidney transplantation to 80% for incident ESRD patients, which is a dramatic increase from its current combined rate of 14%. Empowering ESRD patients with a broad range of virtual care and digital support will play a fundamental role in achieving this bold, patient-centered kidney care policy goal.

Our kidney care telehealth policy recommendations below reflect changes that we believe will help accelerate update of home dialysis, and also will contribute to patient adherence and success on this clinically-optimal modality.

- **Make permanent telehealth waivers for home dialysis that have been in place during the PHE.**
- **Grant Physician Fee Schedule telephone consult codes 99441-99443 a Category 3 status, as they otherwise will be removed from the Medicare telehealth list when the COVID-19 PHE ends.**
- **Allow dialysis facilities to bill separately for digital patient monitoring tools, used remotely by home dialysis patients.** Providing payment for adopting and deploying digital patient monitoring tools will enhance

treatment care options for home dialysis patients. Digital tools empower ESRD patients to take a more active role in their healthcare with their care providers. These tools also reduce the need for in-person visits.

- **Allow home dialysis patients to access their full care team via telehealth. Federal policy should specify that members of the interdisciplinary care team can provide services to home dialysis patients virtually, so long as a dialysis facility Medical Director maintains oversight.** This would enable nurses, social workers, dietitians, and other care team members to provide services via telehealth and allow patients increased flexibility to access their care team at home, while ensuring consistent quality care and essential oversight.
- **Allow certain aspects of home dialysis training to be conducted via telehealth.** Based on the home RN's assessment of the patient and their ability to use telehealth, federal policy should allow portions of home dialysis training to be conducted virtually, with exceptions for portions of the training that would not apply or that would need to be conducted in person.
- **Allow members of the interdisciplinary care team, other than the RN, to conduct the pre-home dialysis visit.** In some instances, support services, including coordination of the home patient's care, may be provided by a member of the interdisciplinary team. However, in other instances, the training of home dialysis patients, the patient's assessment, and in-center oversight largely falls to RNs. Federal policy should expand this scope to allow LPNs or patient technicians to conduct home visits with an RN engaged virtually, as needed.

4.   Changes Needed to Medicare's Continuous Glucose Monitor Payment and Coverage Policy
As technology continues to play a more crucial role in healthcare, we must better leverage digital tools to help simplify and solve for the care and treatment of various disease states. Outlined below is a way the Medicare program can save money, improve care for patients and increase access to digital health tools.

A continuous glucose monitor (CGM) is a device used primarily by people with diabetes to check glucose levels prior to taking insulin or other glucose lowering medications. The CGM can be used to eliminate the need for blood-drawing finger sticks multiple times per day and allows the user and healthcare provider to monitor trends as well as to be notified in real time if the patient's glucose level is "out of range". It consists of 3 components:

> (1) a reader/receiver, the reader/receiver component (K0554)
> (2) sensor, the sensor comes with an adhesive that sticks to the user's body,
> (3) transmitter, that can either be built into the sensor or a standalone product

The sensor and transmitter (both K0553) are related supplies that are used to measure glucose readings.

The major CGM manufacturers, Abbott and Dexcom, have both created smartphone applications that can be used to replace the reader/receiver, removing the need for an additional handheld device. Like the reader/receiver, these apps have various capabilities including collecting glucose readings, store historical readings, and even upload to the user, caregiver, and provider's computer for analysis.

The current CMS requirement for filling a reader/receiver currently causes delays in access to care and increases medical costs for all parties involved. Upon determining that a patient may benefit from CGM use, prescribers will typically ask their patients during the clinic visit whether the patient has a smartphone to download the appropriate FDA approved smartphone application and send prescriptions for the applicable CGM supplies to the pharmacy or Durable Medical Equipment supplier. From here, the pharmacy or DME supplier must explain to prescribers to help them understand the need for a moot product, then wait for the prescriber to sign off and send a prescription. Additionally, if the reader/receiver is not in stock at the time of receipt of the prescription, team members order and wait for the product arrives to bill and dispense, causing unnecessary delays in treatment monitoring. Throughout the entire process, the pharmacy or DME supplier must ensure all stakeholders are kept in the loop so there are countless hours of phone calls and messages back and forth. When the patients finally receive their product, patients are responsible for 20% coinsurance once they've reached the annual deductible and as of 2022, CMS reimburses $237.43 to the supplier for each dispensed reader/receiver. More importantly, the patient and the insurer are ultimately paying for a product that is potentially of no use to the patient if the intention is to use the smartphone app to produce the same outcome, thus unnecessarily increasing the cost of healthcare and potentially exemplifies waste as detailed in the Fraud, Waste, and Abuse (FWA) Program. **Therefore, in efforts to simplify CGM usage, decrease medical spend, and increase patient access by making the initial CGM order fulfillment more affordable and timelier, the we recommend Medicare remove the requirement for CGM users to fill a prescription order for and utilize a reader/receiver as a component of the CGM, and continue to provide coverage for the CGM supplies.**

Jaime Bland, DNP, RN; Joy Doll OTD, OTR/L, FNAP; Emily Pritchard
CyncHealth, www.CyncHealth.org

Connected Health RFI

To the attention of Stacy Murphy, Operations Manager

███████████████████████

CyncHealth is the statewide designated health information exchange (HIE) in Nebraska and Iowa and serves as a health data utility for the Midwest Region. Our utility provides social determinants of health (SDOH) platform services in seven states (Kansas, Iowa, Minnesota, Missouri, Nebraska, North Dakota, South Dakota) and operates Nebraska's PDMP. CyncHealth utilizes health information technology (HIT) to better serve the communities in Nebraska and Iowa, with plans to support the Midwestern region as well. Based on our experiences, we offer our comments and perspectives on use of digital health technologies to improve community health, individual wellness, and advance health equity, particularly in rural areas which often do not have readily available access to healthcare and community resources. As an organization focused on using population health data to improve public health and patient care, we seek to advance equity and support underserved communities. These comments are informed from our experience in cross-sector partnerships with vulnerable communities, rural health systems, and community-based organizations (CBOs).

1. Successful models within the U.S.:
A HIE reduces the duplication of services for patients, increases communication with providers, and allows the patient to have a longitudinal health record that follows them no matter where they seek care. Providers can view patient history across health systems in a state, which reduces the burden on patients to verbally relay health history for every provider and appointment. At CyncHealth, we support a SDOH platform where health care and social care providers may enter referrals for patients to social or community services. The services could include assistance with food or housing. This platform follows the lifecycle of the referral, noting the time it takes to fulfill, where it is in process, what communication between providers, identifying any further needs of the patient, and communicating this information to their health care team as necessary. A key critical digital health element is the closed loop infrastructure which provides a history of a patient's social needs. In this infrastructure, we expand the continuum of care beyond hospital walls to CBOs, meeting social needs that directly impact health status. This type of platform is especially helpful in ensuring the health of a patient outside of a hospital or doctors' office. Oftentimes, health care providers lack time, knowledge, resources, or are unable to follow up with social care referrals.

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2. Barriers:

Resource shortages such as time, money, or personnel are primary barriers for CBOs in the use of digital health technologies. These personnel are often busy helping individuals, and don't have time to learn how to use a new product. CyncHealth's SDOH platform follows social care referrals for patients from health providers. However, some CBOs barely have the time to use it, let alone attend trainings to learn how to use it. To address this challenge, CyncHealth forged a partnership with the local United Way who manages 2-1-1 for the state of Nebraska and parts of Iowa. At 2-1-1, CyncHealth supports a community navigator. If a CBO does not have the capacity or a health care provider does not have bandwidth, a referral to the 2-1-1 navigator is an option. This navigator can essentially take over the referral and make sure the need is met by reaching out to clients and ensuring follow through. These navigators are available 24/7 and have access to a language line for accessibility to language services when CBOs do not offer them. CBOs need resource allocations to teach their employees and volunteers how to track social care referrals. By increasing utilization of this platform, CBOs can see data to identify prioritization of needs and resource allocation, optimizing how they address social needs.

3. Trends from the pandemic:

The COVID-19 pandemic continues to reveal the importance of having digital health technologies to supplement health and social care. In aggregating health information from health systems, CyncHealth produced a COVID-19 dashboard, which incorporated lab results, bed capacity and chronic disease management. CyncHealth also produced a system for contact tracing with the state that is accessible to providers and shows the impact of the pandemic on local and regional areas. Now more than ever, it is apparent that health information cannot be siloed in one health system but rather requires increased and more efficient communication between health systems to respond rapidly to community needs. These dashboards provide a public view to the community and local governments on the impact of the pandemic and indicate the measures that need to be taken. This information can prepare and empower a state or a region to address new outbreaks and manage public health messaging accurately and appropriately.

4. User experience:

At CyncHealth, we value clinician input regarding the infrastructure of our platforms. We conduct a biannual clinical user group, host monthly meetings with other SDOH platform facilitators across the country, engage in robust program evaluation, and integrate user feedback from training programs into future platform developments and feel that our platforms are enhanced by this input. One example is adding a social needs screener to the SDOH platform. The Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences or PRAPARE, is implemented in our platform because of customer requests. For SDOH efforts, our team meets weekly with United Way to discuss improvements and meets monthly with key partners to assess progress. We

track utilization with a report card concept and develop trainings to meet consumer needs. CyncHealth also acknowledges the barriers to CBOs in implementing the utilization of these platforms and will continue to invest in community outreach to increase utilization.

5. Tool and training needs:

The primary barrier to CBOs utilizing SDOH platforms is the lack of time to allocate for training and implementation of the platform into their workflow. Organizations have little to no time to learn how to use a new platform and are often run primarily by volunteers with varying skillsets. Thus, there is a need to make these platforms easy to use and intuitive to those who may not have a background in clinical care. In addition, training and ongoing support is critical. Initial excitement for the platform may wain, and engaging partners is important to ensure network health. CyncHealth develops trainings and site visits in response to the feedback from these trainings and development needs.

6. Proposed government actions:

CyncHealth recognizes the importance of learning more about SDOH, which are the "conditions in the environments where people are born, growl live, work, and age that affect health outcomes and risks" (NASDOH, 2021). * Government and policymakers can support HIT surrounding social determinants of health by encouraging healthcare, social services, and pharmacies to share their data with the HIE, PDMP and SDOH platforms. This is accomplished by providing reimbursement, such as the Medicare Rural Hospital Flexibility Program (FLEX) and the Small Rural Hospital Improvement Program (SHIP) through Medicaid Services. Reimbursement to CBOs to support operations and maintenance of utilizing a SDOH platform is also an opportunity, and the data can tell a patient's story in matching their needs with services. By engaging these CBOs in data sharing, CyncHealth acknowledges their importance in creating a holistic picture of health of a population. Another exemplar is the Pathways Hubs where reimbursement and partnership with the managed care organization is critical to sustainability of social care efforts.
*National Alliance to Impact Social Determinants of Health (2021). MULTI-SECTORAL ALLIANCE RESOURCE COMPENDIUM National Alliance to Impact the Social Determinants of Health. Retrieved from https://leavittpartners.com/wp-content/uploads/2021/03/LPCA_NASDOH-Compendium_FINAL.pdf

7. Health Equity:

The data utilities supported by CyncHealth allow it to be a data aggregator for Nebraska and Iowa. As a data aggregator, CyncHealth can identify where patients receive care for which diagnoses, noting which health or social concerns are more prevalent in certain areas of the state. This data can indicate where resources need to be allocated—perhaps emergency medical care isn't readily available or access to healthy foods is limited. The health data we aggregate reveals disparities in care across health and social sectors and can identify where CBOs can best serve populations.

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Health Literacy as a Means of Education and Management of Cardiovascular Disease

Health Literacy and Cardiovascular Disease: An overview

One of every three deaths in the United States is caused by cardiovascular disease. In fact, it kills more people than all forms of cancer and respiratory disease combined. (Reamy et al., 25). An essential component of preventing cardiovascular disease and reducing mortality is leading a healthy lifestyle. The American Heart Association emphasizes the benefits of healthy living as fundamental to increasing the chance of living free of cardiovascular disease by targeting preventive efforts through *Life's Simple 7*. *Life's Simple 7* encompasses ideal health behaviors and factors including, nonsmoking, BMI below 25, physical activity at goal levels, a diet consistent with recommended guidelines, untreated total cholesterol below 100 mg/dL, normal blood pressure, and low blood glucose. (Reamy et al., 28). However, in order to be effective, all seven criteria must be met and very few individuals meet all seven cardiovascular health metrics. Because the prevention and management of cardiovascular disease requires a high level of patient involvement, they must be given the education and resources to understand the how and why to do so.

Across populations, proficient health literacy is essential to chronic disease prevention and self-management (Magnani et al., 2018, Aaby et al., 2017; Barton et al., 2018; Matsuoka et al., 2016). Health literacy remains a major skill for managing disease and promoting overall health and wellbeing. With approximately 87 million adults in the US identified as having limited health literacy, this leads to a staggering disparities in health (Vernon et al., 2007). According to the CDC, 6 out of 10 Americans have a chronic disease, with racial and ethnic minorities are 1.5 to 2 times more likely to have chronic diseases as compared to their white counterparts (Centers for Disease Control [CDC], 2020). Due in part to a lack of tailored care

support and education, marginalized racial and socioeconomic groups have lower levels of health literacy, disease self-management skills, and overall health outcomes that contribute to damaging health disparities. In addition, lack of integrated technology, limited physician time and cultural discordance all widen that gap.

While several organizational bodies have taken steps to standardize Community Health Worker models, limited federal or state legislation explicitly proposes a care delivery model that involves the inclusion of community health workers in interdisciplinary health care teams. The call for systematic clinical integration of community health workers requires policy reform and advocacy. Although there is limited current policy and support surrounding wide scale clinical integration of community health workers to challenge health disparities, the Patient Protection and Affordable Care Act (ACA) promotes the incorporations of community health workers into interdisciplinary teams (Shah et al., 2014).

Additionally, Senate Bill 32: Health Force, Resilience Force, and Jobs To Fight COVID–19 Act of 2021 presents an interdisciplinary approach to public health optimization. The purpose of this newly introduced bill is to facilitate the establishment of a standing Health Force and a Resilience Force by the Centers for Disease Control and Prevention to respond to public health emergencies and meet public and community health needs. The bill calls for collaboration of the Health Force with community health centers through grants or cooperative agreements, encouraging interdisciplinary collaboration inclusive of community health workers. When integrated into multidisciplinary health teams they have been shown to improve health and healthcare quality at reduced costs. Practical implementation of community-led based interventions and policy recommendations can encourage patients to be primary decision makers in their care and promote public health and wellbeing.

Inadequate health literacy has been estimated to cost up to $238 billion annually in inefficiencies (Vernon et al., 2007). By enhancing health literacy, patients can learn what, when, and how to monitor key signs and symptoms of disease, understand nutrition labels and medication instructions, effectively communicate this information with their healthcare team, and can make well informed decisions that pertain to their health. (Dunn, Conard., 249).

Existing Educational Programs

Health promotion programs seeking to improve the health of marginalized populations by addressing the social determinants of health have received increasing emphasis in recent years. Below is a discussion of three in particular: UPenn's IMPaCT model, Cityblock Health and the FAITH! App.

UPenn's IMPaCT

University of Pennsylvania's Individualized Management for Patient-Centered Targets (IMPaCT) model, originating from a 2017 randomized control trial, seeks to improve health outcomes by addressing the social factors that contribute to disparities in marginalized populations (Kangovi et al., 2017). The study aimed to assess the impact of community health worker clinical integration primarily on participant physical health and secondarily on mental health, chronic disease control, patient activation, quality of care, and all-cause hospitalization. It was hypothesized that compared with patients who did not receive CHW support, those enrolled in the IMPaCT program would have improved self-rated health, chronic disease control, patient activation, and quality of primary care as well as lower all-cause hospitalization (Kangovi et al., 2018). The program continues to apply a multi-stage approach that employs CHWs to assess and tailor support based on patient sociocultural influences on health such as trauma history and familial stress and support. The design of this intervention supports the growing acceptance that

sociocultural factors have an impact on health as much as biological ones (Cockerham, Hamby & Oates, 2017).

Cityblock Health

City block health is a 24/7 service made up of medical advisors that can provide medical support in person or virtually at any time. These advisors are made up of nurses, physicians, social services or mental health workers. In regards to needs assessment methods it appears that this organization uses a mix of needs and felt needs assessment methods which lead to the person's overall plan of care. Expressed needs focuses on what resources or services people need and use in their communities. While felt needs what the person believes they need. The program focuses on the cityblock members and their personal health or life goals. According to the program they "are passionate about collaborating with neighborhood partners to provide better, more coordinated care for our members"(Cityblock 1). In order to provide care to Medicaid patients Cityblock offers private health companies to "take care of complex patients"(Forbes 1). Based on this statement, the program seems to tailor personalized medicine to any community in Massachusetts, but more primarily "targets the medicaid market"(Forbes 1). The program works with communities in four other states as well. The statement also connects to their mission statement which is that the program believes health starts in the neighborhoods and that "Everyone deserves good care. Together, we can reduce costs, improve your experience and the quality of care, and transform the health of our communities"(Rom and Ajayi 1). In order for the program to provide personalized medicine, their objective is to gain trust and communication with the community they are working with. Through listening to patients' voices and allowing them to be heard, cityblock is gaining trust from communities. Being partners with Tufts health, cityblock is helping provide personalized medicine at no extra cost and with more medical and

social support. Overall I learned providing supportive healthcare through the lenses of health equity is possible in regards to personalized medicine. The Medicaid community does have some programs like Cityblock that are willing to provide support, but only patients that are viewed as complex in the eyes of private health insurance companies can rely on this help. The rest of community members that are interested in cityblock can join, cost is free on to those who have insurance. But what if you do not have insurance? The program's site did not have information or an FAQ portion for information on patients without insurance. I did appreciate the idea of speaking with a patient about a goal of care. Cityblock tries to revolve the patients environment, health, and social status to tackle healthcare.

FAITH!

Faith, also known as "Fostering African-American Improvement in Total Health" is a research program coordinated by the Mayo clinic for improving cardiovascular disease in the African American community. I believe that their mission is to tackle the number one cause of death in African American communities by promoting health literacy in church communities. Their mission was led by Cardiologist LaPrincess Brewer, who worked with a church community in Rochester Minnesota using Participatory action research on cardiovascular health. The participants in this research were the men and women church members who also came up with the end goal of the program and even milestones on how to achieve their goal, which is to improve cardiovascular health. Based on the research, I believe that the needs assessment was based on the life simple 7 plan of action. This plan of action focuses on how to decrease the chances of cardiovascular disease through better eating habits, managing blood pressure, sugar, cholesterol, being active, eating healthier, staying within a good weight and, reduce or stop smoking. There is not a lot of information on how the needs assessment was done but I believe that surveys could have been implemented to see how much of a healthy lifestyle some church goers had. Dr. LaPrincess Brewer connected with three churches and focused on health literacy by carrying out a 16 week educational program on cardiovascular disease to improve the prevention of cardiovascular disease. The FAITH program also provided tips and tricks on healthy eating, educational videos on health, cardiovascular health seminars, and weekly fitness classes. As an incentive participants were given gift cards for the supermarket and YMCA memberships. FAITH researchers then used questionnaires and health data to measure the outcome of the educational intervention. Through health literacy the objectives of this research study based on my understanding is to promote healthy eating, increased fitness, and increase self awareness of cardiovascular health. One of the main objectives was to share the health education experience that the participants had; with their friends and family. Researchers from the FAITH program then created mHealth which was an app that had educational modules and those who had the app could share their health education experience. Questionnaires and health

data from participants were used to measure how effective the interventions on cardiovascular health were (Penheiter 1). The data collected was used to show how similar cardiovascular health in that church community was compared to the African American population in the United States. The results revealed that the participants in the study had similarly poor cardiovascular health compared to the US African American population. The data results were given to the participants since this is a participatory action research. When the study finished there was an increase of cardiovascular health literacy and improved scores on the simple 7 health cardiovascular health plan (Penheiter 1). In reviewing this program I have learned that communities can benefit from programs that they are able to understand on an interpersonal level. This research program uses participatory action research which gives voices to the participants and can shape the goals and objectives in the research being conducted through the participants point of view. I believe that this research study was successful because educational programs for the church community were used in order to answer questions that some individuals might have had on cardiovascular health. What the program did a great job on was showing how small and very doable changes in life can decrease the chances of having cardiovascular disease. This gives opportunity to community members who did not know about cardiovascular health sustainability learn and implement life saving techniques on cardiovascular health onto their lifestyles. My final thought is that this research study can be universal throughout many churches and does have the potential to grow into many other states. Having such a diverse research study is very exciting especially when any community can benefit from this study.

In order to improve health literacy and reduce the disease burden of cardiovascular disease, a progression of health literacy skills from reading and comprehension, to numeracy, navigation, communication and decision making/action must be prioritized by all -- especially by healthcare providers and patient care navigators. It is evident that primordial prevention, prevention that involves the early establishment of habits and lifestyle choices that prevent the development of CVD risk factors, starts in utero, continues through infancy, childhood, adolescence, and into young adulthood through tobacco avoidance, daily activity, healthy diet, and weight management. (Dunn, Conard., 26). Therefore, the proposed hybrid health support program (face-to-face and interactive digital app) integrates community health workers (CHWs) into clinical care teams to communicate with and coordinate care for marginalized groups in order to increase access to socially supportive healthcare at low costs.

Community health workers, who have commonly worked as healthcare adjuncts in the care of vulnerable populations, have recently been integrated into patient care beyond community-based interventions as a novel solution to addressing disparities. An expanding body of research highlights their function as key health mediators within hospital-based care. Still, they are underutilized in our complex health system.

The program's multi-phase care model design enables the delivery of coordinated care of vulnerable clients with chronic conditions. With the client at the center, the integrated team collaborates to provide holistic support for individuals referred to the program by their traditional care team members. In the program, the CHW coordinates not only with other members of the multidisciplinary care team but with the client as well to establish a targeted and tailored care plan. The client is then immersed in education, social support, care coordination and advocacy led by the CHW and guided by clinical professionals.

The program's **mission** is to provide culturally and linguistically appropriate services to support vulnerable clients in the Greater Boston area holistically.

Goal: By contracting CHW and supervisory personnel as well as licensing the software to healthcare organizations, the program strives to do the following: improve the health and social capital of marginalized communities by reducing disparities, increase the cultural awareness of health systems, and lower unnecessary healthcare expenditure and utilization.

Social cognitive theory is a framework which focuses on how people view the outcomes of their actions which could impact their external experiences and with that impact could change their behavior. Social cognitive theory also focuses on learning from others through social interactions, life experiences, social media and more. In the case of our program CHW will play a role in providing better healthcare, cultural awareness, and reducing disparities by being able to connect to the community or the patients.

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Many CHW with experience may come with an understanding of empathy towards the patient and also provide guidance that is not so overwhelming.

The social determinants of health outline a number of external predictors of health beyond biological influences, including socioeconomic status, neighborhood and physical environment, social support networks, and access to health care, that can explain a number of health disparities among certain marginalized groups (White-Williams et. al, 2020; He et.al, 2021). Social, behavioral, and environmental determinants of health have been increasingly examined for their influence on cardiovascular health, particularly in African American communities.

Community health workers, who have commonly worked as healthcare adjuncts in vulnerable patient populations, have recently been integrated into patient care beyond community-based interventions as a novel solution to addressing disparities (Weiner, 2018). An expanding body of research has evaluated CHW interventions that impact health outcomes and their function, therefore, as key health mediators through social support, care coordination and advocacy within hospital-based care has been shown essential to challenging disparities (Weiner, 2018). Community health worker (CHW) interventions have aimed to mitigate disparities among significant patient populations. However, their integration into hospital-based care to impact outcomes among multiple chronic disease groups remains underexplored (Kangovi et al., 2018).

Evaluation

Mixed measures for monitoring and evaluation. Results in disadvantages to scalability and sustainability. *Mitigation Plan*: utilize validated assessments of health literacy and disease self-management. Conduct correlation tests between intervention and desired outcomes

Formative Evaluation

An essential component of our program is evaluation. Both Formative and summative evaluation are important in addressing the efficacy of our proposed program. In order to ensure that our intended goals are being achieved, formative evaluation is a key component of our program. Formative evaluation focuses on quality assessment and program improvement. Because each client has a coordinated care team, each practitioner will be responsible for asking clients specific questions that will help tailor their care to be the most beneficial for clients. Additionally, each week, an in-app questionnaire will pop up on the clients screen with questions that will gauge app efficacy. Questions will be centered around whether or not clients feel supported, if they have gained any health related knowledge, and if they have any suggestions that will help to better serve their needs. This way we can better serve our clients' specific needs.

Summative Evaluation

Health literacy and disease self-management are the clients' performance-related summative evaluation constructs for this program, evaluated using validated tools. Health literacy and disease self-management are the two domains of health promotion that are central to the care model, as they have been shown to be significant, yet under-appreciated, predictors of health outcomes. Health literacy will be measured using the Rapid Estimate of Adult Literacy in Medicine, Revised (REALM-R). An eight-item, rapid assessment of word recognition and pronunciation of medical terms, the REALM-R has been found to have good internal consistency (Bass et al., 2003) and has been previously validated in cardiovascular disease groups (Ibrahim et al., 2008). An individual who scores 6 or less is considered to be at risk for low health literacy (Bass et al., 2003). Disease self-management and will be evaluated using the Patient Activation Measure (PAM), a 10-item instrument that measures patient engagement in self-management activities and collaboration with health care providers (Hibbard et al., 2004).

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Barriers and constraints

Since our program is dedicated to tailoring health literacy support culturally and linguistically, therefore, through CHW, we want to provide health literacy support to the most utilized languages such as Spanish, Chinese, Arabic, and more. For us to be able surpass the barrier of language, it is necessary to include CHWs with secondary language experience. Another constraint that can be addressed by the help of health literacy is gaining community trust. Not having the title of Doctor can seem less important for people who hope to be understood in the sense of their health needs. Some communities believe that CHW lacks the sense of professionalism (Grant, Wilford, Haskins, Phakathi, Mntambo, Horwood 1). We want to reassure our patients that CHW are there to view the patients health life in their lense. CHW may not be doctors, but can understand more profoundly how the environment can impact one's health, in other words they have more time to better understand a patient and tackle some of their questions about health.

Needs Assessment

Lack of community trust in the program when gathering data. *Mitigation plan*: Establish a community based participatory research approach to conduct a design ethnography rather than focus group. Utilizing key informants to facilitate community engagement and culturally representative data collectors including program administrators who can. Community health workers can serve as data collectors to increase representation and reduce desirability bias.

Objectives

Variable CHW certification, training, and certification as well as supervision. *Mitigation plan*: require MA CHW certification, budgeting for grandfathered CHWs/ qualified uncertified CHWs. Standardize training and personalize training specific to technology in the program. Ensure

CHW supervisors are consistently engaging with CHWs by providing regular feedback, gauging CHW satisfaction and role fit, exercising clinical expertise, and intervening and remediating during engagement.

Strategies

Due to inadequate hospital and health care organizational readiness/knowledge, there is a need for CHW integration among clinical and administrative staff. *Mitigation plan:* promote acceptability of CHW integration among both clinical and administrative staff, and define CHW roles to all clinicians and other team members during a meeting. This strategy is aimed to bring the existing staff and CHW together to deliver high quality care.

Appendices:

Formative Evaluation:

- Questionnaires and open discussion about how client perceives their health status and what they have gained throughout the program

Summative Evaluation

• Client-Centered Outcome Evaluation:

1. Maintain **all** clinic visits with PCP and monthly home visits with CHW

2. 90% participation in scheduled **virtual communication** engagements

3. At least one *virtual engagement initiation* by client (i.e., text CHW a question, ask for clarification)

4. 90% completion of **learning modules**, 50% of **test your knowledge**

5. At least **5 diary entries** (food, stress, activity, question) per week

6. 90% **achievement** of individualized goals

7. Improved scores on **health literacy and patient activation measures** from baseline

8. Improved self-rated **physical health** from baseline

9. Improved self-rated **mental health** from baseline

10. Zero avoidable ER visits (due to chronic disease)

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CYSTIC FIBROSIS FOUNDATION®

February 25, 2022

Jacqueline Ward
Assistant Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information on Strengthening Community Health Through Technology

Dear Ms. Ward:

We were pleased to see the Office of Science and Technology Policy's (OSTP) interest in improving access to digital health technologies and high-quality telehealth services. Like many communities, the COVID-19 pandemic rapidly accelerated the use of telehealth among people with cystic fibrosis and our experience from the last two years is instructive for understanding promoters of digital health care and telehealth, and remaining barriers.

Cystic fibrosis is a life-threatening genetic disease that affects more than 30,000 children and adults in the United States. CF is a complex, multi-system disease that causes the body to produce thick, sticky mucus that clogs the lungs and digestive system, which can lead to life-threatening infections. Cystic fibrosis is both serious and progressive; lung damage caused by chronic infection is irreversible and can have a lasting impact on length and quality of life. Nearly all people with CF in the United States receive care at an accredited CF care center, which provides multidisciplinary, specialized care in accordance with evidence-based guidelines. While great strides have been made in the treatment of the disease, CF requires uninterrupted access to high-quality care and therapies for patients to maintain their health and well-being.

Trends from the COVID-19 pandemic
While there was almost no use of telehealth in CF in the United States prior to the COVID-19 pandemic, all CF care centers were providing telehealth care within a few months after the pandemic began. By the fall of 2020, about 80 percent of patients and families who responded to a CF Foundation survey indicated that they used telehealth for their CF care.[1] Use of telehealth has ebbed and flowed since then, with increased use during COVID-19 surges. Most recently, 25 percent of respondents from a survey of patients and families had a fully remote or hybrid visit (with a virtual and in-person component) between October 2021 and February 2022—indicating that some level of telehealth will remain in cystic fibrosis care going forward.

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[1] Solomon, G.M. et al. (2021) Patient and family experience of telehealth care delivery as part of the CF chronic care model early in the COVID-19 pandemic. *Journal of Cystic Fibrosis,* 20S3, S41-S46. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8683126/pdf/main.pdf

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In our surveys of patients and families, the majority report that telehealth services were of equal or higher quality than in-person services and nearly half said they want telehealth to remain part of their care in the future.[2] Adults indicated a stronger desire to continue using telehealth than parents of children, which is not surprising given some of the challenges with getting younger children to interact meaningfully during remote visits. CF care teams reported several advantages of telehealth for patients, including less time spent traveling and away from work, ability to stay connected with care teams during the pandemic, and earlier identification of health issues.[3]

Clinicians and patients are working to understand how to best integrate telehealth into management of this chronic, multi-system disease. CF care teams are multi-disciplinary and include physicians, nurses, respiratory therapists, dieticians, social workers, and program coordinators, at a minimum. Care guidelines recommend routine appointments every 3 months for most patients, including assessment of vital signs, lung function, and nutritional status. Collection of respiratory specimens for cultures and blood laboratory values are also standard components of care. Understanding how to incorporate remote care into this model is a significant undertaking and the Foundation is leading a body of research to investigate how telehealth may supplant or supplement elements of the CF care model and for which CF patients.

Barriers to using digital health technologies
While there was widespread adoption of telehealth across CF patients and providers beginning in 2020, there are several barriers related to the provision and use of telehealth.

First, providers continue to report that licensing is a significant barrier to telehealth care for patients with a rare disease like CF who often seek care across state lines. Because CF care is highly specialized, many patients travel out-of-state for care and over 10 percent of people with CF receive care in a different state than their state of residence, according to the CF Foundation patient registry. People living with cystic fibrosis may seek care in another state for a variety of reasons, including geographic proximity or access to specialists with expertise in their specific CF-related complications. For example, those who harbor certain bacteria or have had a lung transplant may need to travel out-of-state to get appropriate care. In these cases, if physicians are not licensed in the patient's state of residence, remote care may be entirely inaccessible.

Access to remote monitoring technology can be another obstacle to telehealth care. In response to the immediate concerns around COVID-19 infection at the beginning of the pandemic, the CF Foundation distributed handheld spirometers for patients to use at home, as these devices are typically not covered by insurance. Patients also relied on home scales and pulse oximeters and some CF care centers set up methods for collecting sputum or throat specimens by mail. These ad hoc solutions provided short-term access during the pandemic but gaps in evidence about how to remotely collect high-quality data to guide clinical decision-making and corresponding insurance coverage remain. When asked about ways to improve telehealth care, improved access to reliable remote monitoring devices was the most

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[2] Solomon, G.M. et al.

[3] Van Critters, A.D., et al. (2021). Barriers and facilitators to implementing telehealth services during the COVID-19 pandemic: A qualitative analysis of interviews with cystic fibrosis care team members. Journal of Cystic Fibrosis, 20S23, S23-S28. https://www.cysticfibrosisjournal.com/article/S1569-1993(21)01404-1/fulltext

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common recommendation among people with CF, including the ability to accurately measure lung function, weight, and other vital signs.[4]

Financial considerations for health care institutions are another barrier to the provision of remote care. Telehealth visits often have lower reimbursement rates than in-person visits. Institutions also lose revenue associated with facility fees and other in-person services, such as pulmonary function tests, blood draws, and x-rays. CF clinicians report that these financial pressures influence their ability to offer remote options to their patients.

Finally, broadband access continues to be a challenge for some populations. While the vast majority of CF telehealth visits were conducted over video—the preferred modality for providers and patients—some populations do not have sufficient broadband to support video conferencing or do not have any internet access at all. Lack of internet access among patients was the most frequently reported barrier to telehealth by CF care centers and the challenges accessing telehealth in rural and low-income populations are well documented.[5] For these patients, telephone visits with their care team are their primary option for accessing remote care until access to reliable broadband improves.

Tool and training needs
Interviews with CF clinicians revealed that institutional resources to support remote care are critical.[6] Care centers that perceived telehealth care to be of similar quality to in-person care reported benefiting from institutional support such as telehealth software and systems, dual-monitor computer systems, and information technology support. Leadership engagement and support for change was also an important factor for successful delivery of telehealth care. In contrast, programs that perceived telehealth care to be inferior to in-person care reported receiving less institutional support.

Health Equity
Telehealth has the potential to improve access for vulnerable populations by reducing travel costs and time off work, but a survey of CF patients and families found important disparities. Most notably, non-white patients were less likely to have a telehealth visit than their white counterparts and reported barriers related to technology, internet access, and translation services.[7] Specifically, 85 percent of white patients reported a telehealth visit compared to 69 percent of non-white patients. This difference was even starker among Hispanic patients, for whom only 54 percent had a telehealth visit. Consistent with broader trends, Black people with CF were significantly less likely to use video for their telehealth visit: 57 percent compared to 89 percent for all other patients. Importantly, there was no difference in future desire for a telehealth visit by race or ethnicity.

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[4] Ong, T. et al. (2021) Remote monitoring in telehealth care delivery across the U.S. cystic fibrosis care network. *Journal of Cystic Fibrosis,* 20S3, S57-S63. https://www.cysticfibrosisjournal.com/article/S1569-1993(21)01376-X/fulltext

[5] Gifford, A.H., et al. (2021). Evaluating barriers to and promoters of telehealth during the COVID-19 pandemic at U.S. cystic fibrosis programs. Journal of Cystic Fibrosis, 20S3, S9-S13. https://www.cysticfibrosisjournal.com/article/S1569-1993(21)01375-8/fulltext

[6] Van Critters, A.D., et al.

[7] Albon, D., et al. (2021). Telehealth use in cystic fibrosis during COVID-19: Association with race, ethnicity, and socioeconomic factors. Journal of Cystic Fibrosis, 20S3, S-29-S54. https://www.cysticfibrosisjournal.com/article/S1569-1993(21)01407-7/fulltext

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People with CF who reported financial concerns during the pandemic were more likely to say that telehealth was difficult to use and were less likely to feel like their concerns were addressed via telehealth.[8] Insurance type was not associated with differences in access, interest, quality, or barriers to telehealth services.

CF programs reported lack of technology, language barriers (including hearing loss), and home conditions as barriers to telehealth in vulnerable populations and cited the need for additional accommodations such as translators, closed captioning, and American Sign Language interpreters.

Measuring user experience
The CF Foundation regularly collects survey data from patients and families across all care centers to understand their experience of care. In the most recent survey of patients and families, nearly ten percent of respondents reported challenges with remote monitoring—most commonly using their home spirometer. Issues including lack of understanding about how to assemble and use the spirometer, inability to get reliable readings, and challenges for people with cognitive issues. Preliminary results from research into the validity of home spirometry results indicate that patients receive more accurate readings and have an easier time using the device when they receive individual coaching from a respiratory therapist. These reports underscore the wide range of issues patients face when learning how to use remote health technology and the need for education for both patients and care teams.

Proposed government action
Based on the issues outlined above, we recommend the following government actions:

- *Improve broadband access* – COVID-19 highlighted the critical need for all Americans to have access to reliable internet, including to ensure access to remote health care when needed. The administration should continue working with Congress to address the physical infrastructure and financial challenges that result in some populations living without reliable broadband access.

- *Cover audio-only services as clinically appropriate in Medicare* – While audio-only visits are not suitable for all health care services and are not a substitute for in-person care, there are a number of aspects of regular CF care that can be conducted over the phone. For instance, clinicians can easily review medical history, current medications, and symptoms, and make adjustments to care plans. Audio-only visits can be an important option for those with no internet access and those with limited technology literacy and the administration should ensure appropriate coverage in Medicare.

- *Address licensing barriers* – Licensing barriers can completely eliminate access to remote care for people who seek care across states lines. The CF Foundation supports the TREAT Act, which would allow temporary licensing reciprocity for all licensed practitioners in all states during the COVID-19 public health emergency. Beyond that, we encourage the administration to work with Congress to explore additional reciprocity arrangements.

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[8] Albon, D., et al.

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- *Research racial, ethnic, and socioeconomic disparities in telehealth* – Given the potential for telehealth to improve access to care for vulnerable populations, it is imperative to continue researching racial, ethnic, and socioeconomic disparities in use of telehealth to understand the underlying causes and identify solutions.

- *Address information technology needs in health care institutions* – Providers need adequate hardware, software, and training to offer remote options to patients. The administration should support efforts to provide these resources as needed to ensure widespread access to telehealth.

- *Support patient use of remote technology* – Improving health and technological literacy will be critical for effective use of remote patient monitoring and telehealth. Early research into use of home spirometers in CF highlights the frequent need for individual instruction to use these devices effectively. The administration should consider ways to provide such resources to patients, including requiring insurance coverage when applicable.

- *Remove geographic restrictions in Medicare* – Before the COVID-19 pandemic, Medicare rules largely restricted use of a patient's home as the originating site to those living in rural areas or with a specific condition. The drastic increase in telehealth usage has shown the futility of such restrictions and it is appropriate and safe for patients to receive care from their homes. We urge the administration to work with Congress to permanently remove originating site and geographic requirements.

Sincerely,

Mary B. Dwight
Senior Vice President
Chief Policy and Advocacy Officer

Bruce C. Marshall, MD
Executive Vice President
Chief Medical Officer

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Dalberg

Indian Ocean Bldg., Block C, 4th Floor, Intersection of Toure Drive and Mwaya Street
Masaki, P.O. Box 105433
Dar es Salaam, Tanzania

Dear Dr. Ward,

In recent years, community health systems have proven essential for ensuring quality health services, globally. With the COVID-19 pandemic, the valuable role of community health workers (CHW) - a fundamental component of most health systems in sub-Saharan Africa - has been widely recognized as a critical support to pandemic preparedness and response. Akin to the mobile technology leapfrog, countries in sub-Saharan Africa have developed strong community health platforms that integrate digital technology and thus are primed to share lessons with the US.

The Dalberg Group works to build a more inclusive and sustainable world where all people, everywhere, can reach their fullest potential. We partner with and serve communities, governments, and companies providing an innovative mix of services – advisory, implementation, research, analytics, media, and design – to create impact at scale. We have extensive experience designing, supporting, and executing community health programs globally.

To deliver a thorough response to the RFI, *Strengthening Community Health Through Technology*, Dalberg conducted interviews with numerous stakeholders, including community-based organizations, CHWs, global partners and innovative health insurance providers, among others. Below we summarize key findings for select topical areas raised with an aim to support information gathering for the White House OSTP and its Community Connected Health Initiative.

Successful US models

Community health is a holistic place-based medical specialty that aims to improve the health–physical and mental– of people in a certain region.[1] It acknowledges numerous factors affecting health, including environmental and social determinants. [Health Leads](#) integrates [data democratization](#) to foster health equity in the pursuit of health and well-being for all. Other robust community health models in the US, should employ a mix of strategies for prevention of disease, provision of essential services, while advocating for cultural and socioeconomic equity in services, with increased access to healthcare that caters effectively for marginalized populations. Community information exchange[2] toolkits promote collaboration and holistic care while some digital platforms focus on building networks of trust[3] and other models promote community-based health coaches as advocates in individual care journeys[4].

Digital Health Technologies (DHT)[5] can make quality community health delivery more efficient, and potentially more equitable for patients and practitioners alike especially when user centric design is employed. While some challenges, like digital health literacy may persist, DHT through platforms like telemedicine or wearables and remote monitoring devices, offer opportunities to overcome access barriers. As an example, an innovation lab built a tele-EMS program to pair paramedic assisted interventions with remote ER doctor consultations for rural residents in Georgia[6]. 98point6 developed a text based low-tech

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[1] School of Public Health and Tropical Medicine -Tulane University, Why Community Health Is Important for Public Health, 2020
[2] https://www.nationalcomplex.care/research-policy/resources/toolkits/community-information-exchange-toolkit-collaboration-and-cross-sector-data-sharing-to-create-healthier-communities/#:~:text=A%20CIE%20is%20an%20ecosystem,deliver%20enhanced%20community%20care%20planning
[3] https://www.streetwyze.com/healthwyze/
[4] https://www.chwcares.com/

[5] FDA, What is Digital Health? 2020
[6] Interview with Health DesignED

solution that includes 24/7 private sector provision of primary care to underserved populations without requiring high-speed internet access or transportation to a clinic[7]. The UC San Francisco health systems similarly utilized text-based reminder models, with simple messages for English as a second language (ESL) populations to manage depression and chronic illnesses through physical activity[8].

Interoperable systems that link CHW to each other and/or other health providers are a best practice. An example is software that links CHWs with national health systems, EMRs and/or referral networks[9]. DHIS-2 has accomplished this in many low-and-middle-income countries [10,11], while findhelp aims to do something similar with domestic social services[12]. Creating e-mentoring systems allow CHWs to learn best practices from each other. Project ECHO has successfully used tele-mentoring to provide practitioners with specialist knowledge that they may not otherwise have possessed across America, SSA, and India[13,14,15].

Patients face financial, social, and environmental **barriers** when seeking in-person and digital healthcare.

Nearly 40% of adults across income levels and 50% of low-income adults may skip a medical visit, test, treatment, follow-up, or prescription fill because of cost[16]. Health insurance status also impacts health seeking behaviors. Low-income populations using public insurance tend to receive preventative care at a lower rate than those with private insurance[17]. Additionally, 40% of elderly adults and 25% of low-income households do not own a smartphone, limiting access to many app-based digital health solutions[18]. Elderly populations tend to lack the digital literacy skills to effectively engage with digital health. Despite access, sociocultural barriers including inter- and intra-personal factors like limited health literacy across populations can cause patients to delay or avoid medical care; lead to a lack of awareness of appropriate care facilities for various health problems; and drive patient mistrust of healthcare professionals, medications, and vaccines[19]. Especially for BIPOC and LGBTQIA communities, trust is further eroded by long histories of discrimination – 10% of Black patients have reported discrimination during a healthcare encounter[20]. Similarly, these communities continue to be alienated by a lack of culturally sensitive interventions – 12% of LGBTQIA survey respondents had to teach their providers about their identity to receive adequate treatment[21]. For ESL communities, language barriers and a lack of translation services leads to misunderstandings of diagnoses and follow-up care[22]. Environmental barriers, such as a lack of infrastructure or long distances to health facilities, or lack of reliable transportation[23] are often intertwined with financial barriers and are particularly challenging for BIPOC, low-income, and rural communities. Internet connectivity is considered a "super social determinant of health" as it is a key factor of digital health access[24]. Notably, 22% of rural Americans, 27% of Americans in tribal lands[25], and 38% of black communities in the rural South[26] lack access to broadband communication.

[7] 98point6 Interview
[8] JAMIA Open, Engaging users in the design of an mHealth, , 2020
[9] Dalberg expert interview with AbsoluteCare
[10] DHIS-2, DHIS2 for integrated and effective COVID-19 contact tracing in Indonesia, 2021;
[11] Exemplars in Global Health how an existing app at scale was adapted for covid-19,2021
[12] Findhelp interview
[13] International Journal of African Nursing Studies, Promoting pediatric oncology nursing excellence in sub-Saharan Africa using project ECHO, 2021
[14] Nephrology, The use of virtual physician mentoring to enhance homedialysis knowledge and uptake, 2021
[15] Telemedicine Reports, A Telementoring Program and Hepatitis C: Virus Care in Rural Patients, 2021
[16] Healthcare Insider, Survey: Majority of U.S. Adults Concerned About Medical Bankruptcy, Debt, 2021
[17] San Francisco Health Improvement Partnership, San Francisco Community Health Needs Assessment 2019,
[18] Pew Research Center, Mobile Fact Sheet, 2021
[19] Top Challenges Impacting Patient Access to Healthcare, Patient Engagement HIT
[20] Top Challenges Impacting Patient Access to Healthcare, Patient Engagement HIT
[21] The State of the LGBTQ Community in 2020, American Progress, 2020
[22] With Scarce Access To Interpreters, Immigrants Struggle To Understand Doctors' Orders, NPR, 2018
[23] Transportation and the Role of Hospitals, American Hospital Association, 2017
[24] Conference Report: Digital Skills: A Hidden 'Super' Social Determinant of Health, in
[25] e-Connectivity for all rural Americans is a modern-day necessity, USDA
[26] Tech Policy, Joint Center for Political and Economic Studies, 2021

Community healthcare providers face financial, administrative, and technical **barriers.**

Community healthcare provision is hindered by financial barriers, including insecure funding sources for community clinics. Uncompensated care and low reimbursement rates from Medicaid and Medicare challenge independent clinics that serve low-income populations. This is compounded when integrating digital health solutions[27] creating downstream effects of shortages of program resources, such as drugs, medication and equipment which negatively impact the patient experience. Community healthcare providers face administrative barriers, including staffing shortages – 95% of all community health centers have at least one critical vacancy and are often lacking doctors thus impeding care.

Pandemic trends

Telemedicine has been an obvious success during global lockdowns. This aside, the COVID-19 pandemic showed how Norwegians could reap the benefits of global tools and innovations from low- and middle-income countries. Despite Norway supporting DHIS-2 for decades, the Nordic nation lacked a comprehensive data system for monitoring disease outbreaks and during the pandemic adopted DHIS-2 as part of its pandemic response. Communities are central to equitable vaccine rollout[28]. The value of digital global health goods became apparent as certain products, e.g., CommCare outcompeted for COVID-19 community health engagements.

International models

International NGO's working in sub-Saharan Africa have important lessons for the US. In challenging contexts, Living Goods and Last Mile Health, to name a few, have digitally enabled CHWs with decision support tools and aided governments to develop supervision structures that are creating sustainable systems for primary health care service delivery in rural African settings. Adequate financial compensation, appropriate supervision, and skilling of CHWs are transferable commitments for domestic use cases. The nonprofit Kenyan WhatsApp family planning app Jojo utilized non-judgmental and professional health writing from clinicians to build trustworthiness with users[29]. The practice of call centers to provide maternal health information by Village Reach in Malawi was extended to the US to assist elderly populations understand how to sign up for Covid-19 vaccines[30].

We applaud the administration's recent announcement of a substantial investment in CHWs and the efforts to expand access with outreach with increased community centers.**[31]** We appreciate the opportunity to share information to support the Community Connected Health Initiative and remain available for any further discussion that you might request.

Sincerely,

Dr. Jessica Oyugi
Associate Director
Dalberg Implement

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[27] AdvaMed,,Modernizing Medicare Coverage for Digital Health Technologies, 2020
[28] https://www.centerforhealthsecurity.org/our-work/Center-projects/CommuniVax.html
[29] Digital Self-Care, Self-Care Trailblazer, 2020
[30] Village Reach interview
[31] https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/25/fact-sheet-biden-administration-announces-historic-10-billion-investment-to-expand-access-to-covid-19-vaccines-and-build-vaccine-confidence-in-hardest-hit-and-highest-risk-communities/

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March 25, 2022

Dr. Alondra Nelson
Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Data Across Sectors for Health (DASH) Response to Request for Information on Strengthening Community Health Through Technology

Dear Deputy Director Nelson:

In response to the Office of Science and Technology Policy's request for information on strengthening community health through technology, dated January 5, 2022, Data Across Sectors for Health (DASH) presents for your consideration collected experiences, barriers, and successful models which our grantee communities have designed and demonstrated to improve health through the centering of equity in the operationalization of digital technologies to enable multi-sector data-sharing.

DASH has supported more than 150 community health initiatives specifically working towards systems change as a means to reduce inequity, and who are marshaling shared, multi-sector data and technology to do so. While technology and data sharing are certainly a component of this work, our grantees have repeatedly emphasized that reducing inequity and building community capacity to improve health requires connecting people and organizations in order to successfully collaborate. This **requires trusting and deep relationships**. **Technology that facilitates community-wide collaboration is helpful; but technology that creates silos, creates proprietary or other barriers is potentially harmful.** Moreover, technology must follow - not lead.

On the Topic of Trust and Technology…
DASH recently collaborated on a year-long project led by data.org, and in collaboration with National Alliance against Disparities in Patient Health and Health Leads to hear from over 500 individuals from diverse backgrounds and settings about what is needed to build and sustain equitable community data ecosystems[1]. We learned there is deep distrust with data collection being a tool for the privileged. Illustrative input includes: *"Our solutions have to be really paper and pencil, person to person before we build the tech solutions that are actually going to be responsive to the day-to-day data needs in our communities to solve the all the inequities that they're intended to solve."*

On the Promise of Technology and Common Barriers
Communities and states across the country are planning and implementing shared data to support

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[1] https://data.org/news/equitable-community-data-learning-council/

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their community health and equity goals, including building coordinated systems of care, and addressing population level social and structural determinants of health.

Successful examples of such technology implementations that we have observed are **co-designed in collaboration with community-based organizations which have pre-existing, deep, and trusting relationships with other organizations and to the people they are serving**. And yet, findings from DASH's *National Inventory of Multisector Data Sharing for Community Health*[2] found that despite having access to several published toolkits and guides recommending *centering equity*, the majority of initiatives implemented a technology solution, but reported not considering equity by involving those with lived experience in decision-making throughout the data lifecycle.

Learning from Bright Spots

In the 2020 *Advancing Health, Equity, and Well-Being through Community-State Data-Sharing Partnerships: Thought Leader Insights*[3], DASH and the Center for Health Care Strategies (CHCS) undertook an *Opportunity Analysis* of the success factors and opportunities for advancing community and state-level multi-sector data-sharing partnerships to advance health, well-being, and equity in 30 communities across the country. Among other questions, the study sought to glean insights from thought leaders at the national, state, and local levels regarding the key ingredients for successful multi-sector data-sharing efforts to improve health and advance equity. When asked about success factors for mobilizing multi-sector data-sharing efforts among community and state partners, interviewers almost always pointed to the following competencies: (a) committed and engaged leadership across partners; (b) clear, equitable data governance competencies and infrastructure; and (c) partnership/ stakeholder engagement that supports shared understanding, trust, and accountability. In addition to the critical focus on building technical capabilities and staff capacity, having an explicit focus on trust-building — especially among partners with historically unequal power or resource dynamics — is essential to success. This includes understanding each partners' unique priorities, levers, and constraints — and prioritizing stakeholder engagement and convening throughout the process. Additional factors include (a) inclusion of people with lived experiences as empowered drivers of the effort; and (b) long-term vision to lay a sustainable foundation for future work. Specific examples included:

Community participation and empowerment

- Across its work, the National Birth Equity Collaborative strives to "listen, first." They noted that the most impactful and equitable efforts require centering the family experience — and building trust with patients of color and other marginalized populations. For instance, the collaborative is involved in a collective effort in New Orleans to empower women to take charge of their health and make more informed choices to help decrease maternal mortality. Their work uses the stories of women with lived experiences and their families to inform a patient-centered reporting process and robust patient advocacy mechanisms based on trauma-informed principles.
- Vermont's OneCare model recognized the importance of including community members with

[2] Data Across Sectors for Health, *National Inventory of Multisector Data Sharing for Community Health* (2022)
[3] https://www.chcs.org/resource/advancing-health-equity-and-well-being-through-community-state-data-sharing-partnerships-thought-leader-insights/

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lived experience in decision-making processes. Participants were paid for their time to demonstrate the value of their contributions and expertise. The Vermont field directors emphasized the importance of trust-building across the participating community organizations that had historically unequal power and resources.

- A coalition of racial and ethnic communities in Minnesota used a multi-year stakeholder engagement process to gain buy-in to collect race and ethnicity data. The effort, initially led by the Alliance for Racial and Cultural Health Equity (ARCHe) and then Voices for Racial Justice involved collaboration with state agencies, concerted efforts at trust-building among health care stakeholders, clear communication about why the data was important. These efforts ultimately resulted in legislative action in 2015 requiring the Minnesota Department of Health to stratify five quality measures by race, ethnicity, preferred language, and country of origin. Provider-collected race, ethnicity, and language data is now very strong and housed by MN Community Measurement, a nonprofit which brings together community groups, clinics, hospitals, providers, and plans.

Governance

- In Allegheny County, Pennsylvania, a collaborative governance process was key to the creation of a new data-sharing project. The health department director served as a facilitator, convening multiple stakeholders and bringing health plans to the table. The groups came to agreement about what data would be shared, how long partners would be involved, which entity would serve as the broker, and what they would do with the data. This resulted in successful collaboration and set the foundation for collaboration on future projects.

Leadership

- Multiple interviewees noted that leadership is crucial to breaking down silos and fostering culture change that prioritizes equitable multi-sector data sharing. In Maine, the Department of Health and Human Services and the Governor's office demonstrated such leadership and encouraged legislative changes around data-sharing for public health and emergency response.

Thank you very much for the opportunity to provide these comments. DASH looks forward to working with the White House and Office of Science and Technology Policy and communities and organizations to promote inclusive, equitable, and effective community health. We welcome the opportunity to continue this discussion and invite your office to call on us with any additional questions or input that we can provide to support this important work.

Sincerely,

Clare Tanner, PhD / Co-Director, Data Across Sectors for Health (DASH)
██████████████

and

Waldo Mikels-Carrasco / Co-Director, Data Across Sectors for Health (DASH)
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Datavant Group's Response
Request for Information on Strengthening Community Health Through Technology
Office of Science and Technology Policy

Individual Responding: Claire Cravero, MPH. Head of Public Sector, Datavant

Organizational Details: Datavant is the leader in privacy preserving data exchange, working with over 500 institutions to connect health data. Our mission is to connect the world's health data to improve patient outcomes and bring new treatments to patients faster. To accomplish this, we are building a network of companies, non-profits, and government entities that utilize our common infrastructure for the safe exchange of patient-level health information.

At Datavant, we believe that data fragmentation is the largest challenge facing the health data industry, and we are focused on building an open data ecosystem that allows stakeholders in the healthcare system to freely exchange data while protecting patient privacy.

We have powered several federal, state, and community level projects that have connected public and private sector data to help improve observability of patient populations. This experience is what we draw on to inform our response to this request for information from the Connected Community Health initiative led by the Office of Science and Technology Policy.

Sections addressed in this response: 1. Successful Models within the U.S., 6. Proposed government actions.

Contact: Claire Cravero, ███████████████████████

1. Successful Models within the U.S.

Below we have provided outlines of several community and local health projects that were powered by privacy preserving digital health technology. This technology created the critical and compliant connectivity that unlocked impact at the community level. There has been an explosion of data collected at the patient and community level over the last ten years, but only a small amount of that data collection was designed with data connectivity and interoperability in mind. At Datavant we are focused on the safe and compliant connection and linking of data sources for improved patient care and outcomes while retaining patient privacy.

Social Services and Health Information Platform (SHIP)
The University of Texas at Austin has leveraged their existing Breathe Austin platform to incorporate privacy-preserving linkages such that when a patient visits a clinic location they can consent to have their data shared between the clinical system and the findhelp.org social services referral and management platform. This connectivity helps close the feedback loop between social services and clinical care. Currently, when social service referrals are made, health care providers don't know whether the patient used those services, or if those services were effective. By developing a feedback loop through privacy-preserving data linkages between a HIPAA covered entity and community organizations which are non-covered entities, better care coordination can occur between providers, social service providers, and downstream community coordinators who work to engage patients in their own care.

Datavant Group's Response
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Data connectivity for a community-based approach to care coordination and triage of homeless and housing-insecure populations

Data from geographically proximal health systems, including VA hospitals were pooled and linked with data from two community-based homeless housing organizations in Chicago, Illinois. This linked data source enabled researchers to analyze health care utilization, access, and medical conditions for individuals, including Veterans, experiencing homelessness or housing-insecurity. Data was combined using the Datavant privacy-preserving record linkage solution which enables disparate datasets to be linked longitudinally without needing to share personal identifiers. The community linked datasets were used as a basis to inform coordination amongst area health systems, their community partners, and public health entities. The area health systems formulated support processes including a homeless housing subsidy to facilitate a path for individuals to receive housing. The Veterans Health Administration used this community-based linkage to gain a better understanding of their homelessness support programs and record systems by understanding which civilian sector health systems were most likely providing care for at-risk Veterans. . This data connectivity has been cited in two widely circulated publications:

William E. Trick, Jennifer C. Hill, Peter Toepfer, Fred Rachman, Beth Horwitz, and Abel Kho, 2021: Joining Health Care and Homeless Data Systems Using Privacy-Preserving Record-Linkage SoftwareAmerican Journal of Public Health 111, 1400_1403, https://doi.org/10.2105/AJPH.2021.306304

Jason H Raad, PhD, Elizabeth Tarlov, PhD, RN, Abel N Kho, MD, MS, Dustin D French, PhD, Health Care Utilization Among Homeless Veterans in Chicago, Military Medicine, Volume 185, Issue 3-4, March-April 2020, Pages e335–e339, https://doi.org/10.1093/milmed/usz264

6. Proposed government actions.

1. **Enact data portability and interoperability guidance:** The Government should require responsible data sharing strategies to be submitted when digital health solutions funded by the Government are deployed. Without formulating guidelines for a data sharing plan, community-based connected health efforts which take years to build are at the risk of data and privacy policies of digital health developers, solutions, and companies. These data-sharing policies should be a parallel to the Information Blocking Rule in the 21st Century Cures Act from the HHS Office of the National Coordinator (ONC), by ensuring that digital health solutions deployed in the community offer some form of data sharing portability.

2. **Ensure personal privacy:** As part of this process, it is imperative for the Government to establish data sharing practices that protect the privacy of individuals. Without this guidance, digital health solutions intended to benefit and reach underserved and underrepresented populations that are already distrustful of Government initiatives may

Datavant Group's Response
Request for Information on Strengthening Community Health Through Technology
Office of Science and Technology Policy

be underutilized, leaving a gap in enabling communities to have a comprehensive connected health strategy.

3. **Clear disclosure for uses of data:** When data are mined to connect individuals to community-based services, or from the community to healthcare services, the individual may not be aware of the reasons for how this data has been shared and connected. When digital health solutions are implemented, there should be clear disclosures of data uses and how data may be analyzed and connected to benefit the individual. In the process of performing such analyses, including measures of policies associated with community health data connectivity, we recommend such efforts occur in a privacy-preserving manner without personal identity even in scenarios where individuals' consent have been provided. This helps guard against unintended consequences of data sharing where insights about the individual are connected back to them personally, and inadvertently being used to engage/deny services/disclose information about the individual.

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David Kerr, MD and Namino Glantz, PhD, Santa Barbara, CA
This response is on behalf of a matrix of established collaborators spanning community health workers ("Community Scientists"), clinical researchers, digital health leaders, and community members on the central coast of California.

SUMMARY. This document describes successful initiatives to achieve health equity through the nexus of digital health and democratized knowledge for communities facing a disproportionate burden of diabetes, other serious chronic diseases, and now COVID.

BARRIERS TO USE OF DIGITAL HEALTH IN THE HARDEST HIT COMMUNITIES. In most contexts, healthcare – including virtual health care – is inequitable. As a result, the burden of disease and poor quality of life, along with challenges accessing digital technologies and achieving digital literacy, fall disproportionately on populations already experiencing health disparities. The digital divide is expanding exponentially for the most impacted communities. This is often a legacy of systems created against a background of wealth inequality; a diaspora with varying needs; and persistent challenges related to trust, access and self-efficacy. Further, the most adversely impacted populations are also underrepresented in research and development, including clinical trials and UX/UI studies, yielding irrelevant results and data gaps.

NURTURE VERSUS NATURE SOURCE CODES. Health outcomes are impacted by 4 determinants: health care delivery (10%), exposures (5%), genetics (30%) and social-behavioral factors (55%). During the COVID pandemic, the pivot to digital health has focused almost exclusively on health care delivery. Telehealth, often viewed as a panacea and hastily implemented, has aggravated disparities and obscured the collective nature of personal health strategy. The White House OSTP now has an opportunity to shape digital health to have profoundly impact health outcomes and health equity by giving more consideration to (A) Digital Access and Digital Literacy, (B) Social Integration and (C) the Social Gradient of users.

Increased wearable digital health technology use is creating an exponential growth in personal data. There is an immediate need to store, understand and use this information for individual, family, clinician, and payer benefit, and simultaneously to safeguard privacy and security while limiting the personal time-economic burden for the individual with the disease. Our experience using continuous glucose monitors (CGM) in Hispanic/Latino adults with or at-risk of diabetes suggests that real-time access to personal data facilitates positive behavioral change.

RESPONDING TO THE PANDEMIC. At the outset of the pandemic, we launched the COVID Diabetes Emergency Response, as early indicators suggested much higher risk for poor outcomes in Hispanic/Latino adults with diabetes. Subsequently, we offered a vaccination program for local underserved adults focusing on those with or at risk of diabetes, including local Mexican-American individuals. All individuals attending for vaccination were also offered free HbA$_{1c}$ tests. DK also co-hosted the first International Summit on COVID-19 and Diabetes.

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Our strategy is to partner with stakeholders to locate problems, find where in a causal network the trouble truly lies, decide what actions will work, and take action.

CREATING COMMUNITY SCIENTISTS. We have created a new type of community health worker. These trained bilingual Community Scientists take lead roles in (a) creating and maintaining trusting community relationships; (b) recruitment and retention to expand access; (c) removing barriers to participation in research and development, including the use of digital health technologies; (d) increasing self-efficacy; and (e) providing cultural oversite into the creation of materials supporting digital health. Entry level requirements are minimal. Modular training and covers (i) clinical aspects of diabetes (e.g., how to screen for foot disease measure blood pressure) (ii) the use of wearable devices (e.g., continuous glucose monitors), (iii) point-of-care HbA$_{1c}$ measurement, and (iv) clinical research methods (e.g., informed consent).

DIGITAL HEALTH FOR UNDERREPRESENTED COMMUNITIES. Recently we have shown that CGM and fitness trackers can be combined with novel interventions such medical prescriptions of fresh produce among low-income, predominantly Hispanic/Latino adults, with or at-risk of type 2 diabetes. Resulting glucose data provides novel physiologic insights and provides evidence of clinically relevant reductions in cardiovascular risk factors (lower high blood pressure, improved diabetes control) and improved mental health.

ACCESSIBLE KNOWLEDGE. Exacerbating the current "infodemic," medical journals with complex language and paywalls have long been out of reach to most people, depriving them of new knowledge from clinical and technical research. To democratize research findings and enable access to actionable research results, we created www.latinodiabetes.sansum.org. The latest diabetes and COVID research is summarized in lay, culturally-congruent English and Spanish, and made freely available with updates each week. Compared to source text, the synthesized summaries score an average of 6 grade levels better in readability, forming a vital pathway to knowledge for those with low health literacy/numeracy.

VEGGIE IQ. Youth Scientists in this after-school program are predominantly Mexican-American high school students (https://veggieiq.sansum.org/). Veggie IQ uses science and digital health to highlight the links between real food and physical and mental well-being, in turn to address health inequalities affecting their community. This was launched in 2021 with 15 students graduating. For 2022, our aim is to embed modules of Veggie IQ in K-12 classes at local schools and expand the after-school program to reach additional racial/ethnic minority youth.

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VISION: Create a network of organizations using our Community Scientist model to achieve equity in health through the nexus of digital health and democratized knowledge.

AIM: Through stakeholder collaboration, the CSN's long-term aim is to create evidence of the value of existing and novel digital health technologies for historically excluded communities. The core offer will be equitable access to digital health technologies, based on trust created by Community Scientists among populations with or at-risk of common chronic diseases. An additional need is an open-access, secure database to be used by researchers, developers and policy makers to ensure inclusivity as digital health becomes mainstream in U.S. healthcare.

0 to 2 years: To deliver health equity, creators and purveyors of digital health will need to ensure inclusion of participants that reflects the burden of the disease in the background population, provide evidence of the value of the technologies, and earn the trust of these same communities. This can be achieved by creating the CSN - a network of organizations offering our Community Scientist curriculum and access to populations that have thus far been excluded from digital health research and development. The CSN should engage Community Scientists in collecting data from underrepresented populations. Key areas of inquiry are computer and mobile device proficiency as well as digital and health literacy and numeracy. Data are needed on both new technologies and existing tools (basic texting and social media apps) already widely popular among and accessible to disproportionately impacted populations.

2 to 5 years: Many individuals do not possess the prerequisite health knowledge or digital literacy or numeracy to fully benefit from popular smartphone applications (apps) for health. Contributing to the problem is a lack of health literacy and numeracy, which increases the risk of poor outcomes. Developers need to incorporate more basic features such as reminders to take

medications, non-English language interfaces and images (instead of words), and connectivity with other devices. The CSN will work with partners to help create novel technologies based on the prerequisite concepts of trust, access and self-efficacy. Policy mechanisms to enforce adherence in the digital health space to recommended readability levels for health information and quality of UX/UI for underrepresented populations are also needed.

0 to 10 years: The CSN will develop and promote the concept of **Therapeutic Social Networks**. Living with a chronic disease is a team effort, adapted to the needs of the population served, and enabled and conducted by the individual with the disease with co-resident and distant family members as well as their social contacts. This therapy network may range from a large, diverse group to just one person, and people living alone may even rely entirely on remote support. This network has its own set of demographics, strengths, and challenges. Digital health tools are invariably created to be used by one person, but there are opportunities to obtain benefit through family and social group interaction. Further, healthcare in the therapy network extends beyond clinic walls to the household production of health and into cyberspace through the digital world.

3

Deloitte.

Strengthening Community Health Through Technology

March 4, 2022

In response to Office of Science and Technology Policy Request forInformation (RFI)

Company Name	Deloitte Consulting LLP
Contact Name	Jessica Nadler
Contact Title	Managing Director
Contact Email Address	███████████████████
Contact Phone Number	████████████
Primary Type of Service(s) Provided	Software Development, Professional Services, Management Consulting, Technical Support, Maintenance, and Support Services

Deloitte.

The White House Office of Science and Technology Policy
Request for Information (RFI) on Strengthening Community Health Through Technology

March 3, 2022

Jacqueline Ward, Ph.D.
Senior Policy Advisor for Health and Life Sciences
The White House Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504
███████████████

RE: Connected Health Request for Information (RFI) on Strengthening Community Health
        Through Technology

Dear Dr. Ward:

Deloitte[1] is pleased to respond to this RFI on *Strengthening Community Health Through Technology*.

We are excited by the opportunities that are available for individuals from communities across our nation to have better access to healthcare by utilizing technology platforms. However, it is imperative that our citizens from underserved and diverse communities have access to high-speed broadband, technology offerings, and the assistance to increase technological literacy. This will not only improve access to healthcare but also ensure that healthcare data is more representative and can be utilized to provide a more equitable offering in the future.

Our extensive research and deep commitment of talent in this area can greatly assist in identifying solutions that enable the effective use of digital technologies to improve community health.

Sincerely,

███████████████

Jessica Nadler, Ph.D.
Managing Director
Deloitte Consulting LLP

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[1] As used in this document "Deloitte" means Deloitte Consulting LLP. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting.

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Introduction

The COVID-19 pandemic has highlighted several health inequities in the United States, evidenced by the disproportionate impact of COVID-19 on communities of color and other underserved populations. During the pandemic, these disparities also manifested in the widespread, but uneven, adoption of virtual health services. While the pandemic demonstrated the utility of virtual health in certain communities, it also underscored the need to implement intentional approaches to ensure equitable access to virtual health. Recently, the White House COVID-19 Health Equity Task Force identified ways to address health inequities, including through the expansion of broadband internet access, telehealth, telemedicine, and reimbursement for virtual care.[2] Building on these recommendations, **Deloitte proposes the Administration embrace equity-centered design in virtual health to improve access to care, continuity of care, and care management for all communities.**

We draw on the research and extensive expertise of Deloitte's Health Equity Institute, Deloitte's Center for Health Solutions, and subject matter experts in virtual health, health equity, and healthcare systems for this response.

Barriers to use of virtual health
Virtual health visits skyrocketed from 15% in 2019 to 28% of visits in April 2020 and continues to remain above pre-pandemic levels; however, utilization of virtual health has been disproportionately low among communities of color and other underserved populations.[3] Lack of technology access at home, low-quality internet, and low health and digital literacy hinder the equitable adoption of virtual health in low-resource settings and among those already at risk of poor health outcomes. Black and Hispanic populations have seen lower rates of virtual health adoption compared to their White and Asian counterparts and are more likely to seek care in Emergency Department settings rather than via virtual health visits.[4] Only half of low-income Americans have the adequate digital literacy required by virtual health.[5] 26% of Medicare beneficiaries, including 37% of Black beneficiaries, lack access to an internet-connected smartphone, tablet, or computer.[6] Usage of video-enabled telehealth is significantly lower among Black, Latino, and Asian populations, the uninsured, and populations with lower incomes or without a high school degree.[7] Only 63% of people in rural areas have broadband access.[8]

Benefits and use cases to improve health equity
If these barriers can be surmounted, the potential for virtual health to improve community health and health equity is substantial. Virtual health can reach patients who historically have had reduced access to care. For example, the University of Philadelphia Health System utilized telehealth to increase post-discharge follow-up visits from 52% to 70% among Black patients.[9] Teladoc noted an increase in virtual mental health visits among Medicaid and elderly patients,

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[2] https://www.minorityhealth.hhs.gov/assets/pdf/HETF_Report_508_102821_9am_508Team%20WIP11-compressed.pdf
[3] 2020 Health care consumer survey: consumer health trends | Deloitte Insights
[4] Characteristics of telehealth users in NYC for COVID-related care during the coronavirus pandemic | Journal of the American Medical Informatics Association | Oxford Academic (oup.com)
[5] Why achieving health equity is so hard in the telehealth age | American Medical Association (ama-assn.org)
[6] Assessment of Disparities in Digital Access Among Medicare Beneficiaries and Implications for Telemedicine | Health Disparities | JAMA Internal Medicine | JAMA Network
[7] https://aspe.hhs.gov/sites/default/files/documents/4e1853c0b4885112b2994680a58af9ed/telehealth-hps-ib.pdf
[8] Some digital divides between rural, urban, suburban America persist | Pew Research Center
[9] Association of Telemedicine with Primary Care Appointment Access After Hospital Discharge (nih.gov)

populations with lower utilization rates for mental health services.[10] Another study demonstrated that a remote patient monitoring (RPM) program resulted in lower HbA1C levels and improved diabetes control in rural and underserved populations.[11] In rural areas with limited critical care resources, virtual ICUs, such as those enabled by the National Emergency Tele-Critical Care Network, can extend high-quality critical care to those areas without access.[12]

Designing for inclusion
To realize these benefits, equity-centered design should be a central, guiding principle for the development of virtual health programs. Based on Deloitte's deep experience and recent research, we believe the Administration should embrace certain core observations, principles, and recommendations as it seeks to advance the use of virtual health technologies and address healthcare disparities across communities in the United States.

These recommendations include:

1. Identify vulnerable populations that could benefit most from virtual health

Innovative data solutions can be used to identify high risk populations that could benefit from the health and social support that virtual health can provide. By analyzing both traditional and non-traditional health data, a more comprehensive assessment of how virtual health can assist populations susceptible to health inequities can occur. For example, during the pandemic, a mid-Atlantic state utilized Deloitte's HealthPrism™ to provide targeted interventions based on socioeconomic status and risk of COVID-19 complications. A similar analysis of SDoH datasets can identify population characteristics, such as access to public transit, that can impede in-person medical visits. These types of analyses can inform the allocation of federal funding and resources to support virtual health programs for those communities that could significantly benefit.[13]

2. Lead with equity-centered design

Equity-centered design adapts human-centered design methodologies to be inclusive of all communities. For virtual health, this means embedding services within an understanding of individuals' and communities' multifaceted needs and priorities and establishing user trust as a core tenet. It involves addressing equity-related barriers to use, including lack of or limited technology and broadband access, low digital literacy, language proficiencies, and any disabilities or conditions that affect technology access and usability.[14] Equity-centered virtual health might entail creating local partnerships to increase digital literacy and to establish areas of connectivity where those without reliable internet at home can receive virtual care. Furthermore, ensuring all virtual health technologies can operate in an offline mode would be pivotal for individuals in rural and urban broadband deserts. Deviceless RPM that utilizes IVR calls and text messages with free-to-user options would make RPM a viable service for a much larger percentage of the population.[15]

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[10] https://www.fiercehealthcare.com/tech/demand-for-virtual-mental-health-soaring-here-are-notable-trends-who-using-it-and-why
[11] Remote patient monitoring sustains reductions of hemoglobin A1c in underserved patients to 12 months - Primary Care Diabetes (primary-care-diabetes.com)
[12] https://www.tatrc.org/netccn/
[13] HealthPrism™: Solutions | Deloitte US
[14] Telehealth Platforms: 5 Pillars of Patient-Centric Design (hitconsultant.net)
[15] CareSignal · Solution

3. Develop evidence-based care pathways

With the recent hypergrowth of telehealth, guidelines to determine the most effective mix of virtual and in-person care are still emerging for diverse diagnoses. Care pathways need to account for individual patient preferences, patients' support infrastructure, and medical and SDoH considerations.[16] For example, many populations have several co-morbidities, yet RPM technologies often address a single condition.[17] Health systems that understand the most effective mix of virtual health technologies for a given patient and account for digital and health literacy, language preferences, and technology access will enable care pathways that meet patients' diverse needs.

4. Ensure equity in data integration and interoperability

To ensure equitable access, data integration and interoperability also need to be approached through an equity lens. Cloud-based platforms that can pull data from hundreds of devices and integrate with electronic health records (EHRs), ensure that the integration of virtual care and in-person visit data is less dependent on an individual's ability to access a particular technology. Furthermore, integration of medical data with SDoH services is critical to improving health inequities, as 80% of an individual's well-being is tied to economic and food security, their physical environment, and education.[18] Virtual health services, such as Beam Up, can be designed to integrate with organizations that provide social services, such as assistance finding housing, food, or childcare.[19] Frameworks, such as U.S. Core Data Interoperability (USCDI) v2, are also important for integrating SDoH data within virtual health platforms and EHRs.[20]

5. Advance equity in medical device development

FDA's Center for Devices and Radiological Health (CDRH) has recently designated advancing health equity as a strategic priority in the coming years. CDRH will focus on partnering with diverse stakeholders to "advance solutions that promote equity along the total product life cycle."[21] This is an important step towards ensuring devices will work for all intended populations. Outlining a framework for equity-centered design that can evaluate FDA-regulated RPM technologies against equity requirements would elevate equity to a central role in regulatory science.

Conclusion

This response has highlighted some benefits, barriers, and recommendations for improving equity in virtual health across communities of color and other underserved populations. A detailed and comprehensive analysis of the benefits and barriers would enable the development of recommendations and actions that the federal government and diverse stakeholders could pursue. By embracing equity-centered design of virtual health, the Administration has an excellent opportunity to improve health outcomes for communities of color and underserved populations, advance health technology, and unite the federal government and commercial partners, such as Deloitte, in advancing health equity in the United States.

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[16] Experience Led POV (deloitte.com)
[17] Remote Patient Monitoring for Medicaid/Duals Populations: Closing The Digital Divide | Deloitte US
[18] https://www.healthrecoverysolutions.com/blog/telehealth-combating-social-determinants-of-health
[19] https://mhealthintelligence.com/news/using-telehealth-as-a-platform-to-tackle-social-barriers-to-progress
[20] https://www.healthit.gov/buzz-blog/health-it/embracing-health-equity-by-design
[21] 2022 – 2025 STRATEGIC PRIORITIES (fda.gov)

6340 Sequence Drive
San Diego, CA 92121

www.dexcom.com

February 28, 2022

Jacqueline Ward, PhD
Assistant Director
White House Office of Science and Technology Policy
Letter via email to:

Re: Connected Health RFI

Dear Ms. Ward:

Dexcom, Inc. (Dexcom) is pleased to have the opportunity to submit comments in response to the Request for Information ("RFI") published in the *Federal Register* on January 5, 2022.

Dexcom empowers people to take control of their diabetes through innovative continuous glucose monitoring (CGM) systems. Headquartered in San Diego, California, Dexcom has emerged as a leader of diabetes care technology. By listening to the needs of people with diabetes, caregivers, and providers, Dexcom simplifies and improves diabetes management around the world.

A CGM is a small device that adheres to the body and by using a tiny, flexible probe inserted into the skin, is able to measure and report glucose levels every five minutes either to a dedicated receiver or directly to a patient's smart device. This information can be shared with others so that a loved one or caregiver such as a physician or school nurse can follow the patient's glucose levels and take action if those levels get so far out of range that the person is in danger of being unable to care for themselves. It is a technology that is literally lifesaving. Further it allows people with diabetes to immediately see, in real time, the impact on their glucose levels of a variety of foods and activities and take action to modify their own behavior accordingly. As a result, CGM users stay in the optimal glucose range a much greater proportion of the time and avoid dangerous near-term and severe long-term complications associated with diabetes with all of their attendant burden and cost. There is a very large and ever-increasing body of clinical literature demonstrating the value of CGM technology and the American Diabetes Association has identified it as a standard of care for people with both Type 1 and Type 2 diabetes.

In the past few years, manufacturers of insulin pumps have been pairing their devices with a CGM via an algorithm so that the pumps can accept data from the CGM, run it through the algorithm, and automatically modulate the flow of insulin to patients who are dependent on that medication. This significantly reduces the burden of managing the disease and further increases the time spent in the optimal glucose range.

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COMMENTS

Barriers and Proposed Government Action

Continuous Glucose Monitors

Dexcom has supported an analysis of fee-for-service Medicare claims by the National Minority Quality Forum to examine the utilization of CGMs by different racial/ethnic groups. This analysis is being prepared for publication but the preliminary results show that CGMs are used disproportionately by the white population, which is puzzling given the greater preponderance of diabetes in the African American and Hispanic populations. While the analysis provides a picture of what is happening, it does not illuminate *why* a disparity exists. We do believe, however, that the coverage criteria that Medicare uses for CGMs contribute to the disparate rate of access to this important technology.

Specifically, Medicare will not cover a CGM unless a beneficiary:
1. Uses insulin at least three times per day
2. Demonstrates that they are frequently adjusting their insulin dosage three times per day
3. Meets in-person with the prescribing practitioner no more than six months before the order for the CGM
4. Meets with the prescribing practitioner every six months thereafter

Until recently, Medicare also required that beneficiaries document the use of four or more fingerstick tests every day before they could access CGM, even though the program's standard coverage for fingerstick tests allows for only three such tests per day. We are appreciative of the recent decision to remove that requirement.

During the public health emergency, the Centers for Medicare & Medicaid Services (CMS) has allowed the required practitioner visits to occur via telehealth, which we are also grateful for.

Current statute allows telehealth visits to be reimbursed by Medicare when they originate in a rural area, when the patient presents from specific locations. We believe that the flexibility permitted under the public health emergency allowing telehealth visits to be initiated from anywhere in the country and permitting the patient to present in various locations, including their homes, should be made law and we encourage the White House to work with the Congress to that end. We believe that people in lower socio-economic strata would be better served by this because the distribution of providers is not even across the country and accessing them via telehealth would help to address that situation. Further, these disadvantaged populations would not have to incur the costs of transportation and would not have to take as much time off work to ensure continued access to this lifesaving technology. The same benefits would accrue to family members caring for elderly relatives. We suspect that these changes will contribute to addressing the inequity among Medicare beneficiaries who would otherwise be eligible for and benefit from CGM technology.

We have recently submitted a document to the Medicare contractors used by CMS to establish the coverage policy for CGMs, requesting that they make changes to other coverage criteria for CGMs as the

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current clinical literature and leading providers support these changes. We would appreciate anything the White House can do to encourage CMS to move expeditiously in the response to this request

Insulin Pumps

Medicare's coverage criteria for insulin pumps were promulgated nearly 20 years ago and at this time do not reflect the current science and published literature, nor the rapid innovation reflected in today's devices. We are working with a coalition of patient groups and providers that has had a preliminary meeting with CMS to discuss appropriate revisions to this policy and would encourage the White House to maintain an awareness of the progression of that process.

Specific to this RFI, we would highlight the fact that the algorithm used to modulate the flow of insulin from a pump has been recognized by the FDA as a new category of device. Algorithms have been developed by organizations that do not manufacture either an insulin pump or a CGM. Development of these algorithms takes a great deal of time and resources, and they are critical to the performance of an automated insulin delivery system. Unfortunately, CMS has not recognized them as a "device" nor provided any sort of independent reimbursement for them under the Medicare program. We believe that an algorithm is a tool, in the same way that a physical item is, for improving the management of diabetes and that nothing in the current statute or regulation defining durable medical equipment would preclude CMS from providing appropriate coverage for algorithms. CMS currently makes monthly payments for the supplies needed for ongoing use of a CGM (e.g., sensors taped to the skin) or insulin pump (e.g., tube sets that run from the pump to the insertion site). We believe that CMS could treat an algorithm as a supply of an automated insulin delivery system and reimburse for it as such on an ongoing basis (i.e., under a subscription or monthly fee model). The developer of the algorithm could be responsible for providing any updates under that ongoing subscription-style payment, similar to many pieces of software that are reimbursed today in other scenarios. We would encourage the White House to discuss with CMS how existing authorities can be used to provide reimbursement for these algorithms.

CONCLUSION

We thank the White House for the opportunity to submit comments. Should you have any questions, please reach out to Jesse Bushman, Director US Policy, Global Access at

White House Office of Science and Technology Policy
1600 Pennsylvania Avenue, N.W.
Washington, D.C.

RE: Connected Health Request for Information

ATTN: Stacy Murphy, Operations Manager
Submitted electronically to: ███████████████████████

On behalf of the 28 member organizations of the [Diabetes Advocacy Alliance](#) (DAA), we are writing in response to the White House Office of Science and Technology Policy's (OSTP) request for information for "how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity." The DAA commends the OSTP for its pursuit of a new initiative dedicated to Community Connected Health, and we agree with your assessment that there is great promise for "how innovation in science and technology can lower the barriers for all Americans to access quality healthcare and lead healthier lives by meeting people where they are in their communities."

The DAA is diverse in scope, with our members representing patient, professional and trade associations, other non-profit organizations, and corporations, all united to change the way diabetes and obesity are viewed and treated in America. Since 2010, the DAA has worked with legislators and policymakers to increase awareness of, and action on, the diabetes epidemic.

Category of Stakeholder
The RFI asks those who respond to state which category of stakeholder, listed in the "Instructions" section, best describes them. **While the DAA does not fit directly into any of the stakeholder types that the RFI lists in the "Instructions" section, many of our [member organizations](#) represent types that are mentioned, including:**
- Health care providers
- Community-based organizations
- State government
- Technology developers
- Individuals who have used, or are interested in using, digital health technologies or telehealth services

Digital Health Technologies and Diabetes Prevention, Treatment, and Care
For evidence-based recommendations related to how digital technologies can and should be used to improve diabetes prevention, treatment, and care, the DAA directs OSTP's attention to

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the recently issued (January 2022) [final report to Congress](#) of the legislatively authorized National Clinical Care Commission (NCCC). The DAA supports the Commission's recommendations, which "address (1) diabetes prevention and control in the general population, (2) diabetes prevention in populations who are at high risk of developing type 2 diabetes, and (3) treatment of diabetes and its complications."

For **diabetes prevention**, the DAA supports the Commission recommendations for "improving access to, participation in, and sustainability of type 2 diabetes prevention interventions" including "providing adequate insurance coverage for all effective delivery modalities for diabetes prevention (that is, in-person, telehealth, and virtual)."

- Technology is being underused today for diabetes prevention among adults ages 65+ due to CMS exclusion of evidence-based fully virtual diabetes prevention programs from the CMS Innovation Center's Medicare Diabetes Prevention Program (MDPP) expanded model. The DAA has advocated strongly to CMS to include coverage in Medicare for fully virtual programs but to no avail, and hence is currently pursuing legislation (the PREVENT Act; [H.R.2807](#), [S.2173](#)) to ensure such coverage.
- Adding evidence-based fully virtual diabetes prevention programs that have achieved recognition from the [CDC's Diabetes Prevention Recognition Program](#) (DPRP) would give Medicare beneficiaries the option to participate in diabetes prevention programs from their homes – especially individuals who live in rural and urban areas that are underserved by in-person prevention programs.

For **treatment and care for people with diabetes**, the DAA supports the Commission's recommendations for expanding access to virtual care because "diabetes prevalence is higher in rural and underserved communities than in urban areas."

- "People with diabetes living in rural and/or underserved communities have limited access to health care facilities and specialty care and often endure long and difficult commutes or lack the transportation needed to access guideline-recommended care.
- Travel and time constraints keep many individuals from receiving diabetes education services, adequate primary care, and specialty care.
- Additionally, Medicare beneficiaries using diabetes devices (for example, insulin pumps and continuous glucose monitors) are required to have regular interim medical visits to be approved for their ongoing use. The required in-person visits pose additional challenges to individuals with work or family demands or disabilities."

The DAA supports the Commission's recommendations that Congress support use of virtual care modalities in the following ways:

- "Remove geographic and originating site restrictions so that CMS can provide access to telehealth services as appropriate.
- Make permanent the ability for Federally Qualified Health Centers and Rural Health Centers to provide services by telehealth.
- Make permanent the telehealth waiver for Diabetes Self-management Education and Support (DSMES)/Diabetes Self-Management Training (DSMT); and

- Maintain coverage for audio-only visits to comply with the Executive Order on *Advancing Racial Equity and Support for Underserved Communities."*

Additionally, the Commission points out that "the biggest gap in diabetes treatment and preventing its complications is mismatch between available resources and the needs of persons living with diabetes."
- "At the patient level, the Commission recommends reducing barriers and streamlining administrative processes for receipt of diabetes self-management training and diabetes technologies and devices, expanding access to virtual care."
- "CMS eligibility requirements for diabetes technologies need to be updated to better reflect the patient population for whom these technologies are 'medically reasonable and necessary.' In-person follow-up visits should not be required to maintain eligibility for diabetes devices. Virtual care (for example, telephone or video visits) may be sufficient to accomplish the same monitoring goals."

Finally, since OSTP has requested information on successful models, the DAA points out one example of a federal program cited by the Commission that has shown great potential in helping deliver virtual care to a wide range of patients:
- **"The VA/DoD Virtual Medical Center (VA-VMC) Program,** developed jointly by the Department of Veterans Affairs and Department of Defense, is a virtual approach to diabetes self-management education and support (DSMES) that helps patients overcome travel and schedule barriers by providing access to real-time DSMES and peer support groups and a wealth of educational materials. This program became the first *nationally* certified DSMES program recognized by the American Diabetes Association. If used across federal agencies (for example, through collaborative agreements), this program can deliver virtual DSMES to patients who otherwise do not have access to DSMES services or have travel and time constraints."

In summary, the DAA appreciates the opportunity to provide comments and encourages OSTP to look to diabetes as an example of how digital health technologies are being used to improve primary prevention, treatment, and care for one of the most significant chronic illnesses facing America today.

Sincerely,

Hannah Martin, MPH, RDN   Kate Thomas, MA
DAA Co-Chair   DAA Co-Chair
Academy of Nutrition and Dietetics   Association of Diabetes Care & Education Specialists

March 31, 2022

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue NW
Washington, DC 20504

Submitted electronically to ████████████████████

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

On behalf of interested clients, Diceros Law PLLC ("Diceros") appreciates the opportunity to provide feedback to the White House Office of Science and Technology Policy (OSTP) to improve healthcare polices and best practices using digital health technology and innovative science.[1]

Diceros supports efforts to utilize technology and innovative science to increase the efficiency of healthcare delivery and accessibility. Accordingly, on behalf of interested clients, Diceros is pleased to submit its impressions related to the (1) trends from the pandemic and (2) tools and training, with respect to the new programs that have been developed in response to the pandemic.

The year 2020 marks the onset of the unprecedented coronavirus pandemic that caused hospitals to reach maximum capacity. By way of § 319 of the Public Health Service Act and the Public Health Emergency (PHE), the Centers for Medicare and Medicaid Services (CMS) adopted the "Hospitals Without Walls" (HWW) initiative. HWW allowed hospitals to provide Medicare reimbursable services in locations beyond the existing walls of the traditional inpatient setting.[2] As part of HWW, CMS launched the Acute Hospital Care At Home (AHCAH) program on November 25, 2020.[3] The AHCAH program is an example of a governmental action sought to modify the traditional inpatient setting by using digital health technology.[4]

CMS explains that the AHCAH operates as an inpatient hospital setting, but from the patient's home. By using remote monitoring and medical devices, the AHCAH services can still be billed as inpatient claims. To maintain the AHCAH from the patient's home, CMS waived certain

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[1] *See* 87 Fed. Reg. 3 (Jan. 5, 2022); *see also* 87 Fed. Reg. 24 (Feb. 4, 2022).

[2] *See Additional Background: Sweeping Regulatory Changes to Help U.S. Healthcare System Address COVID-19 Patient Surge*, CENTERS FOR MEDICARE AND MEDICAID SERVICES, (Mar. 30, 2020), https://www.cms.gov/newsroom/fact-sheets/additional-backgroundsweeping-regulatory-changes-help-us-healthcare-system-address-covid-19-patient

[3] *See CMS Announces Comprehensive Strategy to Enhance Hospital Capacity Amid COVID-19 Surge*, CENTERS FOR MEDICARE AND MEDICAID SERVICES, (Nov. 25, 2020), https://www.cms.gov/newsroom/press-releases/cms-announces-comprehensive-strategy-enhance-hospital-capacity-amid-covid-19-surge

[4] *See* Public Health Service Act, 2021, Pub. L. No. 117-81 tit. III, § 319, https://www.govinfo.gov/content/pkg/COMPS-8773/pdf/COMPS-8773.pdf; *see also* 42 U.S.C. § 247d(a)(1)-(2); *see also* 42 U.S.C. § 247d(a); *see also Acute Hospital Care at Home: The CMS Waiver Experience*, NEJM Catalyst, (Dec. 7, 2021) https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0338#t1; *see also Acute Hospital Care at Home 2020 Webinars,* CMS.gov, https://qualitynet.cms.gov/acute-hospital-care-at-home/webinars

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[requirements](#) as seen in the traditional inpatient setting.[5] CMS waived the traditional onsite inpatient 24/7 nursing services and immediate nursing availability requirements.[6]

CMS also differentiates the AHCAH program from more traditional home health services.[7] In fact, CMS holds that "while home health care provides important skilled nursing and other skilled care services," AHCAH is designed for patients "who require acute inpatient admission to a hospital and who require at least daily rounding by a physician and a medical team monitoring their care needs on an ongoing basis."[8] As such, AHCAH services are not the same as home health, case management, chronic disease management, skilled nursing, or admission prevention.[9]

Nonetheless, the reimbursement rules have not changed, and that includes equipment and nursing services as seen in the traditional hospital setting. In other words, the same billing guidance used for traditional inpatient settings applies to AHCAH settings.

Diceros is pleased to address the following areas to support the work of OSTP in confronting and addressing these issues.

1. Trends from the Pandemic

The COVID-19 public health crisis highlighted challenges in hospital capacity and the delivery of care. Engaging healthcare entities including, but not limited to, hospitals, health carriers, and their business associates, is reflected throughout the AHCAH program's implementation.

Considering the AHCAH program was implemented in response to the coronavirus public health crisis, healthcare entities must evaluate the operations of AHCAH services after the PHE ends.

Given the patient complexity, comorbidities, and the unknown number of patients that have received AHCAH services, entities should maintain consistent protocols for patient suitability in various settings, including AHCAH.[10] Although AHCAH is considered a higher level of care than the other settings mentioned above, AHCAH is inherently different from the traditional inpatient

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[5] *See generally* 42 C.F.R. § 482.1; *see also Acute Hospital Care at Home: The CMS Waiver Experience*, NEJM Catalyst, (Dec. 7, 2021) https://catalyst nejm.org/doi/full/10.1056/CAT.21.0338#t1; *see also Acute Hospital Care at Home 2020 Webinars,* CMS.gov, https://qualitynet.cms.gov/acute-hospital-care-at-home/webinars

[6] *See Acute Hospital Care At Home,* CMS.gov - QualityNet, https://qualitynet.cms.gov/acute-hospital-care-at-home; *see also Coronavirus waivers & flexibilities*, CMS.gov, https://www.cms.gov/about-cms/emergency-preparedness-response-operations/current-emergencies/coronavirus-waivers

[7] *See Medicare Benefit Policy Manual: Chapter 7 – Home Health Services*, CENTERS FOR MEDICARE AND MEDICAID SERVICES, https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/bp102c07.pdf

[8] *See CMS Announces Comprehensive Strategy to Enhance Hospital Capacity Amid COVID-19 Surge*, CENTERS FOR MEDICARE AND MEDICAID SERVICES, (Nov. 25, 2020), https://www.cms.gov/newsroom/press-releases/cms-announces-comprehensive-strategy-enhance-hospital-capacity-amid-covid-19-surge

[9] *See Acute Care Delivery At Home*, DEPARTMENT OF HEALTH HUMAN SERVICES – TRACIE, https://files.asprtracie hhs.gov/documents/aspr-tracie-acute-care-delivery-at-home-tip-sheet-.pdf; *see also Building Support for Your Hospital At Home Program: Issues in Strategic Engagement*, Hospital At Home Users Group, https://hahusersgroup.org/wp-content/uploads/2021/01/Building-Support-For-Your-Hospital-At-Home-Program.pdf

[10] *See Acute Hospital Care At Home Program,* CENTERS FOR MEDICARE AND MEDICAID SERVICES, https://www.cms.gov/files/document/covid-acute-hospital-care-home-program-approved-list-hospitals.pdf

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setting. To reiterate, the reimbursement rules have not changed, and that includes equipment and nursing services as seen in the traditional hospital setting.

As technology and science continues to evolve, Diceros urges the OSTP to also consider that reimbursement guidance must be consistent with the services rendered. Collectively, the consistency in services or items rendered along with reimbursement raises payment integrity concerns. Accordingly, Diceros urges the OSTP to facilitate consistent policies and best practices that healthcare entities can consult and adopt. This adoption includes specifying what new CPT or HCPS codes are solely for the purposes of collecting data, not separate reimbursement.

2. Tools and Training

The overall goal is to ensure patient safety throughout the administration of healthcare. As part of the AHCAH program, CMS has determined that more than sixty (60) acute conditions including asthma, congestive heart failure, pneumonia, COVID, sepsis and others are safely treatable at the patient's home.[11] While the number of patients that have gone through the AHCAH program is unknown, CMS believes that qualified hospitals can provide AHCAH services. Accordingly, CMS believes the AHCAH can continue to operate as an inpatient hospital setting but from the patient's home, and therefore payers and providers shall follow the same billing guidance used for traditional inpatient services.

In the pursuit of cost-savings, especially through the AHCAH program, OSTP is capable of setting forth policies that expand digital health technology. Diceros urges OSTP to also consider whether such implementation determines whether healthcare entities are adhering to policies and procedures that promote patient safety throughout the patient's admission, in the traditional inpatient setting or at home.

We stress that building trust and retaining trust require constant scrutiny of consistent and best practices for healthcare entities. We appreciate the opportunity to provide feedback in response to this RFI and are amenable to participating in further discussions.

We are committed to working with OSTP on improving healthcare polices and best practices using digital health technology and innovative science. We look forward to further engaging on the issues as discussed in this letter.

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[11] *See* Jai Kumar et. al., *The Potential of the Home Hospital Model to Transform Acute Care Delivery*, HealthAffairs, (Jan. 25, 2022) https://www.healthaffairs.org/do/10.1377/forefront.20220124.298372; *see also Hospital at Home Programs Improve Outcomes, Lower Costs But Face Resistance from Providers and Payers*, The Commonwealth Fund, https://www.commonwealthfund.org/publications/newsletter-article/hospital-home-programs-improve-outcomes-lower-costs-face-resistance

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February 28, 2022

Stacy Murphy
Operations Manager, White House Office of Science and Technology Policy (OSTP)

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Stacy Murphy:

We are submitting this request on behalf of the Digital Medicine Society (DiMe) for consideration by the OSTP for the RFI on Strengthening Community Health Through Technology. DiMe is a 501(c)(3) non-profit organization dedicated to advancing the safe, effective, equitable, and ethical use of digital medicine to optimize human health. We do this by serving professionals at the intersection of the global healthcare and technology communities, supporting them in developing digital medicine through interdisciplinary collaboration, research, teaching, and the promotion and adoption of best practices. Through these interdisciplinary collaborations, we drive scientific progress and broad acceptance of digital medicine to enhance public health.

Any policy seeking to develop and deploy digital health technology to improve community health, individual wellness, and health equity must first fully understand the barriers to technology adoption in the communities these tools are intended to serve. Central to strengthening health through technology is recognizing that one-off additions or modifications to the current health system are not sufficient. System and platform level approaches are needed to avoid simply layering on a complex mosaic of point solutions that are as likely to add inefficiency and drive disparities as they solve for these issues. Interdisciplinary collaborative efforts such as team-based or consortia research efforts like the All of Us Research Program or DiMe's own Digital Health Measurement Collaborative Community (DATAcc) are well suited to tackle complex issues. These efforts offer complimentary knowledge, diverse methods, sharing of resources, diversity of ideas and approaches, and broad dissemination of results that can serve larger communities. As such, they are vital to accelerating digital health technology uptake to transform community health, individual wellness, and health equity.

Connected community health requires meeting the needs of the community through 1) funding and infrastructure support for national broadband access and digital skills training for the community, and 2) improving knowledge for the community and those working with them. Interdisciplinary efforts through the DiMe program delivery model will improve knowledge by developing and codifying best practices for digital medicine. On behalf of the digital medicine community we proudly represent, we recommend that the Federal Government provide support for infrastructure that will ensure that digital solutions for healthcare reach underserved communities. Support for robust and reliable infrastructure needs to meet people where they are in their communities. This includes access to broadband connection, devices to access the internet, and education and training for digital skills, through culturally appropriate mechanisms that will earn trust and demonstrate the value of digital technologies for advancing healthcare.

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The current digital divide means that the digitization of healthcare may increase health disparities if not intentionally designed to ameliorate these same disparities. The Federal Government must ensure that all Americans have access to high-speed internet. Despite growth in adopting digital technologies, the digital divide persists by race and ethnicity, age, annual income, and educational attainment. With lacking high-speed internet at home and heavy reliance on smartphones for internet access, African Americans and Hispanics, as well as older communities, are missing out on services to manage their health care. including patient portals, making telehealth appointments, and/or accessing test results, prescription, and other decision aids. Access to high-speed internet has become a necessity of daily life and should be treated as a basic right, as demonstrated by the acceleration of digitally enabled devices in every aspect of life, from appliances to healthcare, education, and work. To successfully use digital tools to lower the barriers for all Americans to accessing quality healthcare and lead healthier lives, **policies addressing the digital divide are critical**.

The increase in telehealth visits and vaccine distribution caused by the pandemic also revealed current limitations to rapid digital health implementation. The healthcare world needed to rely heavily on both to move beyond the crippling effects of COVID-19; however, the long-standing barriers, including digital access and literacy, allowed inequities to persist. A recent report by the Office of Health Policy indicated that video telehealth visits were highest for those identifying as white, younger (less than 65 years old), and earning at least $100,000. The vaccine was widely available, including through Federally Qualified Health Centers, to ensure access for some of the most vulnerable populations; however, the heavy reliance on technology resulted in disparities with vaccine distribution. **Policies addressing the digital divide should be imminent**; advancements in digital health are already increasing health disparities.

Broadband access alone is not sufficient to address the digital divide. Digital literacy goes hand-in-hand with access to connectivity and the ability to successfully engage with digital medicine, through active and ongoing interactions with providers, and the use of services such telehealth and remote patient monitoring. We recommend that the Federal Government **design and implement a national digital skills literacy curriculum**. Digital technical skills will serve communities beyond health and should therefore become a mandatory requirement similar to Math and English. This should begin in elementary school for new learners. To serve the needs of adult learners, an adaptation of this digital skills curriculum should be available similarly to the GED. Policies and resources should support community organizations who are best positioned to adjust these teachings for cultural inclusivity, literacy levels, and cognitive and physical capabilities.

The Widening Digital Participation program is an international example of how fit-for-purpose training can build trust and help realize the value of digital health for communities. This partnership with the Good Things Foundation (GTF) and the English National Health Service (NHS) aimed to train people from communities identified as lacking basic digital skills and suffering from worse health outcomes to improve their digital health skills. Within three years, the program served over 200,000 individuals and demonstrated a return of investment equivalent to over $6 million with reduced spending on general practitioner and emergency room visits. The Greater Cleveland Digital Equity Coalition is leading a similar program to make digital skills classes available to all residents, in addition to ensuring access to computing devices and internet connectivity. **Collaborative initiatives hasten evidence-based outcomes to promote health equity**.

As another example, to improve the lives of Veterans, DiMe is partnering with the Department of Veteran Affairs (VA), industry leaders, and Veterans themselves to develop a comprehensive toolkit to measure, evaluate, and implement digital health technologies to better serve over 9 million Veterans. These efforts will build on previous collaborative work that defines a focus on **human centered design**, **a robust data infrastructure**, **and a redefined value-chain** as critical to the successful digital transformation of healthcare. DiMe also hosts IMPACT, the virtual first care (V1C) initiative, convening V1C providers, payers, and patients dedicated to advancing medical care for individuals or a community accessed through digital interactions where possible, guided by a clinician, and integrated in a person's everyday life. Currently, DiMe's IMPACT community is leading an initiative to address challenges to care transitions impeding ready access to V1C and seamless integration into the existing healthcare system. Finally, DATAcc, a formal partnership with the FDA, is applying interdisciplinary expertise, data, and case studies to enable better healthcare delivery through harmonized approaches to speed the use of digital health measurements to improve health outcomes. **Purposeful collaborations will provide evidence to support the development of trustworthy data policies and infrastructure**.

Collaboration among public and private entities is essential to engaging individuals and communities. They can build trust and then go on to demonstrate the value that digital health technologies can bring to their daily lives. Digital health provides the opportunity for a whole new data-driven approach to healthcare that is built at the systems level. Patient health data will be instrumental in advancing digital medicine; therefore, addressing barriers inhibiting data sharing from underrepresented communities, including concerns with privacy, security, discrimination and the effectiveness of technology should be a priority. Essential to building a health data ecosystem is trust among communities and stakeholders (providers, tech developers, pharma) coupled with trust that the government will provide reliable and trustworthy infrastructure. DiMe's multi-stakeholder initiative *The Playbook* advocates for approaches including **privacy by design** and **ethics by design** that can help address community concerns about data abuse and advance the implementation of digital solutions in the very communities where they could most substantially improve health.

Paramount to strengthening community health is **purposeful**, **evidence-driven actions by collaborative groups** to provide infrastructure and increase digital health knowledge. Implementation and support of the foundations for digital health – including the **support of collaborative initiatives, provision of high-speed internet access**, **digital literacy training**, **the development of trustworthy data policies, and infrastructure** by the Federal Government – demonstrates value and commitment to health equity. It opens the door widely enough for interdisciplinary groups to add content, expand knowledge, and develop tools and training customized to communities that will support the transformation of community health through the uptake of innovative digital health technologies.

Sincerely,

Jennifer Goldsack
CEO

Yashoda Sharma
Program Director

At Digital Salutem we are digital health experts on the mission to make healthcare uncomplicated.

We have worked for many years in the NHS in the UK using our Digital Health Platform – CliniTouch Vie.

CliniTouch Vie is an award-winning digital health platform, delivering effective remote patient monitoring, patient education and self-management.

The platform enables the digitisation of multiple conditions and pathways, connecting patients and clinicians in real-time to make healthcare safer, smarter and more efficient.

The CliniTouch Vie platform sits at the heart of the interaction between patient and clinician, where qualitative and quantitative data relating to a patient's condition is delivered to the clinical team in real-time. Powerful algorithms automatically risk-score the data and generate a prioritised patient list, enabling clinicians to manage larger caseloads more efficiently.

Patient activation, interaction and empowerment is supported with educational content, video and messaging capabilities, alongside a wide range of additional functionality that enables the delivery of effective virtual care.

CliniTouch Vie can be rapidly deployed to meet your needs, helping to transform the future of healthcare on a global scale.

- Identify early signs of deterioration
  Quickly and easily spot where intervention is needed
- Right patient, right time
  Prioritised patients lists maximise clinical time and resource
- Backed by evidence
  Research demonstrates improved patient, clinical and system outcomes
- Used across the NHS
  Tried and tested technology for virtual care

Contacts :

João Bocas - CEO

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Re: Office of Science and Technology Policy (OSTP) Request for Information (RFI) on Strengthening Community Health Through Technology (*via email submission*)

Dear OSTP Team,

The Community Connected Health Initiative's mission, as presented through this RFI, closely aligns with our own mission. We are both focused on ways to use digital health technologies – specifically digital therapeutics (DTx) in our case – to lower the barriers to quality healthcare, while improving community health, patient outcomes, and health equity. As such, we hope the Digital Therapeutics Alliance (DTA) can play a more integral role in this Initiative.

When appropriate product access is provided to patients, digital therapeutics can address critical gaps in care for underserved populations regardless of patient age, language, culture, income, disease state, or geography.

DTA members – including 80+ companies across major healthcare industries and geographic regions – are therefore working to provide patients, caregivers, clinicians, community health workers, payors, and policymakers with access to resources that enable them to assess, utilize, and scale DTx products in everyday settings and improve clinical and health economic outcomes.

What is a DTx?

DTx products, a new category of medicine, deliver therapeutic interventions directly to patients using scientifically developed, clinically evaluated software to treat, manage, and prevent a disease or disorder. As demonstrated through [DTA's Product Library](), digital therapeutics address a wide array of health conditions, with products developed for ADHD, anxiety, asthma, cancer side effect management, diabetes, depression, insomnia, migraine, muscle/movement disorders, opioid and substance use disorders, and PTSD — to name a few. DTx products are used independently, alongside medications, and/or in tandem with clinician-delivered therapy.

Ensuring DTx Trustworthiness

Since digital therapeutics deliver clinical-grade medical interventions directly to patients, these products are subject to greater clinical, security, and regulatory scrutiny than general digital wellness and fitness apps. Therefore, all DTx products should adhere to these foundational industry principles:

1. Prevent, manage, or treat a medical disorder or disease
2. Produce a medical intervention that is driven by software
3. Incorporate design, manufacture, and quality best practices
4. Engage end users in product development and usability processes
5. Incorporate patient privacy and security protections
6. Apply product deployment, management, and maintenance best practices

7. Publish trial results inclusive of clinically meaningful outcomes in peer-reviewed journals
8. Be reviewed and cleared or certified by regulatory bodies as required to support product claims of risk, efficacy, and intended use
9. Make claims appropriate to clinical evaluation and regulatory status
10. Collect, analyze, and apply real world evidence and/or product performance data

Providing Care to Underserved & Undertreated Populations

DTx products can easily reach high-risk, rural, underserved, and undertreated populations who often lack access to healthcare services even during the best of times. This includes digital therapeutics' ability to:

- Be accessible through patient-owned devices, such as a smartphone or tablet
- Enable flexibility in how, when, and where patients access clinical therapies
- Offer therapy independent of a patient's work, education, or childcare schedule
- Transform how patients understand, manage, and engage in their healthcare
- Create safe and discreet spaces for patients to share insights initially deemed too personal or sensitive by using AI-based personalized therapies
- Remove stigma of seeking and receiving help by discretely delivering therapy to patients
- Provide therapies in a variety of languages
- Directly impact life and disease state outcomes, validated through clinical studies and real-world data
- Provide meaningful results and insights on personalized treatments, goals, and outcomes
- Leverage a variety of internet connection types, including intermittent Wi-Fi access, sustained basic internet access, and broadband internet access
- Extend clinicians' and community health workers' ability to care for patients
- Support healthcare teams in settings with varying degrees of health care infrastructure

Improving Health Equity: Therapy Accessibility and Scalability

Payors and policymakers are now able to deliver care to entire populations that have previously been outside the reach of traditional care – either due to geographic limitations, cultural and language boundaries, well-documented disparities, or health condition severity. Compared to traditional medications which rely on physical distribution and dispensing processes, digital therapeutic products are software-based and able to be hosted on multi-purpose platforms (i.e., patient-owned smartphone, tablet). This introduces an entirely new degree of product scalability and patient access opportunities. Instead of having a geographic-dependent delivery model, it is possible to deploy a needs-based delivery model.

Community Health Worker Access to Real-World Outcomes

In another departure from traditional medications, digital therapeutics generate a wide variety of real-world data (RWD) outcomes related to patient use and clinical impact. This includes patient-specific measures (i.e., actionable clinical outcomes, standardized patient assessments, physiologic data via associated sensors), patient and clinician utilization (i.e., patient utilization and

engagement, product onboarding metrics, clinician prescribing parameters), and product functionality (i.e., product performance, analytics, quality measures).

Real-world insights generated by digital therapeutics may be used to optimize outcomes at the individual patient and population levels. At the individual patient level, digital therapeutic products provide clinicians with meaningful, actionable clinical reports. At the population level, data generated by DTx products may be aggregated to track progress or compare aggregate outcomes based upon patient disease state, level of acuity, geographic location, age, gender, etc.

Necessary Legislative & Regulatory Changes

While numerous patients who receive their insurance coverage through private payors and employers in the United States have access to DTx products, low income and aging populations covered by Medicare, Medicaid, and other publicly funded programs generally do not have access to DTx therapies. Until Medicare and Medicaid begin providing patients with access to remotely delivered therapies and enable formal funding pathways for DTx products, there will continue to be an unbalanced ecosystem in the U.S.

First, we therefore encourage the U.S. Food and Drug Administration (FDA) to officially recognize and define digital therapeutics in formal guidance. Although the Agency reviews and clears DTx products through various medical device regulatory pathways, by formally defining and recognizing digital therapeutics in this capacity, the Agency will provide clarity for *patients* (i.e., transparency regarding DTx product attributes, quality standards, and claims), *clinicians* (i.e., evidence, safety, and prescription requirements to provide patient access), and *government agencies* (i.e., Federal Communications Commission and Federal Trade Commission enforcement of product claims).

Second, we need legislative action to direct CMS to expand access to DTx products by:
- *Formally recognizing DTx products*: Officially define and recognize DTx products in legislation so that Medicare and Medicaid patients can have access to these critical therapies.
- *Codifying DTx product coverage*: Require CMS to assure that Medicare and Medicaid cover technologies that meet the definition of a digital therapeutic.
- *Expanding clinician coding and payment*: Direct CMS to ensure adequate payment mechanisms exist to pay primary care providers and clinicians engaged in the authorization and clinical use of DTx products.

Covid-19 provided a heightened awareness of how digital therapeutics can help patients manage their chronic conditions within home settings, improve the efficiency and impact of mental health services, and extend effective treatment to the millions of individuals who are otherwise unable to access treatment. We look forward to working with you and your team on this crucial effort!

Sincerely,
Megan Coder, PharmD, MBA
Chief Policy Officer
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Digital Therapeutics Alliance

Strengthening Community Health Through Technology

The White House Office of Science and Technology Policy

Response to Connected Health RFI

Dimagi, Inc.
585 Massachusetts Avenue, Suite 3
Cambridge, Massachusetts 02139
United States

Dimagi and our flagship software, CommCare - an open-source, no-code app builder - offer a case study in translating global digital health learnings to the US and the barriers new solutions face in the United States (US) digital health market. In this response, we offer some of our story with the shared goals of increasing the health of Americans, ensuring sustainability of deployed solutions, and strengthening collaboration across digital health stakeholders.

Dimagi: Experiences that span global and domestic digital health

Founded in 2002 out of the MIT Media Lab and the Harvard-MIT Health Sciences and Technology programs, Dimagi's early focus was developing open source software for low-resource settings, building some of the first mobile solutions for frontline health programs in developing countries. This led to years of global health work offering technical strategy, systems design, software development, and research for more than 3,000 projects worldwide. Our partners include government agencies like USAID, CDC, leading universities and research institutions such as the National Institutes of Health, and Fortune 500 companies.

As the COVID-19 pandemic swept the world, Dimagi quickly moved to provide contact tracing systems for US government agencies, a new market for our solutions. Our solution for COVID-19 contact tracing and case investigation is used by the governments of Alaska, Colorado, New York, New Jersey, Philadelphia, and the Navajo Nation. We continue to explore ways our services and technology may support state and local government health efforts beyond COVID-19 response, while navigating the barriers and opportunities of the market. Our work in both global and local digital health uniquely positions us to contribute to this Request for Information. We see many ways global health learnings can translate to the US, as well as ways the US market limits potential innovation.

Leveraging platforms for effective, efficient solutions

Globally, and specifically in low- and middle- income countries, digital health solutions tend to be platform-based, flexible, and inexpensive. Platform-based digital health tools to health can offer substantial cost and time savings, while still providing high quality solutions.

Platforms distribute cost burdens: With platform-based solutions, customers receive configured solutions that feel custom, but do not have to pay for custom engineering. Subscriptions distribute the cost burdens of platform maintenance over many customers.

Platforms for faster solution delivery and iteration: Especially with low code application platforms (LCAP) and modular functionality, teams can quickly deliver and iterate on platform-based solutions. Our teams create solutions in just days with CommCare's no-code application builder. Ultimately, this means that more user feedback will be incorporated, leading to a tool that reduces the burden on end-users and improves their jobs.

Platforms for expanding beyond single-use solutions: Often, solutions are created for a single program or use case. A platform-approach allows for incremental expansion of a single solution to include more functionality or user types. Dimagi's CommCare is a good example of how platform-based solutions can be implemented and scaled for many use cases.

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Designing solutions that serve real users

Successful digital health solutions must account for user experience. Though this is true of all contexts, it is particularly salient when solutions are used by community health workers (CHWs) internationally. Often these CHWs provide vital services to underserved communities while facing resource constraints, receiving low pay, and operating with limited training opportunities. It is vital that digital health tools aim to alleviate these barriers, or at the least not introduce additional barriers, to CHW work. Relatedly, CHWs bring invaluable experience and knowledge to solution design, providing local context and expertise in their jobs.

Design with users: We engage CHWs at every project stage, from requirements gathering to acceptance testing, to offer solutions grounded in what they need to effectively work.

Design to support users: We develop systems with scaffolding, such as standardized scripts and decision support, that reduces the burden on users and standardizes care delivery. We have found this especially important for transient users navigating crises, such as contact tracers responding to COVID-19.

Design for workflows, not only data: In US projects, a focus on the production of clean data sets required for reporting or program oversight often at the expense of creating a flexible tool that provides value in user interactions. It is possible, and necessary, to design flexible systems that produce usable data sets and offer needed analytic functions, but not at the expense of user experience. Dimagi prioritizes the experiences of CHWs who use CommCare, recognizing that we must design for their jobs and not data collection.

Barriers technology vendors experience in the US digital health market

Though many stakeholders in the US desire new options for digital health solutions, technology vendors face significant barriers when entering the US digital health market.

Limiting new solution providers with past performance expectations: For government-funded projects, requests for proposals administered by state and local governments often stress or strictly require a minimum amount of past performance. This immediately limits the available options to a small pool of vendors whose solutions have already been introduced in that market, hindering innovation and competition. Efforts in cooperative purchasing, such as National Association of State Procurement Officials (NASPO) ValuePoint, could help alleviate this problem if they were incentivized to find new solutions and build a healthy ecosystem, rather than primarily solving for contracting logistics for governments without much benefit to solution providers like Dimagi.

Lack of awareness or acceptance of platform-based solutions: Another significant barrier is the perception of platform solutions in the United States. Our experience has taught us that the US digital health market often expects customized or off-the-shelf solutions that meet each specific requirement of a use case, making platform-based solutions feel unacceptable or unknown. Though custom and off-the-shelf solutions can often effectively meet individual use cases, they may quickly become stagnant or outdated, limit the opportunity for expansion of solution functionality, and increase resources needed for maintenance.

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By embracing platform-based solutions, state and local governments benefit from faster development and implementation, improved user experience, and substantial cost savings. Realizing these long term benefits of platform-based solutions may require compromising on some nuances of requirements or preferences, while still ensuring the most important work can be done with this system.

Case example: State of Colorado Dr. Justina Solution

In July 2020, Dimagi partnered with the Colorado Department of Public Health and Environment to create a COVID-19 response solution, called Dr. Justina, which was used by over 1500 users across 53 local public health agencies every day. This project was developed in a complex stakeholder landscape, supporting integrations with legacy State systems, and developing and deploying a sophisticated data analytics solution to accompany the CommCare no-code platform. In order to support end-users, including CHWs and contact tracers, the solution was regularly refined and updated to meet emerging public health needs and address user feedback with more than 27 substantial releases.

The success of this project is due in large part to Colorado's commitment to designing and procuring the solution differently. According to a case study from the Beeck Center,[1] the selection of CommCare saved the state $15 million and a solution that "stood out as more user-friendly, with terminology and workflows that felt more familiar and natural to public health. Moreover, it confirms the barriers often faced in this procurement process: *"Traditional vendor selection processes evaluate the ability to produce a high-quality written proposal rather than the usability of the software or the quality of the technical support provided by the software vendor. Typical processes—often heavily based on the release of a Request for Proposal (RFP) and evaluation of written responses—often fail to assess what matters most to the people who will interact with the system every day and act as a barrier to entry for smaller vendors that lack professional writers or dedicated proposal teams."*

Conclusion

Evidence shows that well-designed and implemented digital health tools can improve health outcomes and lower costs, but market barriers and outdated design approaches limit their potential effectiveness. Improving community wellness and advancing health equity with digital health tools requires stakeholders to collectively agree that changing our procurement and design process is both necessary and achievable. Policies should enable new vendor entrance and platform-based solutions, while requiring solutions to be flexible, sustainable, and user-oriented. Dimagi hopes our experience as a global digital health solutions provider with a recently expanded presence in the United States offers insights that accelerate progress toward digital health tools that improve community health in the United States.

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[1] Faust, Elaina; Martin, Reilly; Carroll, Conor; and Pontia, Hayley (2021). *Procuring Differently: How Colorado Used User Research and Active Vendor Management for COVID-19 Technology*, Beeck Center for Social Impact + Innovation, Georgetown University, Washington, D.C.

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Between 2019 and 2020 telehealth utilization went up 63% due to the Covid 19 Pandemic (Samson et al., 2020). With these statistics taken into account, the pandemic has taught us that digital technology, more specifically telehealth, could be and is a vital resource for keeping people healthy in these uncertain times. People with disabilities and older adults remain two of the most vulnerable populations in today's society. So, it is not surprising that Medicaid (29.3%) and Medicare (27.4%) users have the highest rates of telehealth visit utilization, according to a study conducted by ASPE's Office of Health Policy (Karimi, Lee, & et al., 2022). Telehealth offers its users increased access to healthcare services by ameliorating the burden of personal care and transportation logistics for people with disabilities and older adults. Telehealth services also eliminate the risk of exposure for those who are autoimmune compromised or have other risk factors. However, the same study suggests that those that belong to minority groups and those aged 65 and older are least likely to utilize video telehealth services (Karimi, Lee, & et al., 2022) which is problematic. In order to meet the needs of people with disabilities and older adults to the maximum extent possible, we must acknowledge and improve accessibility of telehealth services, internet access and computer literacy for people with disabilities and older adults.

People with disabilities belong to every group in society, and it is said that disability is the only minority group that one can come into at any second. Disability, however, cannot be thought of as a monolithic group. Our needs are as diverse as we are. Therefore, when looking at the barriers to telehealth services and strategies that we can use to ameliorate them, we must look

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www.disabilityrightsla.org

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at accessibility needs from as many different angles as possible. First, doctors and providers must ensure that they meet the standards of the Americans with Disabilities Act in regards to telecommunications as well as healthcare practices. According to a recent article by Wright (2020), "All providers (who are a covered entity) have a legal obligation to provide healthcare equally to all patients, whether in-person or virtually. While there is no requirement to provide telemedicine, any provider who is utilizing telemedicine must ensure equal access to all patients." In hopes of lessening technological inequality, Section 508 of the Rehabilitation Act of 1973 was created. Section 508 of the Rehabilitation Act of 1973 (29 USC § 794d) requires that "when U.S. Federal government agencies develop, procure, or maintain, information and communication technology (ICT), that it is accessible to persons with disabilities" (www.Section508.org).

In order to ensure "equal access for all," we must take account of accessibility needs. First the website should have speech recognition capabilities, the ability for users to zoom in and out and have day and night modes. Doctors and providers must also ensure that the website can be read in multiple languages, all links stand out and that there is a color-blind feature. Also, people with disabilities use various forms of assistive technology. Therefore, it should be ensured that the website and digital platform can successfully integrate with the patient's assistive technology. Telehealth platforms should have the ability to include an interpreter, live captions and automatic transcriptions (telehealth.hhs.gov, 2022). However, the best thing that

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you can do when ensuring accessibility is to consult patients themselves as well as disability organizations.

After all accessibility is accounted for, some people with disabilities and older adults may not have the skills needed to navigate the technology successfully. Therefore, before the appointment, doctor's offices should have personnel contact the patient before their appointment to ensure that the patient knows how to use the platform. Personnel should also test the platform with the patient before their scheduled appointment and provide them with instructions in whichever format is most accessible to them. Sometimes, patients may need personnel to go through the steps with them multiple times in order for them to grasp the information. This can be a tedious process and may require personnel to be patient and understanding of the patient's lack of computer literacy skills. Having designated personnel to handle accessibility concerns may be the solution depending on the demand.

The last hurdle or obstacle to providing telehealth to patients is that the patient may not have access to the internet. While providers cannot always eliminate this issue, staff personnel can provide each patient with a list of hotspots or libraries nearest to them if the platform has appropriate security provisions built-in to its system. Also, telehealth can be provided through audio or video modalities. With this taken into consideration, it may be appropriate to ask patients if they would prefer a video call or an audio call. If they choose an audio call, providers can call their patients on their landline or cellular device.

It could be argued that telehealth will not work for everyone, and that is true. However, telehealth is a gamechanger for those that have financial instability or lack of access to services such as transportation and personal care. As mentioned above, telehealth has offered new options to those with autoimmune disabilities who may be scared of being exposed to other germs and illnesses during an in-person visit. Telehealth services will not only help people with disabilities and older adults receive the care that they need, telehealth will help everyone get access to healthcare that may not have the time or resources to get to an in-person visit. By ensuring accessibility of telehealth services, as a society we can become one step closer to ensuring equality for all when it comes to healthcare. So, in closing, to ensure true accessibility of telehealth services, make sure that people with disabilities, older adults and those that are most impacted have a seat at the table. Giving these individuals a seat at the table will be the only way to get closer to ameliorating the inequality of these services.

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March 22, 2022

Re: RFI Response: Strengthening Community Health Through Technology

The Protecting Privacy to Promote Interoperability (PP2PI) Workgroup appreciates the opportunity to respond to the Request for Information (RFI) from the White House Office of Science and Technology Policy (OSTP) on how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity. We appreciate OSTP's attention to the critical matter of how technology may best be used to strengthen community health and its desire to hear from stakeholders about barriers and lessons learned.

PP2PI is a national multidisciplinary interest group of expert stakeholders across the industry who have come together to address the problem of how to granularly segment sensitive data to protect patient privacy and promote interoperability and care equity. Stakeholders include more than 160 representatives from health care organizations, professional societies, standards development organizations, health IT vendors, Health Information Exchanges (HIEs) and Interoperability Frameworks, payers, government and government contractors, privacy law and ethics experts, and patient advocates, among others.[1] PP2PI is supported by HIMSS, IHE and The Drummond Group Trusted Test Lab and Certification Body, but is an independent group of volunteer stakeholders and does not currently receive financial backing from any organization.

PP2PI envisions a health care system in which patients and clinicians can work together to promote both information access and privacy. Technology can help with these efforts, but thoughtful and balanced federal policy is critical to meeting such goals. Below, we provide our feedback to OSTP on its questions around barriers, trends from the pandemic, and health equity.

Barriers

We appreciate OSTP's interest in understanding privacy concerns related to the adoption of digital health in community settings; concerns about user privacy are directly tied to PP2PI's core focus. Although certain technical standards and various consent management platforms have had successful individual pilots, implementation of granular segmentation and consent management to support individual privacy preferences and equitable interoperability has not scaled nationwide.

Previous pilots were principally limited to 42 CFR Part 2 (regulations related to the privacy of substance use disorder records) and a few other select use cases. In the current healthcare ecosystem, several other high-priority clinical use cases drive stakeholders' prioritization of work—for example, new technical standards are needed for exchange of social determinants of health (SDOH) data, data that is afforded additional privacy protections under state law, and traditionally "sensitive" or historically stigmatized health data such as reproductive or mental health data. Because current technical standards and consent management tools do not

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[1] https://www.drummondgroup.com/pp2pi/

adequately address these other high-value clinical use cases, granular segmentation of data leveraging these tools has not been prioritized across major segments of the industry.

Additionally, while each pilot successfully implemented a data segmentation standard and/or a consent management platform within a single regional system, the implementation was not set up to scale nationally. We believe that national scale requires defining a nationally available, steward-maintained terminology value set for sensitive conditions and addressing a means to define privacy policies and identify patient consent preferences through a consent management engine and security labeling service. We welcome the opportunity for a conversation with OSTP to explain these requirements in greater detail.

Finally, in the time since the conclusion of the pilots previously noted, the 21st Century Cures Act Information Blocking final rule has gone into effect. Implementation of functionality to comply with these provisions has made theoretical privacy and risk concerns a lived reality for clinical staff, patients, and technology vendors alike. Moreover, lack of granular segmentation standards to help accommodate information blocking exceptions will lead to an increased number of health care organizations utilizing the Infeasibility exception, which ultimately results in decreased electronic information sharing and increased administrative burden. This transition is driving a palpable urgency for a solution that enables granular segmentation of sensitive data from diverse healthcare ecosystem stakeholders.

Trends from Pandemic

The COVID-19 pandemic offers several lessons to policymakers, including one specifically related to data governance, trust, and public health. Large, competing technology developers worked together to develop apps and functionalities to alert smartphone users to potential COVID-19 exposures in an effort to supplement traditional contact tracing. Unfortunately, the public had significant concerns around how these digital contact tracing tools handled their personal data and many of the efforts aimed at public adoption of the tools failed.[2] This reluctance to adopt innovative digital health tools aimed at improving public health indicates that society is increasingly demanding more of companies that collect and share personal data: more transparency, more choice, and more justification for their actions.

Not only was the public's lack of trust in technology developers made apparent during the pandemic, but also the need for accurate health care information. Competing sources of information, misinformation, and disinformation about COVID-19 continue to plague health care providers and public health officials alike.

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[2] Axios, "Americans Hate Contact Tracing." (May 12, 2020), available at https://www.axios.com/axios-ipsos-coronavirus-week-9-contact-tracing-bd747eaa-8fa1-4822-89bc-4e214c44a44d.html; Washington Post, "Most Americans are not willing or able to use an app tracking coronavirus infections. That's a problem for Big Tech's plan to slow the pandemic." (April 29, 2020), available at https://www.washingtonpost.com/technology/2020/04/29/most-americans-are-not-willing-or-able-use-an-app-tracking-coronavirus-infections-thats-problem-big-techs-plan-slow-pandemic/

Lastly, the pandemic provided another example of how the lack of robust and granular privacy controls within EHRs can harm health outcomes. Some patients establish patient portals to obtain access to their electronic health information; many of these patients also permit their health care proxies to access their information to help with non-clinical care management and coordination. However, privacy controls for proxies are limited and patients may not have choices about the scope of information their proxy may see in the portal. At times, this lack of privacy controls may impact what health care services an individual obtains. For example, we are aware of instances in which a patient who wanted to receive a COVID-19 vaccine did not out of concern that their health care proxy or personal representative would learn about it from the patient portal and become upset with them due to conflicting socio/cultural/political beliefs.

As OSTP considers how to use technology to engage with the community and improve public health and health equity, it must recognize that privacy and trust are critical considerations. Digital health tools must build and enhance trust from patients and within the health care provider/system-patient relationship. Tools lacking mechanisms that give users control over what data is collected, how it is used, and with whom it will be shared will lag in adoption and fall short of what is needed to improve the nation's health.

Health Equity

Granular segmentation of sensitive data is essential to provide people with equitable access to the benefits of interoperability and health data exchange, which we term "equitable interoperability." In our current ecosystem, individuals must choose to share *all* or *none* or their data, and in some instances this decision is made algorithmically by organizations or vendors seeking to comply with federal or state laws. Those who have no personal health information deemed sensitive – whether by state law, social stigma, or personal circumstance – can share their data with a proxy or 3rd-party application via existing exchange standards without concern. However, those who have sensitive personal information may, by having to share all or none of their information, fail to receive the optimal healthcare that interoperability is intended to facilitate. Granular segmentation of data that allows individuals to share all of their information except certain sensitive elements is, therefore, key to achieving equitable interoperability for everyone. Lacking adequate technical standards for granular segmentation of sensitive data, many organizations resort to blunt algorithms or manual processes to withhold sharing for broad populations to comply with state and federal law. This may result in care inequities and potential information blocking, as patients with conditions that are associated with a stigma, when given the option, may be less likely to consent to having their data shared across care systems than others. As some sensitive conditions are more prevalent in disenfranchised populations, this contributes to disparities in care. Similarly, absent the ability to segment sensitive data and protect privacy under state law, health care organizations may reduce the number of digital health tools they offer to their patients.

Thank you again for the opportunity to comment on this RFI. We welcome the opportunity to discuss our work and these topics with OSTP at your convenience.

Signed,
Protecting Privacy to Promote Interoperability (PP2PI) Workgroup*

The PP2PI Workgroup includes more than 160 stakeholder members representing the following governmental and non-governmental organizations, electronic health record (EHR) vendors, health information exchanges, and third-party applications, as well as nationally recognized domain experts. The views expressed by PP2PI may not be shared by all stakeholder-affiliated organizations.

ADVault
AEGIS
Allscripts
American Academy of Family Physicians
American Academy of Pediatrics
American Academy of Pediatrics – New York State
American Association of Neurological Surgeons
American Board of Quality Assurance and Utilization Review Physicians
American College of Physicians
American Health Information Management Association
American Medical Association
Arkansas Children's Hospitals
athenahealth
Aunt Bertha
Beth Israel Deaconess Medical Center
Bronx RHIO
California Health and Human Services
Cambridge Health Alliance
CareCom
Center for Adolescent Health & the Law
Cerner Corporation
Change Healthcare
Children's Hospitals of Philadelphia
Columbia University
CommonWell Alliance
Cone Health
Cornell University
County of Santa Clara Health System
CPSI
DC Department of Health Care Finance
Department of Veterans Affairs
District of Columbia Dept of Health
Drummond Group
Duffy Health Center
eClinicalWorks
Edifecs
Fenway Health
ForgeRock
Froedtert Hospital
Geisinger Commonwealth School of Medicine

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Georgia Institute of Technology
Global eSolutions Group
Gravity Project
Greenway
Harbor Health Community Health Center
Harvard Children's Hospital
Harvard Medical School
Harvard University
HCA Healthcare
Health Current
Health Relationship Trust
HealthTech Solutions
HealthyArizona
HHS -ONC
HIMSS (Healthcare Information and Management Systems Society)
HL7
HLN Consulting
Identios
IHE USA
Independent Geriatrician
Independent Gerontologist
Independent Health IT Consultant
Independent Pediatrician
Insight Informatics
Intelligent Medical Objects
Intersystems
Kaiser Permanente
KidsPlus Pediatrics
Kressly Pediatrics
Leap Orbit
Leavitt Partners
Lifespan
Linden Tech Advisors
Linux Foundation Public Health
Massachusetts Health Data Consortium
Massachusetts Technology Collaborative
MEDHOST
Medical Mutual of Ohio
MEDITECH
Medstar
MITRE
Moxe Health
National Institutes of Health
National Partnership for Women & Families
New Birth Company

NextGen Healthcare
Novillus
NowPow
Nuance Communication
OCHIN
Omada Health
Open City Labs
Open Referral
Orion Health
Patient Centric Solutions
Pew Charitable Trusts
Pharmacy Health Information Technology Collaborative
Physician's Computer Company
Project Unify
Rhode Island Hospital
Seattle Children's Hospital
Security Risk Solutions
SMC Partners
Smile CDR
Stanford Children's Health
Stewards of Change
The Wright Center
Tranquil Data
University of Pittsburgh Medical Center
University of Rochester
University of Texas Medical Branch
User-View
UT Southwestern
Vanderbilt University Medical Center
Veriteos
Visiting Nurse Service of New Jersey
Warren Alpert Medical School of Brown University
Washington State Health Care Authority
Weill Cornell Medicine
Westat

From:	Bailey Spencer ██████████████████████████
Sent:	Saturday, February 26, 2022 2:39 PM
To:	MBX OSTP Connected Health
Cc:	Cynthia Macri; Marlen Rosales; Barbara Rivera
Subject:	[EXTERNAL] Response to Connected Health RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Green Category

Response to Connected Health RFI issued by the White House Office of Science and Technology Policy (OSTP) from Cynthia Izuno Macri, MD, FACS, FACOG – CAPT MC USN (RET) and SVP and Chief Medical Officer (CMO), EagleForce Associates Inc./EagleForce Health.

This response is being submitted by Diamond Capture Associates, LLC, on behalf of EagleForce Associates. Diamond Capture is an EagleForce partner who represents EagleForce in the Federal market. Dr. Macri's response to the RFI follows:

EagleForce Health is a leading **technology developer** whose products adjudicate against fraud among pharmaceutical manufacturers, pharmacy benefits managers, and multijurisdictional and individual commercial pharmacies. EFH is pleased to provide information on how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity, and is in the unique position to use its patented technologies to add value to predictive analytics already in use across the health care industry. Supported by a grant from the NIH, EFH developed the Medication and Immunization Management Initiative (MIMI-RX™) and it's streamlined version, myVax™, a mobile and web-based application that functions as a personal digital health record, with person-centered controls that set individual alerts and reminders for medication adherence and medication interactions, health care provider appointments, wellness interventions, immunization reminders as well as remote monitoring and laboratory alerts. During the pandemic, this technology was easily converted to enable use by both providers and patients to maintain connectivity and share information about chronic conditions, COVID-19 updates, lab results, vaccination status and more. As it turns out, our personal digital health record shows that innovation in science and technology can lower the barriers for all Americans to accessing quality healthcare and lead healthier lives by meeting people where they are in their communities including paying special attention to cultural and linguistic barriers. Through an open API, EFH also connected with the statewide immunization registries to provide real-time verification of COVID and other required/recommended vaccines for preventable infectious diseases.   Our diverse workforce recognized early on that information from the CDC, FDA and other governmental trusted sources was not readily accessible to all members of our communities not only because of access issues, but also as importantly, language and cultural factors. We have witnessed that even in the most diverse counties, important real-time or up-to-date information is typically universally available in English and Spanish only, and that misinformation could be spread simply by pushing it via social media or non-English channels which are not easily monitored by current algorithms and remain unbalanced by validated information provided by state, local and national agencies protecting the public health. Thus important, trusted information may not reach those who do not speak, read, write, or understand English or Spanish, including the colloquial phrases that may add value to the messaging, or delivered by individuals they perceive as having shared experiences.

EFH's Public Health Service Line has promoted person-centered, evidence-based, nationally recognized wellness and wellbeing programming through community-based organizations that is specifically not medical in nature, but addresses the needs of the whole person, and serves immigrant, refugee, and the uninsured groups

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traditionally not served by the current healthcare system. Using MIMI-RX™, evidence-based programs can be delivered via a secure, HIPAA-compliant Zoom interface, data can be collected, and patient privacy can be maintained. Further, in where applicable, billing for telehealth and telemedicine services can be accomplished using MIMI-RX™, including remote physiological monitoring and virtual check-ins.

SUCCESSFUL MODEL: EFH successfully completed a project with the Maryland Department of Aging, to improve access to caregivers for seniors and disabled persons who were disproportionately affected by the pandemic especially early on where their normal social and health care activities were limited or curtailed. Further, the risk of infection and death prior to vaccines being available required that substitute or short-term caregivers were tested negative and had an adequate supply for personal protective equipment. Volunteers were mobilized and logged into the system in order to communicate with the command center as well as the individual in need. Culturally and linguistically proficient CHWs and members of other nonprofit organizations served to overcome some inherent bias in our current health care system and even course corrected some input biases associated with artificial intelligence built into current technology, models and devices.[1]

OVERCOMING BARRIERS: After this project was completed, EFH launched another project to connect seniors with tablets with data plan to allow them to socialize virtually through their local Area Agency on Aging (AAA) or other community-based organization. EFH customized the tablets to allow for larger font sizes and streamlined instructions available in multiple languages, and with the availability of community health workers (CHW) and other members of the AAA teams. The value of the CHWs that were specifically recruited from minority, immigrant and other vulnerable populations included cultural and linguistic interpretations of surveys, instructions, and directions, lending more comfort to seniors who now found themselves socially isolated.

REVERSING TRENDS: Social isolation during the pandemic led to innovations in virtual socialization, however, evidence-based programs and interventions were not readily available across languages and cultures, thus those who were isolated from their social groups like adult day health care centers, family visitation, community centers, faith centers and schools were slower to return to their pre-pandemic level of engagement and health. As family members bore a greater burden as caregivers for elderly parents/grandparents and/or children with disabilities, evidence-based programs were needed to support a new group of caregivers, especially those who were not compensated. There is a wealth of published literature detailing the shortcomings of internet access, bandwidth, and data plans to reach out to rural and isolated communities including the lack of information about disparate coverage from different telecommunications companies regionally. But less is acknowledged about the lack of cultural and linguistically vetted, validated, and verified information that is otherwise readily available to those who speak/read/write English and/or Spanish. Similarly, there are well-known Spanish language television, radio, print, and social media platforms that disseminate information about health, wellness, preventive strategies, and services available. There also websites and social media channels that provide misinformation and disinformation – if the health care system is not vigilant about surveying these sites, marginalized populations will continue to receive uncontested misinformation contributing to poorer health outcomes. There is much less known about smaller marginalized non-English speaking, non-Western cultures that could also benefit from widespread access to information and services. EFH's Public Health Service Line immediately reached out to these smaller communities and made the MIMI-RX™ technology readily available to nonprofit community-based organizations to ensure that information was provided in a manner that was both acceptable and inclusive. Further, some communities appeared to be excluded from mass communication based on preconceived biases that the CBOs were able to overcome with culturally-proficient, technology trained community members, resulting in testing and vaccination uptake.

TOOLS AND TRAINING: Key components of the EFH solution includes the relatively minimal cost of providing TABLETS or PHONES plus a dataplan that could be directly connected to the provider(s) and labeled as a medical device. Further, the EFH technology, MIMI-RX™ is also translated into multiple languages, as needed by the various CBOs. Distribution by trusted CBO sources also enhanced utilization of technology among older adults who were somewhat-to-very technology-naïve. Ultimately, time will provide outcome metrics that are sustainable, but in the short term, surveys translated into multiple languages have been used to assess comfort level with and ease of use of hardware and software as well as access to health care system as needed. Early on in the project, it was obvious that Western verbiage was not as acceptable to first/second generation Asian participants, as some words like "depression" and "suicide" presented barriers. With the use of words like

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"isolation" or "homesick," communication improved. Virtual socialization has also improved with group activities offered by CBOs in several states using both recruitment and delivery via the MIMI-RX™ platform.

EFFECTS ON HEALTH EQUITY: The EFH application MIMI-RX™ is a single application that can link to state and Federal medication and immunization registries as well as allow bidirectional information sharing between an individual and his/her/their health care providers from a single device. Persistent clinical data monitoring can also improve self-management of clinical conditions as well as alert the clinical and social service providers of any impending issues. Language and culturally appropriate training on the technology and devices is a small investment compared to emergency care, especially when the system is already at capacity as it was during the pandemic. As was observed early in the pandemic, information was constantly updated, but for those who were isolated and technologically naïve, information was much slower to trickle down. With the loss of social groups, the aging community that was also at the greatest risk for hospitalization and death was hard hit. Further, in some Asian communities, fear became pervasive as violence against people of Asian descent escalated. Isolation and fear can lead to despair, and these negative emotions can accelerate complications from chronic conditions. Social AND technology determinants of health including poverty, lack of transportation, low bandwidth, lack of subscription services, lack of culturally and linguistically appropriate programming, limited access to devices, computers, libraries and community centers, and a lack of cultural diversity in the government policy and health care system all contribute to accelerate indicators of poor health. Furthermore, implicit and explicit bias in policy making can limit any group's ability to overcome barriers and fully participate in new, and sometimes lifesaving technologies or medical advances.

RECOMMENDED GOVERNMENT ACTION:

1. Award contracts to true innovators that have proven to be able to address the needs of smaller vulnerable and/or marginalized communities. Current perceived government policy is to award large contracts to either entrenched current contractors or to smaller companies that fit multiple set aside categories, like "twofers" or "threefers" that have not been adequately vetted, resulting in either delays requiring subcontracting and increased costs, or simply fraud and the inability to deliver at all. These common practices exclude true innovation that address the needs of smaller, vulnerable, rural, isolated, and/or marginalized communities.
2. Invest in pilot programs that are person-centered, technology adaptable, and culturally and linguistically proficient that can be scaled up to bring all groups closer to the desired outcome. This will require funding to CBOs to purchase and distribute digital devices and provide language and culture specific interfaces, including licensure/certification of local community members to train and monitor parameters of health.
3. As with masks and COVID test kits, the government COULD distribute phones/tablets with data plans through community-based organizations, libraries, or perhaps even FHQCs, CBOCs, or clinics delivering care to uninsured or underinsured patients, adult day health care centers, or transitional housing facilities. The numbers would be much smaller than the number of masks/kits that are currently being distributed, and the audience would be targeted instead of "first come, first served" which ALWAYS excludes those with the greatest need.
4. Contract with an experienced technology company like EagleForce Health that has a serious and reproducible strategy already in place focusing on the communities at greatest risk for poor health outcomes due to both new and existing barriers. Secure, HIPAA-compliant applications like **MIMI-RX™** can be scaled to function as a full personal digital health record or simply as a repository for an individual to store medication, immunization, and other medical files and communicate with their CBO, CHW, or health care system.

Prepared and submitted by Cynthia Izuno Macri, MD, FACS, FACOG – CAPT MC USN (RET) and SVP and Chief Medical Officer (CMO), EagleForce Associates Inc./EagleForce Health.
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>www.theeagleforce.net<

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EHR developers are the lynchpin of any successful digital health technology implementation, including technologies to advance the wellbeing of communities and the social needs of patients. Software developed by EHRA member companies is used worldwide to deliver integrated telehealth visits, store data collected from remote monitoring devices and health trackers, and exchange complete patient records when needed at the point of care.

Successful models and promising candidates within the U.S.
- The **ClinicalConnect Health Information Exchange** (HIE), in Pittsburgh PA, connects almost 100 provider organizations exchanging information on behalf of millions of patients, and to other state-based HIEs to further interoperability.
- The North Carolina Department of Health and Human Services' **Healthy Opportunities Pilot Programs** tests the viability of non-medical interventions to reduce costs and improve outcomes for Medicaid beneficiaries, including funding services to address housing, food, transportation, and safety issues. Health plans and providers screen for social determinants of health (SDOH) and refer qualifying patients to appropriate community-based organizations (CBOs).
- The New York State Department of Health's Value-Based Payment program requires participating health systems to screen and implement at least one SDOH intervention, and contract with at least one CBO to implement that intervention.

These models are successful because they take a systematic and standards-based approach to screening, interventions, and interoperability. More specifically, they:
- Adopt system-level governance models that allow for the centralized establishment of policies and procedures guiding the network. Privacy and consent expectations are established for the system, and requirements flow down to participants.
- Leverage standards-based approaches to data exchange, building upon interoperability standards that have been used for years with proven scalability throughout the healthcare industry.
- Fund providers and CBOs to take on this extra work of coordinating care and services for their patients. CBOs are given the support needed to adopt technology that allows effective communications with their healthcare counterparts.

Scaling these models, however, will require:
- A way to identify patients/citizens that allows for a single, longitudinal record of health and community care,
- Reducing state-by-state variations in laws and regulations to allow organizations to more easily coordinate health and social care across state lines,
- A shared governance model that can set a common floor for policies and procedures across multiple health and social networks. The Trusted Exchange Framework will eventually be the best-positioned entity to create and administer this governance model.

- Development and maturation of standards for social determinant domains, screener assessments, and closed-loop referrals between healthcare systems and CBOs. OSTP should also support existing efforts in this area.
- A more mature, connected technological underpinning for a wider range of CBOs.

<u>Current barriers to digital technology adoption in community health settings, and potential government actions to address them</u>

In many ways, the technological state of CBOs today resembles the landscape of provider EHR adoption 15 years ago: many CBOs lack the resources or knowledge to adopt technology, and instead subsist on a combination of paper and spreadsheet software. OSTP has the opportunity to work with the ONC, CMS, and HRSA to explore this parallel in more detail and adapt targeted initiatives based on the successes of the HITECH Act, which was largely responsible for widespread interoperable EHR adoption.

For example, a successful strategy might:
- Incentivize adoption of interoperable technology by CBOs through direct subsidies or funding and inclusion of CBOs in larger value-based care models,
- Promulgate standards-oriented technology-specific guidance to support further digitization of CBOs and social services agencies, including exploring ways open APIs can be helpful in making information available,
- Develop and establish vocational programs to produce more available staff with the core competencies needed for a more connected environment,
- Establish regional entities that can help social services agencies understand and choose and implement technological options,
- Finalize the HIPAA Coordinated Care NPRM issued in 2021 to enable increased interoperability among all stakeholders, including more sensitive social care entities,
- Reduce individual state-by-state variation in privacy laws,
- Embrace the existing work done through TEFCA to prioritize future adoption of social care use cases, as standards mature and trading partners come online.

Such an approach would ensure that the country builds upon the existing healthcare technology ecosystem, folding community care into the larger healthcare picture, to interoperate fully and with ease. While standards are still maturing through initiatives such as the HL7 Gravity Project, these policy and funding efforts could begin now with a possible rollout over the next 3-5 years.

<u>Trends from the COVID-19 pandemic</u>

EHRA members supported our collective clients across the country from the beginning of the pandemic in a number of ways:
- Clinical decision alerts to optimize patient care and ensure clinicians were aware of evolving best practices,
- Reporting to multiple public health entities requiring different data elements,
- Documenting SDOH data helpful to decisions during the care process and public health analysis of disease trends.

There have been numerous studies stemming from the allowances and payment adjustments that made

the dramatically expanded use of telehealth feasible. It did not increase costs, and proved highly efficient and effective, particularly for mental health treatment and other such clinical use cases. A fundamental reason for the increase in telehealth utilization is pay at parity with in-person visits. If that is undone at the end of the PHE, use of remote technologies will drop in parallel.

Most CBOs and social service agencies working to increase health equity and address SDOH did not benefit in the same way as traditional care environments. The same barriers to a connected environment in which healthcare providers and CBOs work together with bidirectional information exchange have affected the inclusion of those organizations in the expansion of telemedicine.

The pandemic has highlighted health inequity issues, resulting in recently passed laws that have begun to acknowledge the need for public health agencies to adopt standards-based technologies.

The burden of reporting on COVID-19 activity amongst our clients - and us in supporting them - could be significantly lessened if the technologies used to collect data relied on standards-based approaches, as opposed to proprietary softwares with siloed and distinct thinking on the best data to collect and how to collect it.

While the Federal government has worked to standardize SDOH code sets and vocabularies, those same approaches to consistency are not yet taken by all public health organizations or data registries. This presents a tremendous opportunity for improvement. The EHRA strongly encourages the CDC to require any municipal investment request for funding be accompanied by a plan explaining their standards-based approach to public health information exchange and commitment to maintaining and modernizing as technologies evolve.

Ensuring an equitable approach
Any initiative aimed at improving the community-wide care of patients through technology must monitor and measure the impact across race, ethnicity, and socioeconomic status. The EHRA encourages OSTP to establish transparent and accountable key performance metrics and quality measures from the outset and plan to stratify and break down performance on those metrics by citizen demographics.
There is currently little consensus among federal agencies as to how race, ethnicity, and preferred language are codified. Moreover, such information is not always consistently or accurately captured due to a lack of organizational incentive and patient reluctance. We encourage OSTP to work with ONC, who is leading the investigatory effort to address this problem in health systems. A standardized code set and best practices for capturing information can be established and applied to community-based services and other settings.

While it is clear that digitization must occur among CBOs and social services agencies, advancing technology adoption in community healthcare depends on the health IT ecosystem that supports delivering safe, cost-efficient, and citizen-centric services. The EHRA and our members are well-positioned to offer insight into existing technologies, strategies, and opportunities. We look forward to continuing to collaborate with you and other federal stakeholders in this important effort.

Request for Information on Strengthening Community Health Through Technology: Maternal Health Focus

Company Introduction

Founded in 2017, Emagine Solutions Technology imagines a world in which no woman dies as a result of giving birth. Emagine is tackling the U.S. maternal health crisis with remote patient monitoring for pregnancy care. With a unique data-driven focus on the health of the mother, we are empowering providers and their patients to manage pregnancies and the postpartum period with data to reduce risk and make maternal healthcare safer.

Emagine is an award-winning company working to elevate the use of technology in pregnancy care to ensure more informed care for better outcomes. Among Emagine's accolades: Flinn Foundation Bioscience Entrepreneurship Award, Arizona Innovation Challenge, 2nd Place in Pharrell Williams's Black Ambition Prize, and grants from the National Science Foundation and Department of Health and Human Services.

Need for data-driven maternal healthcare

The U.S. is currently the most dangerous and expensive place in the developed world to give birth, and the trend is getting worse. Negative maternal health outcomes disproportionately affect African-American and Indigenous women, who die at up to three times the rate of their White and Latina counterparts.

One of the dangerous conditions that can arise during pregnancy and the postpartum period that contributes to maternal mortality and morbidity is preeclampsia. Preeclampsia affects 1 in 20 births, or 150,000 women in the U.S.A. each year[1]. It is a life-threatening condition that occurs starting in the second trimester and may be experienced up to six weeks postpartum. Not only does preeclampsia cost lives, it is also an expensive burden for the health system: it costs nearly three times more to treat a patient with preeclampsia than one without this complication[2] and costs the US healthcare system $2.18 billion per year[3].

The biggest drawback with the current method of diagnosing and treating preeclampsia, especially in the postpartum period, is clear: time. The current approach causes inherent delays in care. Patients typically must wait to see their provider for at least six weeks after they have given birth. A patient with preeclampsia can get seriously ill in a matter of hours. Delaying treatment can require more extensive interventions and result in worse outcomes including seizure and organ failure or even death. The current method for diagnosis is relatively subjective and is not data-driven, leaving physicians with an inconsistent method of diagnosis and a potential level of guesswork to determine a potentially life-threatening condition.

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[1] Hodgins, Stephen. "Pre-Eclampsia as Underlying Cause for Perinatal Deaths Time for Action." *Vol. 3 No. 4 December 01 2015*, Global Health Science and Practice, 1 Dec. 2015, https://www.ghspjournal.org/content/3/4/525#:~:text=Pre%2Declampsia%20is%20a%20major,from%20the%20maternal%2Dnewborn%20community

[2] CB Insights "How Tech Is Attacking The $50B Women's Health Market." *CB Insights Research*, CB Insights, 26 June 2020, www.cbinsights.com/research/report/womens-health-tech-disruption/

[3] Moon, Mary Ann "One-Year Cost of Preeclampsia Tops $2 Billion." *MDedge*, 11 July 2017, www.mdedge.com/obgyn/article/142206/obstetrics/one-year-cost-preeclampsia-tops-2-billion

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Guesswork and subjective care have the potential to introduce implicit bias. According to The American Journal of Managed Care (AJMC)[4], implicit biases can affect care, because not only can there be assumptions and perceptions about how different patient populations feel pain, but biases also affect who is more likely to get a follow-up call from a provider or get an appointment. This can have a real impact on the outcomes of marginalized populations, particularly Black and Indigenous populations, which suffer worse maternal health outcomes due to implicit bias.

Our Solution

Emagine Solutions Technology's "The Journey Pregnancy" platform addresses the challenges of pregnancy care. The Journey is a technology that combines our proprietary patient app "The Journey Pregnancy" for pregnant mothers and "The Journey Clinic" interface for providers to track their patients' health trends in real time. The purpose of the platform is a decision support tool for providers for early detection and intervention for conditions such as preeclampsia.

How it Works

"The Journey Pregnancy" is the first ever patient pregnancy app that is exclusively focused on the health of the mother to inform a safer pregnancy. Patients download The Journey Pregnancy app free on the Google Play or iOS app store. Patients enter in their health information daily into the app from early pregnancy through the postpartum period. Patients receive immediate personalized alerts if the health information they enter surpasses safety thresholds.

Patients can connect to their providers on The Journey Clinic so their care team can view patients' health trends in real time. Providers can receive health alerts when their patients are surpassing safety thresholds. With our Patient-to-Doctor Texting, patients have additional opportunities to communicate with provider to ask questions and reduce anxiety.

Unlike other pregnancy apps and technologies focused on fetal health and development, The Journey Pregnancy is focused on the health of the mother. The company's philosophy of managing pregnancy health and preeclampsia risk as the first "maternal health focused platform for remote patient monitoring for pregnancy care" is intended to speed the time of diagnosis and apply consistent maternal healthcare across patient populations.

Our platform is built so that providers can view all patients' pregnancy health information in an objective, data-driven manner, which can ultimately help clinicians avoid relying on subjective judgements about care and follow-up, and can potentially serve as a tool to address implicit bias concerns related to maternal health.

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[4] Joszt, Laura "Implicit Biases Have an Explicit Impact on Healthcare Outcomes" Implicit Biases Have an Explicit Impact on Healthcare Outcomes, American Journal of Managed Care, 28 Sept 2018, https://www.ajmc.com/view/implicit-biases-have-an-explicit-impact-on-healthcare-outcomes

Our successful model

When all patients are presented as data points, this levels the playing field - our technology dictates that data must be treated by providers equally.

Since nearly all patients have the same access to track their vitals and symptoms via smart phone, this has the power to decrease disparities in treating prenatal conditions such as preeclampsia. A patient cannot fall through the cracks with this software. Since this technology is data-driven, it has the power over the long term, when implemented at scale, to deliver more equal care.

Further, empowering patients and ensuring providers have better quality diagnostic information for decision support, this innovation has the power to elevate the standard of care for women's health, reduce health disparities, and save lives.

Barriers and moving forward

Technologies like ours can increase patient-provider communication, allowing for better patient compliance and more comprehensive pregnancy care, as well as the ability to recognize and treat hypertension proactively, prior to the occurrence of negative health outcomes. These benefits extend to communities of color that experience health disparities at a disproportionate rate.

Remote patient monitoring as an industry is still in a nascent stage. Startup companies in the medical technology and remote patient monitoring space need support in the form of resources and funding opportunities to scale impactful technologies. This is especially true of female-founded and minority-founded companies that continue to have lower access to capital (receiving less than 5% of their white male founder counterparts).

In addition, opportunities to collaborate, partner, and research the impacts of maternal health technologies are incredibly important to lowering the barriers for all Americans to accessing quality maternal healthcare and leading healthier lives. In addition, continuing to refine and streamline regulatory, insurance coverage, and access barriers for maternal health will be critical for reducing the maternal mortality rate as our country moves forward.

Submitted by:
Courtney Williams
Co-founder & CEO
Emagine Solutions Technology
emaginest.com

February 28, 2022

Via electronic submission ████████████████████

Dr. Alondra Nelson
Deputy Director of Science and Society and Performing the Duties of Director
White House Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Ave, NW
Washington, DC 20501

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:

I am writing on behalf of eMed Digital Healthcare, a healthcare technology developer, in response to the Request for Information (RFI) on Strengthening Community Health Through Technology, published by the Office of Science and Technology (OSTP) in the Federal Register on January 5, 2022. eMed is laboratory certified to perform CLIA-waived tests via a Digital Point-of-Care™ platform that provides a proctored, at-home testing solution for respiratory and transmittable infections and viruses, including the SARS-CoV-2 virus. eMed's services are currently used by hundreds of employers (including many Fortune 500 companies); the States of Colorado, Florida, Massachusetts, Nebraska, New Mexico, Ohio, and Virginia; and the Federal Emergency Management Agency (FEMA). We would like to encourage OSTP to include options for home testing supervised by telehealth proctors as a means to improve community health through this emerging mode of care.

eMed utilizes telehealth proctors who are trained to observe sample collection and provide instructions and result interpretation assistance to individuals using a rapid, at-home test. After the individual test-taker's identification is confirmed and the test's results have been observed and verified, eMed provides a certified laboratory report to the test taker that, particularly in the case of the SARS-CoV-2 tests, can be used to show proof of the test result for activities such as travel, work, or school. In addition, eMed relays the test result to the individual's local public health agency to ensure proper public health measures, such as contact tracing, can be conducted. By providing test takers with a laboratory report, the results can be used to prescribe treatment, such as antiviral medications, in a timely manner to optimize treatment and minimize the potential for severe illness in infected individuals. Additionally, eMed has developed a Test-to-Treat™ model that can seamlessly guide individuals through the process of testing, obtaining treatment as indicated and other health services, greatly

reducing the time required to access treatment and increasing the likelihood of starting treatment within the optimal timeframe.

Studies have shown a significant increase in the utilization of telehealth services since the onset of the pandemic[1]. Coupled with the increased use of self-administered, at-home tests, people are becoming increasingly reliant on an growing variety of health offerings that they can receive in their homes and outside of traditional health care settings. The increase in at-home testing, however, does not necessarily mean the test sample is properly taken nor that the results are properly read. eMed's digital telehealth proctoring services, however, ensures that not only are the tests correctly performed and interpreted, but that a certified lab report is produced that individuals can use to confirm their test results.

eMed's digital health technology services are available online, via any video capable, internet-connected device, such as a smartphone or tablet. According to the Pew Research Center, 85 percent of US adults report owning a smartphone, including 83 percent of Black adults, 85 percent of Hispanic adults, and 80 percent of those living in rural areas[2]. With smartphone technology this prevalent across the country, access to eMed's telehealth proctoring services is a viable service for the vast majority of Americans, and a service that can be used to reach traditionally underserved communities. Further, utilizing the Test-to-Treat™ model, barriers to accessing therapeutic treatments are greatly reduced, limiting time from symptom onset to start of treatment to hours compared to days when starting treatment based on PCR testing at a clinic or other health care site.

eMed's telehealth proctoring services provide a personal, one-on-one service for each test taker. Once connected to the telehealth proctor, the individual is taken step-by-step through the testing process, from sample collection (i.e. nasal swab) through result interpretation. This guided process ensures that the test is properly taken and the results are accurately determined. Finally, in the event of a positive test result, the Test-to-Treat™ model enhances the user experience by seamlessly providing access to a telemedicine visit (at no additional cost) to evaluate for antiviral treatment, speeding up the process to obtain and begin treatment.

We encourage OSTP to give strong consideration to leveraging authorized telehealth proctors for at-home testing services as you continue to seek new ways to strengthen community health through the use of new health technologies and models of care. Long after the pandemic subsides, consumers will expect access to, and find value in, telehealth services and at-home testing, further integrating the role of telehealth and at-home testing into everyday health care delivery. There is an opportunity to build on the experiences of the use of authorized telehealth proctoring services, Test-to-Treat ™ protocols and other technology-enabled at-home

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[1] See for example, Weiner JP, Bandeian S, Hatef E, Lans D, Liu A, Lemke KW. In-Person and Telehealth Ambulatory Contacts and Costs in a Large US Insured Cohort Before and During the COVID-19 Pandemic. JAMA Netw Open. 2021;4(3):e212618. doi:10.1001/jamanetworkopen.2021.2618

[2] Pew Research Center. (2021, November 23). Demographics of mobile device ownership and adoption in the United States. Pew Research Center: Internet, Science & Tech. Retrieved February 16, 2022, from https://www.pewresearch.org/internet/fact-sheet/mobile/

27 January 2021

testing services over the course of the current pandemic to enhance preparation for the next pandemic as well as improve access and utilization of accurate at-home testing for non-pandemic conditions

eMed applauds OSTP's proactive approach to identifying technological health tools that can help address areas of need in community health, and we stand ready to provide any additional information OSTP may need to further understand the benefit and potential that authorized telehealth proctoring for at-home tests provides. The current pandemic has shed further light on the gaps and inequities in our health care system that leave far too many communities underserved. But the COVID-19 experiences have also illuminated opportunities for new and emerging technologies to close these gaps and democratize access to care.

Sincerely,

Dr. Patrice A. Harris, MD, MA
Co-Founder and Chief Executive Officer

27 January 2021

March 31, 2022

To Whom It May Concern:

I am writing this letter in response to the Request for Information on digital health technologies posted by the OSTP in January.

To provide context for the information and opinions I will share, I want to share a bit about myself. I am a social worker and have worked in community mental health for 13 years. I have worked at a Federally Qualified Health Center, at the County, and at a local nonprofit. I have spent most of my career working with people experiencing homelessness, and currently oversee the Coordinated Entry System for Milwaukee County. (Coordinated Entry is a HUD-mandated program that each local entity must operate to identify, assess, prioritize, and refer people experiencing homelessness into housing options.)

Through my work, I have come to understand that health is dependent on the effectiveness of the community system in which the person lives. Housing First illustrates this well. Our community did not use Housing First and instead focused on trying to help people get healthy and then house them. Without the systemic infrastructure support of housing, people experiencing homelessness neither got well nor got housed. Once reduced we the systemic barrier that we expected people to be healthy enough for housing and provided for their needs first, people both got housed and got healthier. (Visit [MILWAUKEE COUNTY HOUSING FIRST - Milwaukee County Housing First (housingfirstmilwaukee.com)](http://housingfirstmilwaukee.com) for more information.)

In addition to overseeing Coordinated Entry, I am now in an expanded role leading our Southeast Wisconsin community in the development of a Community Information Exchange. The idea behind this is not unlike what we've done with Coordinated Entry: to connect agencies to identify, assess, and refer people in need of social service and health services to appropriate options. The CIE also allows us to collect data and create systemic interventions to improve our community's health. Our model uses 211 as the core of information about where to send referrals, and we are partnering with Unite Us (uniteus.com) as the technology platform to create closed-loop referrals across agencies and collect data on effectiveness.

I think it's important to note at this juncture that, as I'm sure you're well aware, community change is difficult. Because all systems are intertwined, it is impossible for one entity to create change alone. Creating a healthy community through easy-to-navigate, easy-to-access resources takes more than visibility to resource information. In my work, I've sat at many collaborative tables around big topics, including housing, sex trafficking, mental health, substance use, suicide, criminal justice reform, SSI/SSDI, and health insurance. At most tables, people yearn for connectivity across sectors to better collaborate and serve their populations. There is energy around new collaborations which inevitably falls flat and people go back to their status quo. We are creatures of habit and sustainable change needs to be achievable, practiced, and enforced.

Technology companies like Unite Us are responding to a desire for cross-sector collaboration. This desire is expressed by clients, agencies, and, most recently, policy bodies like the Center for Medicare & Medicaid Services. This interest from policy entities has placed huge value on entities that can curate and connect people to social service resources.

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211 was created in the mid-1990s as an easy, 3-digit number that people could easily call to get connected to social services. Operators working at 211 use a resource database to search for appropriate referrals for people calling in. They do a brief triage assessment, and log the call. Behind the scenes, Resource Curators are actively updating community resources by calling to verify and add information to the database. All of this is done in a standardized way through AIRS (airs.org).

Most 211s can be accessed via phone, text, chat, or by searching a public-facing website. But because the information is stored centrally at 211, we don't know as much as we could about what happens after referrals are made. 211s do engage in follow up calls, where operators call people a few days later to ask how the referral went. Technologies like Unite Us allow for better cross-agency connectivity, where agencies that provide services to community members across sectors are able to connect through a single platform. This technology innovation will bring providing for health- specifically social drivers of health- into the next century.

But this advancement in technology comes with a caution. While exciting, groundbreaking, even, technology alone will not create the systems change needed to create healthier communities.

Systems change occurs when people are able to adapt their individual practices to work together in a new way. Having access to technology creates possibilities for people to potentially adapt their practices, but only locally-led coalitions create the systemic change sought by stakeholders and policy-makers. A study out of Trenton, NJ showed that access to a technology platform, and even with cash incentives, alone was not enough for agencies to collaborate in a new way. (Trenton Health Team presentation, October 2021) Collective Impact, a model recognized nationwide, highlights the need for local leadership and local context in their principles ([Collective Impact Forum | What is Collective Impact?](#)).
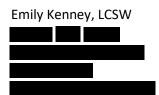
In Wisconsin, we've seen a push toward regulations that mandate the use of a technology platform to identify, assess, create, and track referrals to social drivers of health organizations. These mandates are currently focused on the health insurance payers. CMS is incentivizing similar work for health systems. What I see lacking from these proposed regulations is how partnering with local community entities is a part of the solution to addressing social drivers of health.

Local United Ways and 211s can be a pathway to achieving the change in community health that is the driver behind these policies. They have decades of experience in creating collaborations to address social issues. Locally, the United Way has reduced teen pregnancy by 65%, and the number of children enrolled in quality child care doubled. You can learn more about the impact of our local United Way here: [Our Impact (unitedwaygmwc.org)](#). Each United Way has different initiatives, as they are locally driven. 211s, like United Way, are all locally-led, meaning that curation of resources, and the operators with whom you communicate, are responsive to local needs and local strengths.

Utilizing emerging technology platforms to create better connection between and across systems and local, community-based organizations with the ability to create and track referrals across agencies is an exciting development in our ability to address social drivers of health and the overall health of our communities. Creating, encouraging, and enforcing partnership between national technology companies and locally-led experts in resource curation and collaborations through the United Ways and 211s is essential to community health.

As policy-makers consider creation of new policies and regulations to better address the health of those in our nation, I urge them to consider including working with local coalitions as a necessary part of working with a technology platform around social drivers of health.

Sincerely,

Emily Kenney, LCSW
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March 31, 2022

Dr. Alondra Nelson
Director of the White House Office of Science and Technology Policy
Eisenhower Executive Office Building
725 17th Street NW
Washington, DC 20201
Submitted Electronically

Dear Dr. Nelson:

Thank you for the opportunity to provide feedback on the Strengthening Community Health Through Technology Request for Information.

We share and support the Office of Science and Technology Policy's (OSTP) goals of leveraging innovative technology to reduce the barriers to equitable, quality healthcare. To achieve comprehensive care management across health and social services, Epic's integrated toolset supports coordination with community-based programs in areas including food pantries, school programs, group homes, mental health & substance abuse programs, child & family programs, disability programs, elderly services, and social assistance. Our comments explain some of the successful models we have seen, and provide recommendations for improvement in the following four areas:

- Government health and social programs need authority and funding designed for collaboration
- Community-Based Organizations need technical capacity
- Promote Standards for Social Determinants of Health (SDOH) data
- Improve standard data collection approaches for Racial and ethnic information

About Epic

Epic was founded in 1979 in a basement with only 1.5 employees and no venture capital. We developed the world's first successful ambulatory Electronic Health Record (EHR) in 1992. In 2000, Epic expanded our EHR to the hospital setting, giving patients a single record across both care settings. Today, Epic develops, implements, and supports interoperable health IT systems for doctors, nurses, dentists, patients, hospitals, clinics, pharmacies, social care and community services agencies, and health plans.

In 2019, Epic significantly expanded our software's ability to connect healthcare and social services through our Compass Rose application. Initially, Compass Rose was developed for the unique system in Finland where government programs more closely align healthcare and social services. Compass Rose is now available throughout the United States. Providers use Compass Rose along with other capabilities in Epic to meet the needs of Community Health Workers – and other community providers - and support equitable care delivery.

Epic's integrated Compass Rose application helps organizations coordinate a person's care across care settings, including in community-based settings. It provides the community connection, patient engagement, analytics, and case management tools that organizations need to address the SDOH that influence a person's well-being. The software helps health care providers and community-based organizations (CBOs) roll out population health, social, and community related programs and measure program effectiveness. This allows organizations to better identify the resources and services their patients need, close the quality gaps common among vulnerable patient populations, and deliver more targeted programs and services to improve health outcomes and lower costs. The Compass Rose application helps organizations:

- Track SDOH and use aggregated patient data to drive decision support for patient care planning, population risk stratification, and outreach programs.
- Build an expanded patient support network and engage the right people in a patient's social circle to promote health and wellness.
- Match patients to the community services they need and manage closed-loop referrals across the community network to help ensure optimal outcomes.
- Use advanced mobile tools to deliver convenient services to patients in their homes, schools, and assisted living centers.
- Empower patients and improve their access to services with a wide range of self-service features available via the MyChart patient portal.
- Improve the effectiveness of programs with integrated program matching, enrollment, and outcome tracking tools.

Epic Systems Corporation| 1979 Milky Way Verona, WI 53593 | ▮▮▮▮▮▮ | www.epic.com

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Successful Models Using Epic in the US

San Francisco Department of Public Health's Whole Person Care program uses Compass Rose to help clinicians refer patients to housing resources by integrating shelter and other census data directly into Epic. Using Healthy Planet Link, Epic's web-based portal for CBOs, these organizations can access medical information about unhoused patients when and where they need it.

In addition, we have seen successful examples of provider organizations working together to use health IT to collaboratively address unmet SDOH needs. When working together to tackle a shared health concern using health IT, it is critical to create joint governance policies and procedures that are inclusive of the role that IT plays in supporting these efforts. Using Epic's interoperable health record platform, outreach tools can help manage the target populations, share information between participating entities, and identify opportunities to improve outcomes.

A recent successful example of a shared governance structure is the joint effort of Columbus-based Nationwide Children's Hospital and Dayton Children's Hospital to improve health outcomes for Ohio's Medicaid population. Nationwide Children's and Dayton Children's are part of the oldest and largest pediatric ACO in the country: Partners for Kids. They used a unified governance structure to share a technology platform and used Epic's Compass Rose application for care management and coordination across both organizations. This allowed them to work from a unified record for the patients they both provide services to and will support their overall goal of improving the health outcomes of Medicaid-enrolled kids in Ohio. Children who are covered by Ohio Medicaid and have chronic conditions will have standard outreach and services available to them through the Partners for Kids Compass Rose program.

Hennepin Healthcare has also created a new Digital Equity initiative, with the goal of educating patients on how to use digital tools to manage their care and improve their health. This includes teaching patients how to use tools like patient portals and how to get easier access to care through telehealth. Similarly, Advocate Aurora established a goal of closing the disparities across populations that they observed in the degree to which patients have well-controlled hypertension. Their strategy relies on a combination of technical tools available in their Epic system (e.g., reports, dashboards, decision support tools, remote monitoring tools) and operational solutions (cultural sensitivity education, standard educational materials for patients). Epic offers venues for organizations with these kinds of initiatives to share clinical programs and best practices with the entire Epic community, who can then use the same toolset to replicate the outcomes.

Individual healthcare organizations can also use tools such as Epic's COVID-19 Health Equity Dashboard to evaluate whether there are disparities in the care they are providing across populations. Using this reporting tool, organizations can track and stratify internal quality metrics by race, ethnicity, gender identity, or other social determinants of health to identify and close gaps. Organizations like Hennepin Healthcare used this toolset to facilitate equitable distribution of COVID-19 vaccines.

Barriers

Given our experience in this area, we have identified the following four areas that present challenges and could be relevant to focus policy efforts:

Government Health and Social Programs Need to Collaborate by Design

The most significant barrier to the success of digital health technologies in community-based settings is frequently less about the technology and more about the structural challenges of the underlying government programs. Unlike our experience in Finland, in the United States collaboration between healthcare and social services agencies is not embedded in program design at a statutory level. This results in agencies spanning multiple cabinet departments taking siloed approaches to healthcare and individual social service programs. Without better connections between the government programs, there is a limit to what technology can accomplish. We encourage OSTP not to tackle this issue exclusively as a technology issue and consider how to better align different government programs and stakeholders.

Some government programs are starting to rectify the traditionally siloed nature of government programs by crossing sectors. Examples of this can be seen in various state Medicaid programs that are incentivizing healthcare insurance to cover social services. North Carolina's NC Care 360 program is a collaborative solution aiming to provide a truly integrated network of healthcare and social services to people with the greatest need.

Provider organizations need funding for social workers, and CBO's need the resources to do the work. There is an additional risk that as healthcare systems become more consistent and proficient in screening patients for unmet social needs, the local CBOs

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will become overwhelmed with incoming referrals for services. At an individual community and broader societal level, routine screening has only recently started to uncover the true scale of unmet social needs.

We have seen the most success when stakeholders across the community including providers, CBOs, and government bodies come together to perform a community needs assessment that is inclusive of the capacity of the resources of their CBOs. Large healthcare organizations like Trinity Health have seen success in performing this type of needs assessment with their local YMCA. They leveraged the YMCA as a conduit to connect patients with primary care providers and needed resources. Trinity also addressed a funding challenge by ensuring that the YMCA and other CBOs—including local farms—are reimbursed for this care coordination work and other services that they provide to patients directly via a National CDC Grant.

Community-Based Organizations Need Technical Capacity

An average community-based organization (CBO), such as a local food bank, may be unable to take advantage of the technology defined above without significant financial and technical support from their local health system or a health IT developer. While CBOs could adopt tools that leverage FHIR APIs that enable robust data exchange and collaboration with provider organizations, they might be unfamiliar with or lack the technical expertise to utilize and leverage these tools. Technology and training can close referral loops, ensuring that a patient referred to a CBO by a hospital or health system connects with these important local resources. It can also help providers track progress and the capacity of local organizations enabling more targeted follow up and intervention. The government should provide funding and technical assistance so that CBOs have the capacity and resources to leverage interoperable technologies to help close the information loop with healthcare organizations, CBOs, and the social workers who are connecting patients with those services.

Establish Standards for Social Determinants of Health Data

The lack of standardization of SDOH capture and exchange remains a significant barrier to the success of digital technologies. As a starting point, SDOH data is now more likely to be collected with numerous organizations routinely assessing patients' social determinants of health using screening tools built into Epic and other EHRs. However, inconsistent data collection can result in the data being unreliable and incomplete. SDOH data often cannot be exchanged across organizations due to a lack of standards used to communicate SDOH assessments and risk scores. ONC has spurred additional standards-development work in the industry by including SDOH data elements in the USCDI v2, but ongoing funding and support is needed to ensure robust standards are available to exchange SDOH data. We encourage CMS to continue to incentivize organizations to document standard SDOH categories. Additionally, providing funding to those groups to adopt interoperable IT systems and to SDOH standards-development groups like HL7's Gravity Project will help accelerate the development of a technology infrastructure that facilitates coordination between health and social care groups and consistent exchange of SDOH data.

Improve Standardized Collection of Racial and Ethnic Data

Epic's technology allows users to capture racial and ethnic data and report on it; yet organizations are collecting this data inconsistently. Without a more standardized process, we are concerned that benchmarking or evaluating community level assessments will be inaccurate. Existing electronic Clinical Quality Measures (eCQMs) established by CMS and used to evaluate providers in programs like MIPS and Inpatient Quality Reporting Program (IQR) can be stratified by race, ethnicity, sex, and gender identity. We support these measures as they promote standards for representing and exchanging those demographic characteristics and encourage adoption and use by providers. Congress and other policymakers can then track how disparities in quality outcomes evolve as interventions are implemented. We support CMS working with standards development organizations to revise the QRDA III specification to better address when patients identify as multiple races and/or ethnicities in quality measure summarizations.

We look forward to continuing to collaborate with the OSTP, other government agencies, and stakeholders across the healthcare ecosystem to reduce inequities and disparities in health outcomes. We would be happy to answer any questions you may have about our feedback. Thank you for your consideration.

Sincerely,

Seth Howard, SVP, R&D

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To: Connected Health @ The White House Office of Science Technology & Policy

From: Pierre Vigilance, MD, MPH Vice President for Population Health & Social Impact, Equideum Health

Re: Connected Health RFI Response from Equideum Health & Digital Health Institute for Transformation (DHIT)

Date: March 4th, 2022

A Data Learning Network for Population Health

This RFI submission is presented by Equideum Health and the Digital Health Institute for Transformation (DHIT). Together, they formed a health equity collaboration in late 2021 to combine approaches powered by community focus, cross-sector partnerships, blockchain, and federated learning. This submission addresses removing **barriers** to progress in population health outcomes, an approach to accelerate our collective pursuit of **health equity**, enhancements to the **user-experience**, and **proposed government action**.

The spotlight placed on population health by the COVID pandemic highlights both the current and long-standing shortcomings of our approach to community health, especially in underserved communities. The inadequacy of existing data systems and digital infrastructure, lack of data interoperability in the health care and public health sectors, limited scope and timeline of multi-sector partnerships, and a lack of trust in systems all present opportunities for immediate shifts in thinking and operations that can accelerate our pursuit of health equity and drive improvements in community health outcomes. Equideum Health and DHIT have joined forces to address these challenges and drive the implementation of roughly municipally scaled, community-based, blockchain-enabled data learning networks across the United States.

Barriers & Health Equity - At health visits, the data collected, analyzed, shared, and used to treat us and understand our ailments is also used to make predictions about the next chapter in our lives. But, there is a growing realization that health data alone is not sufficient to completely map and comprehensively understand individuals much less populations, and this is a barrier that limits the healthcare sector's ability to match the needs of underserved communities with the services they require. It is also a key problem in achieving health equity.

In addition, the onus has been placed on healthcare to meet the Social Determinant of Health (SDoH) needs of users, meaning that we continue to place the development of upstream solutions for our health challenges on a sector which is only accountable for 20% of our health. This construct presents yet another barrier to the pursuit of health equity since healthcare lacks the tools to deliver in this realm. While SDoH approaches address health disparities and require engagement

across a number of sectors, even in the most innovative of environments, most partners operate in siloed data-isolation. It is this mentality and the policies/behaviors that accompany it that need to be changed and replaced by intentional cross-sector approaches to population health. To address this problem, the proposed data learning networks engage core partners from multiple sectors who serve each underserved community. As part of each network, multi-sector partners will be connected and have the opportunity to request the patient's fine-grained verifiable consent to access information about the patient from many different organizations, enabling the generation of a comprehensive view of each individual.

One of the barriers we face as we build these networks and consumer-facing population health solutions involving data is concern about privacy and security. By incorporating blockchain based encryption methodologies, the information stored both at rest and in transit become challenging to corrupt, and the distributed nature of the systems, without centralized "data honeypots," are intrinsically more secure and privacy preserving. Organizations that join these blockchain-enabled networks will be supported in maintaining standards-conformant infrastructures for healthcare and social determinant data by a competitive ecosystem of specialized technology utility providers. This network of public and private organizations will already have information from end-users and the opportunity to ethically access information about the patient from multiple perspectives, enabling the generation of a more comprehensive understanding of each individual while maintaining that individual's agency, dignity, and privacy. By empowering end-users with blockchain-verifiable fine-grained consent, each user will gain control over precisely when and where their data goes, giving them security and privacy simultaneously.

User Experience - By creating networks of this kind, a more comprehensive view and understanding of the end-user will emerge, enabling better service-matching, predictive analytics, and health outcomes. Meeting these objectives comes with a markedly improved user experience, one in which community members seeking service from local partners no longer have to repeat information, or deal with chronically unresolved errors, and instead enjoy the seamless service experiences they deserve. This will result in greater trust in the systems that serve them, such that data-capturing, behavior-predicting, and solution-matching technology will more likely be adopted. Our insight to date has highlighted the high sensitivity community members have to the fragmentation and inaccuracy that plagues both public and private health and social service operations, even when under one roof. And, while user-experience is a priority for some operations, by nature of the technologies and education we propose with these blockchain-enabled networks, users will have ownership of their data and control over where and how it is used, bringing greater privacy to the equation and a new experience layer to the process of seeking and securing services. We believe this is where participating in a blockchain-enabled network will present an opportunity to upgrade the user experience, improving both engagement and outcomes.

Composed of municipal, health system, and health determinant partners, these networks will be established and managed as local organizations and will represent the digital infrastructure and data systems necessary for community-level data to move seamlessly within and between organizations across multiple sectors. The data that flows through these networks will be a blend of quantitative and qualitative information sourced directly from community members, maintained by individuals in personal data lockers, and only shared with their blockchain-verifiable consent.

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Data will be collected from their background and a range of activities of daily life (not just information from clinical interactions), making the information more comprehensive than typical data and hyper-relevant to addressing health via social determinants. Any person with a smartphone will be able to collect and curate their data securely, making these networks able to serve individuals and their families and benefiting them in a range of health and social impact scenarios. These community networks also have the potential to serve as alternative financing mechanisms to close the digital divide among vulnerable populations, funding and provisioning means-tested access to home connectivity, smartphones with data plans, and other technological innovations increasingly necessary to participate in our massively technological society.

By virtue of the manner in which it will be collected, the data will be private, secure, personal, accurate, diverse, inclusive, contextually hyper-relevant, and come from the community of users. This will also impact the experience of the institutional user at partnering organizations who seek real-time decision management support across the health and human services sector and beyond, providing the on-the-ground foundation to the future state of municipal to state to federal public health information sharing. In addition to creating an infrastructure for data, these networks present the opportunity for incentivized sharing of health and wellness data by the end-user. This will enable them to gain better access to public and private sector resources by facilitating tailored matching to the services necessary to maintain and improve health and quality of life.

Proposed Government Actions - All communities should benefit from innovations that bring targeted population health tools and practices with them. Ideally, such an approach leverages networks using technologies like blockchain and responsible, unbiased machine learning, to create secure, privacy-preserving data networks that enable sourcing, collecting, analyzing, and prediction-making from data in a particular geographic area, population (i.e., veterans), or health condition. We see these learning networks as a platform local and state governments could use to create greater interoperability for data and programs thereby improving the quality of services provided to constituents. This is of particular impact in public: private partnerships where the government can be the architect of silo disruption and data decentralization which empowers users and improves trust in the systems they use. To do this, we propose the government: create greater internal interoperability across municipal data ecosystems by championing the creation of blockchain-enabled data learning networks in which the government partners with community-based organizations to advance the process of removing barriers to services. Powered by blockchain, artificial intelligence, and other edge technologies, these networks enable advanced analytical models to be applied to data (without moving it or centralizing it) and represent the new, emerging gold standard for data privacy

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Equip Health, Inc.
P.O. Box 131747
Carlsbad, CA 92013
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March 23, 2022

Office of Science and Technology Policy
Executive Office of the President
1650 Pennsylvania Avenue
Washington, D.C. 20504
Re: Request for Information on Strengthening Community Health Through Technology

To Whom it May Concern:

Thank you for the opportunity to respond to the White House Office of Science and Technology Policy request for information on strengthening community health through technology. Equip Health Inc., developed an innovative treatment solution for eating disorders using technology, peer support, and evidence-based treatment practices. The mission of Equip is to improve access to treatment for the 30 million Americans who will have an eating disorder in their lifetime.[1] Unfortunately, only 20% receive treatment.[2] A virtually-delivered treatment program reduces barriers and broadens reach to everyone with an eating disorder. This is important because the health consequences of an untreated eating disorder are concerning, particularly for marginalized individuals. Here are some important facts about eating disorders that are often overlooked.

Eating disorders are on the rise and do not discriminate by age, gender, race, or body size.
- Eating disorders have surged 70% since the COVID-19 pandemic.[3]
- 30-40% of eating disorders are in boys and men.[4]
- Black girls are 50% more likely to have bulimia than white girls.[5]
- LGBT+ youth have disproportionately higher rates of eating disorders.[6]
- Only 7% of individuals with disordered eating are underweight.[7]

Without treatment, eating disorders are deadly.
- Eating disorders are the 2nd deadliest mental health disorder, following opioid addiction.[8]
- The odds of premature mortality from an eating disorder are 5 times higher compared to those without one and 2 times higher than other mental health disorders.[9]
- 26% of people with an eating disorder attempt suicide.[1]

The burdens of eating disorders are vast
- 50% increased healthcare costs as a result of eating disorders.[9]
- Patients with eating disorders report low quality of life.[9]
- Caregiver burden is higher for caregivers of patients with eating disorders than those with depression or schizophrenia.[10]

In this response, we focus on successful implementation of a telehealth-based healthcare solution for eating disorder care and how this approach reduces barriers and helps patients stay connected to peers in the eating disorder community.

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Evidence-based collaborative care model using technology and peers with lived experience.
Equip's treatment program uses a collaborative care model based on family-based treatment (FBT), the gold standard for treating children and adolescents with eating disorders.[11] The main tenet of FBT is to empower caregivers to provide re-nourishment and structure in the home to help treat eating disorder symptoms. Equip's enhanced FBT approach includes a broad set of treatment providers. Each family receives a dedicated 5 or 6-person dedicated treatment team, which includes a therapist, dietitian, pediatrician, and psychiatrist. The treatment team also includes people from the community with lived experience. This includes a peer mentor - someone who has recovered from an eating disorder - and a family mentor, someone who has helped a loved one recover from an eating disorder. Adding peer support to treatment can improve treatment outcomes and connect patients and families with the eating disorder community.[12] All members of the treatment team receive standardized training and supervision in various topics including delivering FBT, adapting treatment to virtual delivery, cultural humility, gender-affirming care, and weight stigma.

Equip is a health services company enabled by technology
The ability to reach millions of people with eating disorders is accomplished using various technologies, including development of a HIPAA-compliant electronic health record and treatment delivery platform. This platform is built using scalable infrastructure and has capabilities to both connect families to their providers and help providers track patient progress virtually. Features include live individual and group support sessions through video conferencing, and the ability for real-time text messaging between providers and families. The platform also collects automated clinical and survey-based data. Families can submit weights directly via text message or use a connected scale that automatically uploads weights. Prompts are delivered to patients and families to answer surveys that measure eating disorder symptoms, mood, and caregiver well-being. Providers and families can view these data on the platform. That platform will also include alerts for when patients have attended a session or if patient vitals are at concerning levels. In summary, this technology enables us to provide the best possible care for patients with an eating disorder and to reach more patients and families.

Equip addresses structural, sociocultural, and financial barriers to treatment access.
We designed a program that considers how we can make treatment safe and accessible to all, recognizing the many structural, sociocultural, and financial barriers to treatment.

Virtual treatment removes location as a barrier
Eating disorder treatment often occurs within residential treatment centers. Residential treatment removes a child from their home, and for many this requires a move many states away from family. Such travel only adds additional expense on top of the financial burden of residential treatment itself. Recovery at home means patients are supported by loved ones while receiving treatment. Equip is currently operational in 40+ states within the U.S.

Treatment is designed to reduce sociocultural barriers and provide affirming care
Societal stereotypes that eating disorders only impact white, young, affluent, females are pervasive and harmful. Patients who do not fit this profile are more likely to be misdiagnosed or not feel comfortable seeking treatment.[13] In order to not leave anyone behind, we need to dismantle this eating disorder stereotype. Patients are provided with a team that includes at least one person who has a shared identity with the patient (e.g., transgender patients are assigned at

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least 1 provider who identifies as transgender) and all providers receive training in gender affirming care, anti-racism, and weight stigma.

Virtual care and being in-network with major insurance carriers keeps costs lower.
Cost is a huge barrier to eating disorder treatment access.[14] Many treatment providers do not take insurance, and only a limited number take public insurance like Medicaid. Equip is currently in-network with 11 payors, including Medicaid, with plans to be covered by all leading providers in all states. A technology-based solution delivering care virtually has lower overhead costs, fewer concerns with provider reimbursement, and lower out-of-pocket costs for families.

Equip Health, Inc. thanks the White House Office of Science and Technology Policy for prioritizing community health through technology. We are eager to change the narrative around eating disorders and show that innovative solutions that use technology and peer support can help provide access to all who need treatment. Thank you for your consideration and we look forward to hearing about next steps. For more information, please contact Dori Steinberg, VP, Research and Policy at ███████████████████████.

Sincerely,

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Dori Steinberg, PhD, RD, VP, Research and Policy, Equip Health, Inc.
Jessica Baker, PhD, Senior Research Manager, Equip Health, Inc.
Kristina Saffran, CEO, Equip Health, Inc.

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14. Huryk KM, et al. Diseases of affluence? A systematic review of the literature on socioeconomic diversity in eating disorders. Eat Behav 2021;43:101548.

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Introduction

Transforming community health, individual wellness, and health equity requires a holistic solution—one that recognizes the role of upstream structural drivers, like social and institutional inequities, and living conditions—and downstream factors, such as health behavior and disease burden. Evidation acknowledges the pivotal role that technology needs to play across the entire health equity spectrum.

Evidation measures health in everyday life and enables anyone to participate in ground-breaking research and health programs from anywhere. Built upon a foundation of user privacy and control over permissioned health data, Evidation's platform is a web and multi-platform (iOS, Android) smartphone experience trusted by millions of individuals across 50 states and 9 out of 10 ZIP codes in the U.S.—yielding evidence from person-generated health data (PGHD) with unprecedented speed, scale, and rigor. The platform integrates major consumer data platforms (e.g., apps like MyFitnessPal, wearables like Fitbit and Apple Watch), as well as medical devices (e.g., Dexcom CGM), electronic health records, and claims data, alongside environmental data such as flu trends, air quality reports, weather, and wind patterns. The platform has survey capabilities that allow for layering of quantitative and qualitative self-reported data to better characterize symptoms and each individual's experience of living with their condition. The full breadth of PGHD, collected from individuals' lived experiences–largely outside the clinic walls–can transform our understanding of health and allow us to better support communities in managing their specific healthcare needs.

By removing geographic and other access barriers to participation, Evidation makes it possible for people with diverse ethnicities, socioeconomic backgrounds, and educational levels to contribute to research in healthcare, including the real world impact of products and technology, allowing for the inclusion of vital perspectives that have historically been underrepresented. Furthermore, to proactively address any concerns that individuals may have around privacy and security, Evidation operates using a consent-per-use model: individuals explicitly consent to any third party use of their permissioned data.

Responses to this RFI have been categorized to align with the Bay Area Regional Health Inequities Initiative (BARHII) framework to demonstrate the broadest impact that technology can play in community health, addressing: **societal inequities, institutional inequities, and social environment (a component of living conditions).**

Addressing Social Inequities

Although community health often involves direct, in-person work with community members, complementary work at a societal level can generate unique value that allows communities to thrive. **Evidation has built successful models for the use of digital technologies to enable healthier lifestyles for individuals and communities within the U.S. and internationally, generating value by disaggregating large datasets into insights.**

Successful models within the U.S. (RFI #1) and Proposed government actions (RFI #6)
In March 2020, as the COVID-19 pandemic spread across the U.S., Evidation launched a longitudinal study titled COVID-19 Symptoms and Experience Study to better understand the impact of COVID-19 on the lived experiences and wellbeing of Americans. The study was designed and promoted in partnership with public health agencies, healthcare organizations, and academic medical centers, including the NYC Department of Health and Mental Hygiene and Mount Sinai Icahn School of

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Medicine. Coronavirus disease (COVID-19) symptoms, pandemic-related health behaviors, and experiences including telemedicine use were captured daily by wearable activity trackers, health apps, and surveys. 97,000+ individuals have contributed data and also consented to make their data publicly available to all qualified researchers through Evidation and the National Institutes of Health.

The Federal Government can support the transformation of community health settings in the immediate future by supporting diligent disaggregation of available datasets such as this, especially by demographics and socioeconomics. Through public-private partnerships in the COVID-19 Symptoms and Experience Study, Evidation was able to capture, in a participant-centered manner, the data that local governments and health systems deemed most useful at the onset of the pandemic. Disaggregation of these types of datasets highlights unmet community needs, allowing the data to serve as a force for action and for supportive community-level or government intervention.

Additionally, the Federal Government should continue supporting the generation of similar participant-centered, permissioned, large-scale datasets longitudinally (over the next 10+ years) as analysis of such datasets can enhance our understanding of the longer term impact that COVID-19 (or other health conditions) can have on individuals and communities.

International models (RFI #8)
Evidation served as the program operations partner for LumiHealth, a national health initiative in partnership between the government of Singapore and Apple, which launched in October 2020. LumiHealth encourages Singaporeans and residents to adopt healthy habits through personalized reminders, programs, activity coaching, and incentives through their Apple Watch and an iPhone App. The app has been downloaded more than 200,000 times and has served over 7 million challenges focused on health and wellness. Users have increased their daily exercise minutes by over 39 percent when compared to the month before they started the program. Individuals identified as being a part of a "Low Activity" group before joining LumiHealth have increased their exercise minutes by over 88 percent after nine months of participation. LumiHealth is also introducing brand new programs with challenges focusing on weight management, providing a more powerful and personalized platform for Singaporeans to develop healthier habits and make long-lasting positive changes for their wellbeing.

Addressing Institutional Inequities

Institutions connect broader government action with the intimate lives and wellbeing of individuals. This is where social determinants of health—like economic stability, social and physical environments, and access to education, food, housing, and health care—begin to intersect. ***Evidation can quickly measure community gaps and needs, thereby helping institutions facilitate distribution of resources.***

Barriers (extrinsic) (RFI#2), Trends from the pandemic (RFI #3), and *Health Equity (RFI #7)*
Health technology's ability to increase access to care and research opportunities means it can also allow us to identify inequalities that affect certain racial or socioeconomic groups.

The COVID-19 Symptoms and Experience Study, described above, found that racial and ethnic minorities experience disparities in telemedicine use and cost. Study data indicated that Blacks/African Americans and Latinos were less likely to have health insurance that covered some of

the cost of telemedicine. Even when accounting for insurance types, these same groups were less likely to access telemedicine.

While Blacks/African Americans and Latinos comprise approximately 19% of all individuals that received medical advice or treatment through telemedicine, they comprised 5% of individuals with health insurance that covered some of the cost of telemedicine (no copay) during March 2020 - August 2020. Likewise, Blacks/African Americans and Latinos disproportionately did not access telemedicine, making up around 43% of the study individuals who stated that they have not tried to receive medical advice or treatment through telemedicine since the start of the COVID-19 outbreak.

Addressing Social Environment (A Component of Living Conditions)

True community health work recognizes that individuals can only make healthy decisions if they live in an environment that enables them to do so. Social environments are where culture and values can positively or negatively influence community health decisions and health outcomes. ***Evidation utilizes co-learning, working hand-in-hand with communities, to understand how social determinants impact individuals and how technology can help individuals overcome barriers.***

User Experience (RFI #4), Barriers (intrinsic) (RFI #2), and Tool and training needs (RFI #5)
In February 2022. Evidation launched a collaboration with Project TECH—a faith-based organization in South Carolina—to create an innovative co-learning environment that will help eliminate barriers to using digital health technologies, thereby promoting healthy behaviors and participation in research. Through one-on-one design workshops, individuals from Project TECH learn about how to integrate health and technology from Evidation while Evidation learns from individuals about barriers and the perceived value of integrating health and technology, including feedback on Evidation's products.

At an in-person meeting with individuals from Project TECH in Columbia, South Carolina on January 8, 2022, Evidation asked individuals from Project TECH three questions to better understand barriers encountered: (1) "What excites you about bridging health and technology?," (2) "What feels challenging about bridging health and technology?," and (3) "What motivates you to participate in healthy behaviors?" Responses showed that individuals were motivated by staying healthy for their families and community and were excited about expanding their understanding of technology's use for health. Individuals cited day to day fears of not being able to learn technology, not having confidence, needing too much help, and feeling like there might be too much information.

This is where the technology industry, governments, and communities can work together to make health technology as accessible as possible—not just for the tech savvy—but for all; and to tailor the programs to the specific needs and challenges experienced by a given community.

Conclusion

There is a tremendous opportunity to improve diversity in research, address long-standing disparities in care, and help individuals take a more active role in their own health by taking evidence-based actions, all while allowing the individual to maintain privacy and control of their data. With health technology becoming more ubiquitous, particularly after the telehealth boom that followed the onset of the COVID-19 pandemic, it is critical we take advantage of digital tools to improve how we conduct research and deliver care for optimal outcomes.

Virtual Care Platforms Fill Care Gaps to Improve Care Access and Patient Outcomes

When the COVID-19 pandemic struck the U.S., physicians, hospitals and health systems rapidly adopted telehealth technology to deliver necessary care to patients who could not visit in person. For example, nearly half (43.5%) of Medicare primary care visits were provided via telehealth in April 2020, compared to less than 1% (0.1%) before the public health emergency was declared in February, according to ASPE.

In some cases, this rapid adoption, especially in large health systems, led to different virtual care platforms being adopted with almost no standardization across providers. At the same time, while higher-income Americans were able to take advantage of these technologies, some lower income and vulnerable populations had less access to virtual care. Factors such as lack of broadband access and lack of insurance coverage lead to this disparity.

In addition to health inequity, challenges include lack of interoperability, flexibility, and ease of use required to fit seamlessly into modern healthcare workflows. A clunky user experience and wasteful process occurs because separate systems are used for tasks such as tasks like scheduling visits, processing patients, receiving payment, and keeping patients engaged with proactive communication happen in separate systems. The onset of a pandemic only intensified the need for technology and approaches to care that can reach more home-based patients in need of care.

That is why many leading healthcare organizations implemented virtual care technology that offers comprehensive care, effortlessly balancing remote and onsite services based on the situation. These platforms deliver better outcomes by helping patients and providers connect in the way that works best for them.

The following are healthcare organizations that are harnessing the power of virtual care to improve access, care continuity and patient outcomes.

1. **Access to specialty care**

Banner Health is using telehealth across its enterprise. The state of Arizona's largest health system started with a few specialty areas in 2020 and has since broadened to 27 specialties from Urgent Care to Memory Care. Banner also conducted one of the fastest telehealth technology deployments for a health system of its size in March 2020, due to COVID-19. Less than a month after its launch, the health system completed more than 10,800 virtual visits, connecting patients who were social distancing to primary care providers, specialists and providers at Banner MD Anderson Cancer Center, Banner Alzheimer's Institute and Banner Urgent Care.

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2. Virtual Care for the Vulnerable

MMM, the only Medicare Advantage service provider in Puerto Rico, recently launched Cita Virtual (Virtual Appointment) to offer older adults simple and convenient access to healthcare. Cita Virtual allows patients to schedule an appointment with the patient's primary doctor or, if their own doctor is not available, it can guarantee an appointment with another provider in MMM's network. The telehealth solution integrates seamlessly into MMM's current app, which means seniors served by Cita Virtual do not have to learn a new piece of technology to use it.

3. Reaching Underserved Populations

Easterseals of Michigan, a leading non-profit provider of services for individuals with mental illness, emotional impairments, autism, developmental disabilities and other special needs, had been using telehealth for some time. When the pandemic hit, like many other providers in the behavioral health industry, usage spiked. Prior to the pandemic, 39% of patients seen through telehealth were being treated for a chronic physical health condition and 15% for a behavioral health condition. Now, 43% use telehealth for physical conditions while 53% use it for behavioral conditions (source: Journal of General Internal Medicine). Easterseals Michigan has had to scale up its telehealth infrastructure to support this underserved population.

4. Transitional Care

Envision Health harnesses the power of telehealth for its emergency department's Transitional Care program, efficiently providing a virtual care solution for patients in the Dallas metro area who have been discharged from the hospital and need follow-up care. Conditions eligible for the program include congestive heart failure, COVID-19, coronary artery disease, cancer, chronic obstructive pulmonary disease and other respiratory illnesses. To ensure patients are safe at home, patients and physicians meet virtually to determine whether the condition has remained stable while providers observe for signs of regression. Additionally, providers can offer continued medical guidance to patients and provide early intervention regarding any new issues or concerns. This approach helps ease the travel and time burden on patients while potentially reducing hospital readmissions when providers can remotely identify and prevent an adverse event.

5. Avoiding costly ER visits

Global Medical Response, the parent company of American Medical Response, in partnership with Envision Healthcare, created a program that allows for high-efficiency triage. If, upon arrival, the patient is not in need of emergency transport, the intake process now includes a series of assessment questions that allows the medic to make an informed decision to call a doctor instead. If the patient's vitals are stable and it is not a life-threatening situation, the medic can pull up an iPad and connect the patient to a doctor for virtual care.

Some patients call 911, even if they just need primary care because they simply do not know who to call. Oftentimes, a script just needs to be filled, thereby avoiding a costly ER visit. (On

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average, an ER visit costs $1,200, excluding the ambulance fee). Global Medical Response's program's capability helps decrease the strain on the system and costs for the consumer.

6. Soon to be announced

With a new grant from **AWS**, eVisit will provide telehealth services free of charge for patients in underserved populations including unhoused individuals, abused children, battered spouses, Illiterate, below the poverty level persons living with AIDS and migrant farmworkers. In partnership with an ambulance service, eVisit will deliver free telehealth services for three months and aim to increase the number of underserved/uninsured population visits by as much as 10%.

Eliminating Barriers to Care

The widespread adoption of virtual care since COVID-19 began has been one of the few silver linings that have resulted from the pandemic. With only a computer or mobile device, patients can locate a provider to consult about an acute or chronic condition, removing the barriers of time, travel, and cost.

Below are a few of the real-world applications of virtual care platforms:

1. Healthcare organizations are using telehealth not just for patient encounters but to save staff time by streamlining administrative tasks such as scheduling, patient intake and payments.
2. Telehealth is allowing patients to stay more closely in touch with their doctors since not everything requires an in-person visit.
3. Telehealth platforms are making it easier for healthcare organizations to capture more data about their interactions with patients, allowing them to make better decisions about their business operations and improving telehealth adoption.

More work still needs to be done to ensure more underserved and vulnerable populations have access to high-quality care through telehealth. Providers also must have the technology to effectively care for these patients, regardless of their clinical needs, technological aptitude, or location. As virtual care technology continues to advance, a world where all patients can always be connected to the care they need is becoming a reality.

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March 31, 2022

Alondra Nelson, PhD
Acting Director, Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Dear Dr. Nelson:

Thank you for the opportunity to respond to the request for information (RFI) on strengthening community health through technology. Executives for Health Innovation (EHI) strongly supports efforts to advance the use of technology in community health. Our responses to your specific questions are below.

2. Barriers
a.   Access to affordable broadband
While the increase in use of digital health tools is promising to help address some traditional barriers to accessing care – such as time and access to transportation – many of these tools rely on patients having access to high-speed broadband, which is not always the case in rural and underserved communities.

Internet usage in general has increased over the past decade for all demographic groups. However, disparities between the different demographic groups still exist. As of 2019, only 63 percent of rural Americans reported having access to broadband internet connection at home. By comparison, Americans who live in urban cities are 75 percent more likely to have access to broadband at home.[1] What access those in rural areas do have tends to be slower than in non-rural areas.[2]

In urban areas, affordability of broadband remains a main barrier to access. According to the National Telecommunications and Information Administration, those who live in higher poverty areas and on tribal lands have lower rates of home internet usage.

b.   Reimbursement issues
Prior to the COVID-19 pandemic, federally qualified health centers (FQHCs) were not allowed to be reimbursed for providing telehealth. While they could serve as an "originating site," or where a patient could be located to receive

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[1] Perrin, A. (2019, May 31). Digital gap between rural and nonrural America persists. Retrieved August 26, 2020, from https://www.pewresearch.org/fact-tank/2019/05/31/digital-gap-between-rural-and-nonrural-america-persists/
[2] Ibid

telehealth from a distant provider, their own providers could not use telehealth to treat their own Medicare patients. To address this issue as COVID-19 spread, Congress passed legislation in early March to set the wheels in motion for CMS to issue waivers of Medicare telehealth reimbursement restrictions. However, if Congress does not take action to make permanent these changes before the end of the PHE period, these restrictions will go back into place and the investments FQHCs have made in telehealth will be lost and many patients will lose access to care.

c. *User education/digital health literacy*

While telehealth and other digital health tools have proved transformative for community health centers and their patients, many face challenges with digital health literacy, or the ability for patients interact with and utilize digital health tools, such as mobile health applications or telehealth platforms, to address or solve health care needs. This is highlighted by some recent findings, including:

- **48% of people ages 18+** cited **a lack of knowledge about the use of digital health tools** as a barrier to using telehealth[3]
- Individuals **who identified as Hispanic** were more likely to have **lack of knowledge about the use of digital health tools at 58%**[4]
- **47% of individuals ages 50-80** cited **concerns about using technology** and 39% of the same group of respondents cited concerns about being able to see or hear their doctor[5]

d. *Privacy concerns*

As safety net providers, community health providers provide care for underserved populations. Many of those who experience inequity in health care access and outcomes belong to communities who have experienced unfair, unequal, and unauthorized use of their personal information. While HIPAA does protect health data held by community health providers and their business associates, there should be increased awareness for both providers and patients on who holds patient health data and how it is being used, especially with regards to digital health tools. If not, many of those who could benefit most from the use of digital tools may be hesitant to utilize such tools.

4. User Experience

a. *Language and accessibility*

Unfortunately, many digital health tools are not built in a way that is accessible to many populations, including non-English speakers and those with disabilities. For example:

- In the Apple and Android app stores, **30% of diabetes apps had descriptions available in Spanish and of those apps**, only **41% Android Apps and 21% iOS apps were available in Spanish**[6]

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[3] Keenan, Teresa A. *Views on Telehealth.* Washington, DC: AARP Research, June 2020. https://doi.org/10.26419/res.00388.001
[4] Ibid
[5] Kurlander J, Kullgren J, Singer D, Solway E, Malani P, Kirch M, Saini S. Virtual Visits: Telehealth and Older Adults. University of Michigan National Poll on Healthy Aging. October 2019. Available at: http://hdl.handle.net/2027.42/151376
[6] Rodriguez, Jorge A, and Karandeep Singh. "The Spanish Availability and Readability of Diabetes Apps." Journal of diabetes science and technology vol. 12,3 (2018): 719-724. doi:10.1177/1932296817749610

- **94% of these apps above the recommended reading level** for patient materials in English and Spanish[7]

It is critical that digital health tools are designed with accessibility front of mind.

5. Tool and Training Needs
  a. *Digital Health Navigators*

One key role community health workers can play in advancing the utilization of digital health in community settings is as digital health navigators. Digital health navigators are key to adoption of digital health in community settings, along with digital health literacy training, as they are available at the point of care to aid patients in utilizing digital health tools to connect with their clinical provider for the purposes of receiving health care services. A digital health navigator can assist a patient in selecting an app or tool, troubleshooting any issues, and assuring data quality.[8]

6. Proposed Government Actions
  a. *Reimbursement*

The first step toward supporting the transformation of community health settings through the uptake of innovative digital health technologies is establishing permanent federal policies that support reimbursement. Congress must pass legislation to ensure FQHCs and other community health providers can continue to provide telehealth services after the end of the COVID-19 PHE.

Further, the federal government should establish a grant program for community providers to support key activities we have highlighted, including: digital health literacy programs, digital health navigators, and the purchasing of digital health tools that are accessible to non-English speakers and those with disabilities.

7. Health Equity
Responses above speak to health equity issues, including lack of access to affordable, high-speed broadband, digital health literacy and accessibility concerns, and reimbursement barriers.

Conclusion

Thank you for the opportunity to provide input on strengthening community health through technology. We look forward to continuing to work with you on these important issues.

Sincerely,

Jennifer Covich Bordenick
Chief Executive Officer

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[7] Ibid
[8] https://www.karger.com/Article/Fulltext/510144

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Response to: Request for Information (RFI)
on Strengthening Community Health Through Technology

Expression Networks LLC (EN) is pleased to respond to the subject Office of Science and Technology Policy (OSTP) Request for Information (RFI). Founded in 1997, EN is a privately held for-profit software engineering firm providing IT modernization services within the federal healthcare sector and other federal agencies. EN's core competencies include artificial intelligence (AI)-based predictive analytics, full-stack software development, and data engineering for digital health and medical logistics. Our customers include the US Department of Health and Human Services (HHS), Department of Defense (DoD), Department of State (DoS), and National Security Community. Our medical technology innovations are described at https://expr.net/capabilities/medical-technology/.

The body of this three-page response is followed by appendices for additional information:

(A) References (with links to the sources cited in our response as requested in the RFI)

(B) EN's paper *The National Emergency TeleCritical Care Network (NETCCN) MedSA Tools*

(C) Proposal for Expanding National Emergency Telecritical Care Network (NETCCN) Platform to support rural, underserved community needs as proposed government action in Section 6

1. Successful Models Within the US

A premier example of a successful operational digital model within the US is the National Emergency Telecritical Care Network (NETCCN). NETCCN is sponsored by the US Army's Telemedicine and Advanced Technology Research Center (TATRC) with funding by the HHS Assistant Secretary for Preparedness and Response (ASPR). NETCCN includes a medical logistics component[1,2,3] and is aligned with the HHS-envisioned 21st Century National Disaster Medical System. NETCCN has the flexibility to be adapted to meet a breadth of community healthcare delivery needs for an array of diverse communities and users. EN's work on NETCCN has been funded since 2020 when it was initiated to provide remote medical surge support for hospitals overwhelmed by the pandemic. In a first implementation, EN designed, developed, and fielded expert remote patient care and telemedicine systems for an acute care hospital in Puerto Rico in under 30 days. We also designed a modern, open, and collaborative software architecture enabling NETCCN to track support requests, time to support monitoring, and support activity monitoring. Data can be quickly and accurately compared across different hospital types and areas of the country. EN manages the government's NETCCN "Operations Cell," including the Amazon Web Services (AWS) FEDRAMP-compliant platform for secure enabling medical command and control predictive models of performance and quality. As depicted in Table 1, EN actively supports multiple hospitals of varying sizes and capabilities across the US as well as in two independent countries.

Table 1: NETCCN-Supported Hospitals		
Organizations	**Completed**	**Active**
Number of hospitals	29	24
Number of states	8	6
Number of state hospital associations	4	

2. Barriers

OSTP has the opportunity to implement strategic policies reducing barriers to telehealth access. As demand for telehealth grows and telehealth options become increasingly recognized as viable solutions, issues related to cross-state licensing, credentialing, and privileging need resolution at

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the national level. Resolving such discrepancies will immediately open up opportunities for telemedicine delivery platforms to proliferate at a low-cost scale. NETCCN is an example of one

such operational platform that holds the potential to significantly reduce barriers to telehealth access once regulatory issues are resolved. Table 2 documents the longest lead times encountered in commissioning NETCCN for hospitals requesting telemedicine surge support, based on an EN case study of a NETCCN implementation project in Vermont.

Table 2: Profile – Engagement Life Cycle of an EN Project	
Activity	**Time Elapsed at This Status**
Request Received	5 hours
OpsCell Coordination	0 hours
Performer Assigned	43 days and 20 hours
Demo	53 days and 1 hour
Contracts	53 days and 1 hour
Credentialing	53 days and 1 hour
Licensing	53 days and 1 hour
Active	10 days and 5 hours
NETCCN Implementation History at a Vermont Hospital. Data as of 2022-02-22.	

3. Trends from the Pandemic

The trend toward incorporation of remote medicine into patient care that arose during the pandemic should be encouraged and supported at the national level. The pandemic accelerated widespread use of digital medicine due to the critical need for delivery of care and protection of patients as well as healthcare providers. Emergency use authorizations (EUAs) made this growth possible where regulatory restrictions might have otherwise inhibited adoption. Recognition of the effectiveness of virtual meetings between patients and providers and among providers has grown, demonstrating that virtual models for care, consultations, and reimbursement are ready for wider adoption. A significant issue brought to the forefront by the pandemic that telehealth access will help address is the ubiquitous social and racial inequality within US public health. This injustice has been underscored through proof that COVID-19 has unequally affected racial and ethnic minority groups, putting them more at risk than whites for suffering and dying from COVID-19.[4,5] Negative healthcare experiences are common within these groups, and social determinants of health have historically prevented them from having fair opportunities for economic, physical, and emotional health.[6,7] National policies supporting the growth of telehealth options hold the promise of reducing such inequities by providing vastly expanded access to remote expertise in "tele-consultations" supporting economies of scale to local communities by resource sharing across a larger overall population that can transcend state boundaries.

4. User Experience

Our experience in the use of telecritical care (virtual ICU) remote experts has demonstrated the value of national coverage to support local needs and accommodation of local workflows and requirements of the specific hospitals in the community being served. Local providers overwhelmed by the pandemic have been able to draw upon the skills and experience of remote specialists from across the nation once the strictures of time and geography were eased by NETCCN. The user experience has been overwhelmingly positive across clinical studies and case reviews.[8]

The Medical Director of Hospital San Carlos Borromeo in Puerto Rico noted, "I have been receiving great feedback from the nurses." Additional documented testimonials are as follows:

> *"Delivering tele-critical care has been the most rewarding experiences of my career. Being able to be that go-to person for the boots on the ground team is incredibly valuable."* Nurse Manager, ModRN Health

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"NETCCN helped us to be able to offer our patients and families hope in the middle of this pandemic situation." ICU Clinical Supervisor, San Carlos Borromeo Hospital

These representative examples of user feedback provide evidence of the enthusiasm within the healthcare sector for access to telehealth tools and should further foster OSTP and U.S. government policy supportive of national telehealth initiatives and policies.

5. Tools and Training Needs

We encourage OSTP to include training and data interoperability requirements for digital health as part of the national standardization recommendations for incorporating these tools into routine practice. In our experience with NETCCN, virtual training and tools including the telehealth platforms and surrounding ecosystem were invaluable and easily added to the workflow of local providers requesting support. EN provided instruction and insight to the local interns on the best methods and data for presenting patients during coordinated rounds and instruction on managing patients on ventilators. Virtual training sessions were offered across states and geographic regions to local hospitals, state hospital associations, health departments, and other community providers and administrators on a regularly scheduled basis, effectively spreading resource costs across a wider base of hospitals and patients.

6. Proposed Government Actions

While standardization of technologies and procedures remains to be fully realized, telehealth solutions should become permanent elements of the US healthcare system and not constrained to very limited situations and temporary emergency measures during the pandemic. Based on the positive experiences and exposure to telehealth across the NETCCN program as well as CMS's temporary reimbursement support for telehealth, EN recommends that such policies be made permanent to increase access to care supporting rural health equity. Support and funding to bridge the digital divide for broadband access should continue on behalf of the American people as aligned with the missions of HHS/ASPR, HRSA, USDA, and the FCC. We strongly encourage OSTP to review proven technologies and operational platforms, such as NETCCN, as potential models for wider implementation, and work towards reducing strictures so as to increase economies of scale across regions and the nation for remote support. A specific actionable option suggested here is for OSTP to leverage and expand the NETCCN program as an operational model providing a bridge to improved health equity for patients and providers hard-hit by the pandemic as part of recovery within local healthcare communities. EN welcomes the opportunity to demonstrate and discuss NETCCN capabilities for OSTP's consideration of a specific proposed action. An overview of an optional proposal action for consideration is included Appendix C.

7. Health Equity

Studies have demonstrated that the social determinants of health have an outsize impact on telehealth outcomes as compared to the usual standard of care in rural, underserved patient populations.[9] Telehealth is a viable solution to reducing healthcare inequity and inaccessibility in general, and overcoming the digital divide by ensuring high-speed, reliable internet access, a foundational element for telehealth adoption. We urge OSTP to develop and implement national policies conducive to widespread telehealth expansion and the underlying digital infrastructure upgrades necessary, and we offer NETCCN as an example of a proven system for augmenting hospitals in rural and underserved communities with remote expertise.

Appendix A: References
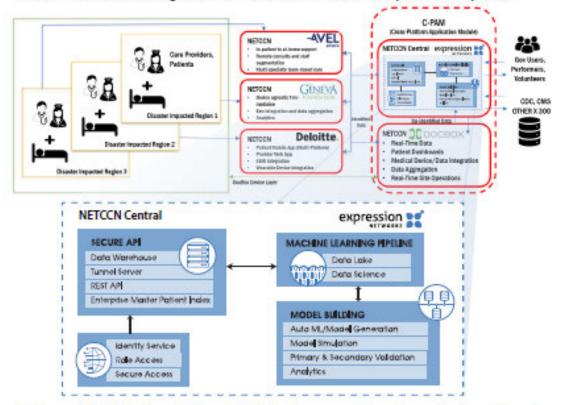
[1] Quinn M, Lee J, Pamplin J. (2021). NETCCN: Delivering Needed Critical Care Expertise "From Anywhere, to Anywhere" The National Emergency and Critical Care Network (NETCCN). *1AME Pulse*.

[2] Pamplin JC, Scott BK, Quinn MT, et al. Technology and Disasters: The Evolution of the National Emergency Tele-Critical Care Network. *Crit Care Med*. 2021:1007-1014. doi:10.1097/CCM.0000000000005001

[3] Telemedicine and Advanced Technology Research Center. (2021). National Emergency Telecritical Care Network (NETCCN). https://www.tatrc.org/netccn/

[4] Stokes EK, Zambrano LD, Anderson KN, et al. (2020). Coronavirus Disease 2019 Case Surveillance — United States, January 22–May 30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:759–765. DOI: http://dx.doi.org/10.15585/mmwr.mm6924e2external icon.

[5] Killerby ME, Link-Gelles R, Haight SC, et al. (2020). Characteristics Associated with Hospitalization Among Patients with COVID-19 — Metropolitan Atlanta, Georgia, March–April 2020. MMWR Morb Mortal Wkly Rep. ePub: 17 June 2020. DOI: http://dx.doi.org/10.15585/mmwr.mm6925e1external icon.

[6] U.S. Department of Health and Human Services. Social Determinants of Health [online]. (2020) available from https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-healthexternal icon

[7] Centers for Disease Control and Prevention. (2019). Health Equity Considerations and Racial and Ethnic Minority Groups. https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html

[8] Telemedicine and Advanced Technology Research Center. User Testimonials – NETCCN: https://www.youtube.com/watch?v=LfBQPuciSUk

[9] Crump CA, Wernz C, Schlachta-Fairchild L, Steidle E, Duncan A, Cathers L. (2020). Closing the Digital Health Evidence Gap: Development of a Predictive Score to Maximize Patient Outcomes. Telemed J E Health. doi: 10.1089/tmj.2020.0334. Epub ahead of print. PMID: 33170109.

Appendix B: *The National Emergency TeleCritical Care Network (NETCCN) MedSA Tools*
(Note: This file is also available at https://expr.net/press_release/the-national-emergency-telecritical-care-network-netccn-medsa-tools/)

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Product Description
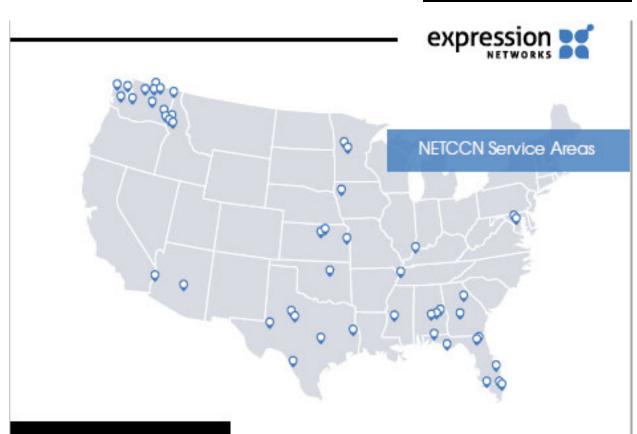
As a prime contract holder, EN supports the DoD-sponsored National Emergency TeleCritical Care Network (NETCCN) for **health emergency preparedness and response** for declared disasters such as the COVID surge, Haiti earthquake, and the HHS envisioned 21st Century National Disaster Medical System (NDMS). During Phase 1, EN designed, developed, and maintained remote expert patient care and **telemedicine** systems for clinicians overwhelmed by the pandemic. EN designed a modern, open, and collaborative software architecture that enables NETCCN remote clinical teams to securely share standardized and interoperable data to facilitate **integration of health systems and deliver care across federal agencies and under-served, rural community healthcare systems.**

Combining Global Healthcare Exchange's (GHX) extensive pool of existing supply chain data and analytics with other data sources and reporting capabilities, EN is developing a predictive analytics engine that will help the federal government gain earlier visibility into supply shortages and make more data-driven decisions during national health emergencies such as COVID-19. The predictive analytics tool, called the Supply Constraint Predictor (SCP), is intended to help the government better identify where and when surges are happening with near real-time visibility and inform decisions such as how and where to deploy the Strategic National Stockpile (SNS) repository.

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Challenges

- Enhance situational awareness of virtual care team performance and patient outcomes in a disaster response situation

- Reduce variability while matching and adjusting medical resources to demand across distributed and remote experts providing virtual critical care

- Share previously siloed data and fragmentation of capabilities across regions and clinical applications

- Collect and analyze data from multiple sources in real time to make actionable decisions during emergencies

- Increase options for rapid sharing, dissemination of data with other disaster management personnel, management

CMMIDEV/3℠

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EH is leading a team of government stakeholders and other contractor performers in a collaborative effort to select a standard set of performance measures and thresholds.

- Support the government's evaluation of emergency engagements with actionable information for decision-making on resources and implementation of support models for disaster response.

- Standardize metrics for clinical care delivery across remote and distributed medical teams and facility performance (length of service, mortality, morbidity, etc.) provide uniform situational awareness and the ability to focus resources on specific areas that have shortfalls.

Consolidate virtual care data sources into a single authoritative data lake and pipeline for AI/ML model generation for predictive analytics.

- Deliver supply constraint predictive analytics tools using real-time hospital data to identify hotspots and potential future medical resource requirements for disaster planning and management.

- Secure a flexible technical architecture enabling leaders to anticipate and address a range of concerns and mitigate the risk of degraded clinical care delivery in austere disaster environments.

- Deliver open-source tools and interfaces providing a standardized and proven method for creating customized dashboards and visualizations that provide strategic situational awareness to the US Army's Telemedicine & Advanced Technology Research Center (TATRC) and HHS Office of the Assistant Secretary for Preparedness and Response (ASPR). Expression uses our proven DEVSECOPS capability sprints to deliver multiple open-source tools: Implementing Spark enables streaming data from multiple sources creating a common operating picture for decision-makers. Regraph provides powerful data visualizations. React is a robust UX framework that supports delivering actionable data and clinical decisions to the point of need.

Enhance UI/UX to facilitate rapid access to information, easy navigation, and visualization through applications.

A Model for Continuous Improvement; Linking the Supply Chain to Patient Outcomes

As the COVID pandemic has demonstrated, it is essential to more closely link the medical supply chain to patient outcomes to ensure the safe and reliable delivery of care - both in-person and via remote and digital health modalities. Measures from the data provide learning outcomes to inform clinical standards and support value-based care and financial performance. A quality framework and metrics dashboard encompassing data analytics for medical leaders fosters reduced variation and repeatability in delivering quality care. This demonstrates process maturity as well as knowledge dissemination across the healthcare organization supporting emergency preparedness, response, and recovery.

Technologies & Capabilities Used

- Keycloak
- React (UI framework)
- NodeJS
- ExpressJS
- Spark
- Regraph
- Python

Databricks Data Lake and Pipelines for AI/ML Model Development

Amazon Web Services Cloud and Infrastructure Hosted Services

Cindy Crump | Director, Medical Business | Expression Networks LLC | CCRUMP@EXPR.NET 4

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Appendix C: Proposal for Leveraging Existing Operational Telehealth System: National Emergency Telecritical Care Network (NETCCN)

We at EN propose to adapt our implementation of the NETCCN telehealth support services to provide a bridge for improving health equity by funding an expansion to support a National Mental Health Telecare Demonstration Program for rural communities.

Suggested Period of Performance and Overview: This would be a three-year effort in partnership between EN and a partner University to provide telecare support to underserved and rural areas served by telemedicine through ten agricultural extension offices. The University, a land grant institution currently delivers telemedicine services via a USDA grant through their existing extension offices across the state under a USDA Program grant. Expression Networks experience on their existing NETCCN contract combined with the partner University's existing expertise in rural, underserved access area could expand access to care and support improved health equity by creating an evidence-based mental health program supporting remote care and treatment for individuals in rural areas of the state.

The program could include an opioid treatment component with remote, authorized prescribers (another specialty experiencing shortages) with waivers to deliver remote telecare with medically assisted treatment (evidence-based best practice). The National Mental Health Telecare Demonstration Program could begin within 90 days of contract award, with the following objectives:

    1) Provide therapeutic support and counseling to remote nurses, physicians, and other allied health professionals in local, rural underserved areas to reduce cognitive burden and burnout as evidenced by validated well-being surveys, attrition, and interviews,
    2) Provide remote clinical support to rural patients with diagnosed mental health disorders and measure satisfaction using validated instruments (QUIS, SUS),
    3) Demonstrate feasibility of a remote prescriber opioid treatment program using evidence-based medically assisted treatment in a limited population (n=20) in one or two local communities.

Total Cost: Rough order of magnitude estimate of $6.5 million including the enhancements to the telemedicine platform, staffing, and services.

The project cost realism is based upon actual costs incurred for standing up NETCCN over the last 24 months. The project is anticipated to provide a bridge for improving health equity by funding an expansion supporting a National Mental Health Telecare Demonstration Program.

Jacqueline Ward
Assistant Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

March 31, 2022

Dear Assistant Director Ward,

Faces & Voices of Recovery thanks the Office of Science and Technology Policy for its effort to improve behavioral health care in the United States. We face many challenges, and to have a true impact we must be committed to this effort long-term, to establish health equity. Faces & Voices of Recovery is dedicated to organizing and mobilizing over 23 million Americans, as well as their families, friends, and recovery allies. Through our efforts to advocate, educate, and demonstrate the power and proof of long-term recovery, we intend to change the way behavioral, mental, and holistic health is viewed in our country. We collaborate with various states, agencies, and organizations to support development, leadership, and capacity building for various recovery initiatives.

Substance Use Crisis

The substance use crisis continues to escalate at an unprecedented rate, with recent data from the [Center for Disease Control](#) estimating over 100,000 people died in 2020 from preventable overdose deaths – nearly 30% higher than the previous year. Unfortunately, many barriers continue to prevent people from accessing treatment, recovery supports, and ancillary services, including lack of transportation, high cost, and bias towards abstinence-only forms of assistance. Furthermore, our systems are not structured to provide equitable, diverse, and inclusive services. If a person who uses substances manages to access programs that support recovery, they often do not receive services catered to outcomes prioritized by people with substance use disorder. Priority outcomes that patients desire most include increasing self-efficacy and increasing connection to services and supports.

Parity In Coverage

Once a person enters the behavioral healthcare system, they continue to face additional challenges. Many states do not have options for patients to choose appropriate care methods suitable to their circumstances and offer primarily only in-person care. In addition, coverage for alternatives to in-person care, such as telehealth services, vary significantly from state to state. While many payers have loosened restrictions on telehealth reimbursement during the COVID-19 pandemic, most of these payment arrangements were merely temporary stop-gap measures attributed to local states of emergency

declarations. As of now, 43 states do not provide payment parity which requires both telehealth and in-person services to be covered at equal rates in a post-pandemic climate.

These challenges are not limited to private payers. Few states offer equal coverage, with only six states providing Medicaid-only parity and only 17 states offering payment parity for all payers, including behavioral health series. These barriers to proper care greatly harm those with substance use disorder, but these challenges are not limited to behavioral health. Without the appropriate coverage, new and existing programs will continue to fall short.

Shortcomings of current recovery support infrastructure:

- Less than 20% of people who receive a diagnosis of opioid use disorder receive any form of treatment. The COVID-19 pandemic has continued to emphasize existing gaps within the behavioral healthcare system as unmet needs grow.
- Current substance use disorder continuum of care does not provide patients with long-term treatment and recovery care options, despite existing knowledge that once an individual attains five years of sustained recovery, recurrence of use drops by 85% - unprecedented compared to other health complications. Most systems provide services for 30, 60, or 90 days.
- Pursuing medication-assisted treatment (MAT) is wrought with challenges. Regulations prohibit providers from prescribing MAT unless an individual attends an in-person appointment. COVID-19 has temporary loosened restrictions, but patients are still required to attend their first appointment in person and cannot utilize audio-only telehealth services.

To adequately address equitable and accessible patient services, we must enforce patient care and create new opportunities for people to access services. The time to act is now. Many federal agencies and members of Congress are seeking new methods to improve access to healthcare, including substance use treatment and peer services, as COVID-19 has illuminated so many structural gaps in accessing and receiving services. As a result, these policy reforms have a greater chance for success to be enacted to best address the needs of people with substance use disorder and our healthcare system

Increasing Access to Substance Use Disorder Care Through Universal Telehealth

Investing in telehealth care expands vital substance use disorder care to more Americans and makes receiving care more accessible, especially for those who face barriers to receiving care. Several steps can be taken to support and establish universally accessible telehealth including:

- Requiring healthcare services, both physical and behavioral health, to be universally accessible via telehealth - at the sole discretion of the patient - and covered by all benefit plans of all insurers. Further, all such services must be deemed exempt from administrative or utilization control mechanisms such as prior authorization.
- Pass H.R. 4480. This bill requires all payers to provide payment parity for all telehealth services. This enormous leap forward would instantaneously encourage more providers to offer these services. Furthermore, this act prohibits restrictions on what types of health conditions may use

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telehealth and expands on the definition of a telehealth platform to include a variety of audio-only and audio-visual methods of communication.

- Pass S.157. This bill appropriates funding to peer support services, provided at no cost to participants, to expand or deliver virtual services such as telehealth. In addition, this bill serves to strengthen the existing workforce of providers engaging in telehealth services.

Establishing A New, Robust Telehealth System

The above legislation will provide a framework for telehealth services to be available and accessed; however, providers will require additional training to engage in this rapidly expanding method of care. For example, providers must be trained on active listening skills, such as non-verbal cues, motivational interviewing techniques, and strategies to support the safety and welfare of participants in their respective environments. Consumers may also require training on using virtual platforms. New efforts may include, but not limited to:

- Pilot education and training grant programs for telehealth focused Project ECHO cohorts, including substance use disorder clinical treatment provider cohorts and non-clinical, recovery support service provider cohorts. These programs would focus on considerations specific to telehealth settings for both clinical treatment providers and non-clinical, recovery support service providers to gain the necessary skills for engage patients in a virtual environment.
- Establish community-based hubs to serve as technical assistance centers for people who require IT support, a safe environment to conduct appointments, or access to supportive resources. These hubs will also offer mobile devices to patients while engaged in services for those who do not have access to or cannot afford mobile devices - allowing under-resourced participants to access technology for telehealth services. These hubs will be required to implement regular planning and development sessions with stakeholder and potential consumers – including those with lived experience in recovery, people who use drugs, and Black, Indigenous, and People of Color (BIPOC) – to assure that services provided are implemented in a way that meets the needs of service recipients.
- Require 20% of grant funding be allocated to Black, Indigenous, and People of Color (BIPOC) led or BIPOC serving communities and culturally-based training and services of telehealth recovery professionals in Tribal communities.

We thank you for your time and wish to emphasize our strong desire to be a partner moving forward as the Committee works to strengthen substance use disorder, mental health, and recovery efforts across America.

Sincerely,

Chief Executive Officer
Faces & Voices of Recovery

ADVOCATE. ACT. ADVANCE.

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A Vision of Computational Screening and Surveillance (CSS) to Strengthening Community Health Through Technology

Fan Ye PhD and Elinor Randi Schoenfeld PhD Stony Brook University

███████████████████████████████

Re 87 FR 492: Request for Information (RFI) on Strengthening Community Health Through Technology

Thank you for giving us the opportunity to respond to your request for information on strengthening community health through technology. We wish to introduce and describe a new field of investigation and implementation "Computational Screening and Surveillance (CSS)." CSS will provide methods, data and analytics to guide future health and technology directed policies and actions to strengthen the health of individuals and populations. This new field of investigation and implementation will support earlier detection and intervention for new disease onset or worsening of existing conditions. Our proposed CSS (Supported by NSF Grants #2028952, 2119299, 2118953, 2119340, 2119331, 1951880) fits well with the goals and challenges highlighted during the COVID pandemic to support community health into the future.
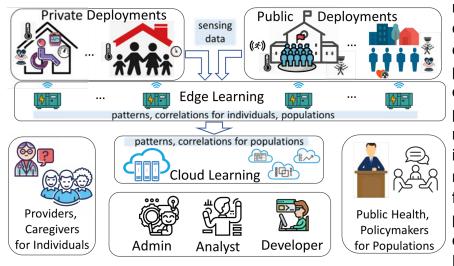
Health and healthcare resource challenges facing our communities. Across the nation, communities face enormous individual and community *screening* and *surveillance* challenges. *Screening* refers to the early identification of present or imminent diseases in individuals (e.g., increased temperature and resting heart rate proceeding COVID-19), while *surveillance* is the long-term monitoring of health-related changes for both individuals and populations to identify outbreaks/epidemics, or worsening conditions.

Current screening and surveillance practices are at best incomplete, untimely, and unsustainable. Pain points and insufficiencies of our current system have been glaringly exposed as a result of our efforts to understand and curtail the spread of COVID-19 in the US and internationally. Screenings are conducted at routine scheduled home or clinical visits (e.g., annual mammograms, wellness visits) or on demand in emergency situations (e.g., COVID-19 and flu testing at urgent care or EMRs). Such *interval* evaluations miss the vast majority of events occurring outside of these visits (e.g. falls, heart attacks, self-tested COVID-19 at home), with many unwitnessed, unnoticed, or unintervened until much later or totally undiagnosed. Understanding population rates are further complicated because of the lack of centralized systems for surveillance resulting in incomplete counts and lags in data acquisition.

Further burdening our current healthcare system is the decreasing healthcare workforce while workload is growing resulting from our aging population with a myriad of chronic conditions. By 2030, 21% of the US population (74.1 million people) will be age 65 and older. These health care needs are being further compounded as a result of the growing numbers of post-COVID-19 "*longhaulers*" (~30% of survivors (>23 mil US

1

residents)) who will require long-term care for ongoing health problems (e.g. shortness of breath, fatigue, brain fog).

A role for Computational Screening and Surveillance (CSS) to strengthen community and individual health. To address these gaps between available healthcare resources, individual and population health, we are proposing the field of CSS. What is CSS? CSS uses modern sensing and computing devices (e.g., wearables, non-touch sensing [1], embedded computers) deployed at the edge (e.g., homes, public spaces) to collect, analyze heterogeneous, continuous physiological and physical sensing data (e.g., body temperature, heart/respiration rates). They can identify early indicators of disease onset (e.g., Covid detection ~48hrs pre-symptom onset), recognize imminent conditions, monitor changes, trends and progressions to enable early, customized prevention, mitigation and management of acute, infectious, chronic, and mental diseases, disorders for both individuals and populations in the community.

Figure 1: *Sensing devices collect continuous vital signs and activities data at homes and public spaces (e.g., schools, bus/train stations). Edge and cloud learning devices analyze such data to detect patterns correlated to health conditions. Community health workers, providers use such insights to offer more precise, timely and quality care, and public health policy makers create well-informed plans for communities.*

Collecting and analyzing these kinds of robust datasets can provide fine-grained surveillance of new disease onset and chronic disease progression through identification of trends in respiration and heart rate over months or years. Analysis of data at the individual level can assess recovery or progression for example among long-COVID patients; changes in gait to identify exacerbation in Alzheimer's; changes at the population level to detect new disease onset or progression (e.g. seasonal flu).

Recommendations for improving community health by CSS highlighting topics from the RFI.

 # 2 Barriers: broadband access must exist and costs of devices should be reasonable, and users need education to get familiar with and become comfortable with the technology.

#3 Trends from the Pandemic: We have conducted surveys pre- and post-pandemic of older adults who were generally lagging behind young populations in

2

technology adoption. Our surveys found that the pandemic has accelerated technology adoption, smart-phone use and improved the acceptance of technology.

#4 User experience: Our own work has supported the need for community engaged, iterative technology co-design and development to facilitate adoption across the stakeholder spectrum. R&D needs to engage all stakeholders in all phases of technology development from onset with continuous interaction and feedback; focus on the end value; address critical roadblocks (e.g., privacy concerns from monitoring).

#5 Tools and training needs: Our multidisciplinary study teams are providing training for undergrad, graduate and advanced training students in engineering, medicine, nursing, and social welfare to gain knowledge and insights about technology and health through courses, mentoring, hands-on experience. We are working diligently with our stakeholders to identify critical pain points for patient care to customize the technology (data sensing, event detection) to offer features targeting such pain points. For example using technology and data analytics to help prioritize patient care needs (e.g., emergency, critical, routine) in real time on a daily basis.

#6 Proposed government actions: _0-2 years_: offer incentives for individuals and insurance companies to adopt smartwatches/wearable devices to collect continuous vital signs, activity data; invest in research and education for CSS technologies development for in-home, real time analysis of such data. Overcome the challenges of addressing broadband access across communities by providing internet access and smartphones; _5 years_: medium scale pilot studies of CSS technology in diverse communities to validate and refine the technologies, assess its adoption, effectiveness, and value to individuals and populations, evaluate its role to help address health disparities; develop best practices; _10 years_: implementation of CSS at the national level, further address the societal challenges to continue improving community health across the country and overcoming the digital divide by region, age and income.

#7 Health Equity: Implementing CSS to address the digital divide and overcome healthcare disparities: at the population level, work with communities to get their buy-in so it doesn't come across as "big brother", then deploy CSS in select public spaces (e.g., train/bus stations, schools, libraries) where people commune and broadband access exist. This can monitor population health without burdening individuals of costs of pervasive in-home deployment, yet communities can still take actions to improve the health of their residents as recognized by CSS population monitoring.

References:
[1] VitalHub: Robust, Non-Touch Multi-User Vital Signs Monitoring using Depth Camera-Aided UWB, Z Xie, B Zhou, X Cheng, E Schoenfeld, F Ye, 2020 IEEE ICHI Conference
[2] The Role of Unobtrusive Home-Based Continuous Sensing in the Management of Postacute Sequelae of SARS CoV-2, BHP Corman, S Rajupet, F Ye, ER Schoenfeld, Journal of medical Internet research 24 (1), e32713

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FENWAY ▦ HEALTH

February 28, 2022

White House Office of Science and Technology Policy (OSTP)
7 G Street, NW
Suite A-734
Washington DC 20401

RE: Connected Health RFI: Technology methods to improve community health centers, health equity, and lowering barriers to health care access

Submitted via email to ████████████████████

Fenway Health is a community health center in Boston, Massachusetts that serves over 30,000 patients, about half of whom are LGBT, and about 4500 identify as transgender or non-binary. Fenway Health serves 2,200 patients living with HIV and over 5,000 who are connected to PrEP. The Fenway Institute is an interdisciplinary center for research, education, training and policy development with a pioneering history of community and academic collaborations. Our integration with clinical services has enabled technology and health information innovation as well as real-time clinical interventions with key populations.

Fenway Health and the Fenway Institute support the collection and inclusion of sexual orientation and gender identity (SOGI) data, as well as data on Social Determinants of Health (SDOH) to address the disparities that people who identify as LGBTQIA+ experience. We see the effects of these disparities compounded when identities intersect with other vulnerable populations. Combined with race/ethnicity and other demographic data, SOGI and SDOH data can enable population health management, inform strategies to close these health equity gaps, better address patient needs, and respond with specific solutions.

Social Determinants of Health (SDOH) and Telehealth

Assessing and responding to Social Determinants of Health (SDOH) among our patient population is a critical tool in addressing health equity. Our SDOH screening tool was established as an add-on resource in our health equity efforts. Ideally, electronic health records and patient facing technology such as patient portals would already include more comprehensive collection of patient data. The gaps that exist within electronic health records and patient facing technology such as patient portals, highlight the need for more comprehensive digital health technologies. Platforms that use automated workflows to send messages to patients lead to improved health outcomes and enhanced patient engagement.

SDOH screening helps enable us to reach populations traditionally underserved by healthcare. Fenway has been able to use electronic patient reported outcomes (ePRO) technology to assist in establishing culturally tailored health interventions. Using digital screeners that are patient-friendly and convenient allow us to collect data directly from our patients. By identifying SDOH needs we can adopt an upstream approach to program design. The SDOH data we collect is used to help address individual patient needs but we can take this a step further to close the loop and use this data to drive our programming design within telehealth, specifically. For example, for a

particularly prevalent SDOH result, such as housing insecurity, and how it may affect a patient's access to and use of telehealth, we can evaluate patients' needs and supports in addressing them. One solution is increased access points to participate in telehealth visits for those patients who do not have digital technologies (i.e., smartphones, laptops). We can ensure that all our sites have a private, secure, reliable telehealth space that patients can access for their visits. Harnessing health information technology such as ePRO questionnaires and telehealth programs, we can better reach and engage traditionally hard to reach populations by understanding barriers to care that impact health equity.

Data Visualization Needs and the Health Equity Task Force

EHR vendors often have independently-developed or third-party population health management tools that allow organizations to monitor health equity among their patient populations. These tools typically aggregate performance by various demographic metrics, but generally only one or two at a time (I.e. by cross-tabulating race and sex). For many organizations, these population health tools are their primary resources for analyzing population health data, but unfortunately these analyses neglect to provide relevant intersectional analyses. At Fenway Health we leveraged our internal Data Analytics team to create data visualizations that cross-tabulate health metrics by multiple demographic variables at a time, most notably by race, ethnicity, sexual orientation, and gender, to adequately analyze health equity among our patient population.

Investigating health disparities at the intersections of race, ethnicity, sexual orientation, and gender are critical to achieving health equity within our own patient population. For example, as an organization with a longstanding history of caring for LGBTQIA+ patients in Boston, we are aware that Black and Latinx queer cisgender men and transgender women are disproportionately impacted by HIV; that transgender and nonbinary people are less likely to receive cervical cancer screening than cisgender women; and that LGBTQIA+ people experience anxiety and depression at higher rates than cisgender/heterosexual people. Our third-party population health management product allowed us to look at our performance on these critical services by race, but we needed to utilize other data visualization tools to allow us to understand the disparities we were seeing at more granular levels such as between transgender patients of color compared to White transgender patients and compared to cisgender patients of color. These analyses allowed our organization to charter a Health Equity Task Force to review the health disparities data analyses, research culturally relevant interventions, and begin to implement those interventions to address the disparities. To allow other community health providers the opportunities to address inequities at this level, technologies should at minimum provide cross tabulations of data with multiple demographic factors at once rather than one-by-one.

Patient facing technologies

Implementing an online scheduling and appointment reminder system has been a useful tool for improving the patient experience from an equity standpoint. Currently, there is still work to be done for our institution. We have language limitations for both services: our online scheduling tool is in English only; our appointment reminder system is in English and Spanish only. We recognize this is not representative of the language diversity in our community.

However, there have been some improvements. From a staff perspective, implementation of online scheduling reduces the volume of the following tasks:

- Answering appointment scheduling calls
- Calling patients with appointment reminders
- Convenience and removing barriers by enabling them to schedule at any time of the day

This means that staff will have more time to be attentive to patients who present in person. This includes but is not limited to greeting patients, disseminating and collecting registration documents, answering questions, administrative tasks, etc. Returning some of the staff's time by reducing calls increases efficiency, ultimately improving the service that patients receive face-to-face at the front desk.

From the patients' perspective, the need to address access gaps became apparent to us through receiving patient feedback about our patient portal. Our current portal product does not have a versatile integrated online scheduling system, the solution was to implement two third party products, Clearwave (Online Scheduling) and ProviderTech (Patient Messaging). Using these products, we can offer various appointment types to new and established patients. Our current available appointment types are the following:

Flu Vaccine, Virtual Office Visits (PrEP, Sick, Follow-Up, STI), In-Person Office Visits (PrEP, Sick, Follow-Up, STI), Annual Physicals, COVID-19 Vaccines, Mammogram, Gender Affirming Care/Hormone Therapy (GAHT), and Comprehensive Eye Exam. In addition to these appointment types, patients also receive appointment reminders via text for the previously stated appointment types and more. There are several factors that have shown an improvement in equity since the inception of these services:

- Patients can schedule visits at any time of day
- Patients have the choice to be discreet while scheduling
- Patients can receive appointment reminders
- Patients can cancel appointments online/via text

Previously, patients would only be able to schedule during Fenway Health office hours. They can now schedule at any time if they have access to Wi-Fi/internet, public or private. For patients that experience varying levels of social barriers, online scheduling is an alternative option, this may allow opportunities for those who would otherwise struggle to schedule. Appointment reminders texts are one of the most useful tools, particularly because they give patients the opportunity to cancel at a moment's notice. This means increasing access for other patients to schedule without the involvement of staff.

Ultimately, we've received positive feedback from our patients after we implemented these systems. We plan to continue to improve upon them.

Fenway Health strives to serve vulnerable communities and marginalized populations, we operate with the belief that healthcare is a right not a privilege. This mission has led to new

FENWAY H E A L T H

methods and policies that have strengthened community health through digital health technologies:

- Social determinates of health (SDOH) screening tools that enable access to healthcare for historically underserved populations
- Data analysis methods that allow for cross-comparison of multiple demographic variables, inform a health equity assessment, and assist providers to addresses inequities
- Improved patient access tools through our online portal that incorporate feedback from our patients

Thank you for the opportunity to share our practices.

Chris Grasso
Associate Vice President for Informatics and Data Services
The Fenway Institute

Danielle Funk
Director of Data Analytics
The Fenway Institute

Emily Phillips
Telehealth Project Manager
The Fenway Institute

Nia McDonald
Clinical Applications Manager
The Fenway Institute

findhelp

March 31, 2022
Submitted electronically to ███████████████████

Dr. Alondra Nelson
Acting Director and Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson,

We appreciate the opportunity to respond to the White House Office of Science and Technology Policy request for input about how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity. We have a bold vision for a modern social safety net that is easy to navigate, puts the needs of the individual who is seeking help first, and makes it easier for healthcare providers and community-based organizations (CBOs) to do their jobs. We appreciate the time and attention that your office is giving to the role technology partners can play in transforming community health.

Founded in 2010, findhelp (formerly Aunt Bertha), a Public Benefit Corporation, runs the largest social care network in the United States and has served more than ten million Americans. Our mission is to connect all people in need with the programs that serve them with dignity and ease. As part of fulfilling this mission, we will always maintain findhelp.org, a free and anonymous search tool for self-navigation to free and reduced cost programs in every U.S. Zip Code. Our network is used by over 400 customers, including 250 health systems, health plans, community health centers, and health departments in the U.S. to manage social care referrals, as well as tens of thousands of CBOs. With a network that includes at least 1,400 program locations in every U.S. county, findhelp's interoperable social care technology works with electronic health records (EHRs) and other Systems of Record (SoRs) to help clinicians and navigators seamlessly connect individuals' with free and reduced cost social care services.

Below, we provide feedback on select topics identified in the RFI.

Successful Models within the U.S.
We would like to highlight two exemplary partnerships that are positively impacting community health through locally driven cross-sector collaboratives composed of findhelp, health plans, health care providers, HIEs, CBOs, academic institutions, and others. With our partners, we have worked to build trust in the communities we serve, and assisted in the development of robust governance structures that protect consumer-directed privacy and permission-based access to ensure the privacy of individuals' most sensitive personal information. Our goal with these collaborations is to make an impact at both the individual and community levels through improved care coordination and outcome measurement, while always putting the individual who is seeking assistance first.

Connect Inland Empire (Connect IE) is a multi-sector community resource platform that enables the four million residents of the Inland Empire region of California to easily access free and reduced cost social services. Inland Empire Health Plan (IEHP), a local health plan that serves over 1.5 million Medi-Cal (Medicaid) and Cal MediConnect (Medicaid/Medicare dual eligible) members of Southern California, has leveraged findhelp since 2018 to support members navigation to social care services aimed at addressing upstream factors that impact health and well-being.

In 2020, the IE region launched Connect IE to better meet the needs of their community. Through a partnership that includes IEHP, SoCal United Way/211, the Desert Healthcare District and Foundation, the Central Inland Health Information Exchange Organization (CIHIO), and findhelp, Connect IE enables self-navigation to social services and navigator-supported closed-loop referrals. Connect IE is open to all community members, regardless of location or health plan affiliation. To specifically address food needs, IEHP sponsors a food box program for local clinics. Any patient that presents with a food need can immediately be connected with IEHP's food box program and receive food during that same visit. In 2021, over 155,000 searches for social services were conducted through Connect IE, and the platform enabled tens of thousands of closed-loop referrals.

The Central Texas Model Community in the greater Austin, Texas area is a multi-sector collaboration that strengthens the health of a large and diverse community. Funded by the Michael and Susan Dell Foundation, the partnership between United Way for Greater Austin, Austin Independent School District, FQHCs, UT Dell Medical School, community organizations, and findhelp, Central Texas Model Community is working to close social services gaps through cross-sector collaboration and develop a comprehensive, longitudinal understanding of individuals' needs. While these partners utilize their findhelp platforms to place closed-loop referrals for patients and clients, community organizations and anyone searching for help can use United Way's findhelp-powered ConnectATX platform to find housing, food, utilities support, and other social services can easily access over 3,800 programs and resources privately and securely. United Way for Greater Austin also offers a specialized Navigation Team that assists in routing the highest-risk individuals to social care programs through SDOH screening.

In addition, Dell Medical School works with healthcare providers, mental health providers, and findhelp to gather anonymized health and social care data to study how social care interventions are associated with improved health outcomes. This research helps inform partners and funders about the efficacy of interventions, allowing for more strategic infrastructure, funding, and partnership decisions. Findhelp and the funder also work with United Way Austin to offer a specialized Navigation Group that assists in routing the highest-risk individuals to social care programs.

Trends from COVID-19
Our search data illustrate how the absolute need for social care services increased during the pandemic, and how the relative needs for specific types of services, such as food, health care, and housing, shifted in response to economic conditions and policy changes. When the pandemic began we saw the number of individuals and searches on our platform increase rapidly, with the number of people seeking help increasing 106% from February 2020 to March 2020 alone. During this period, the proportion of people who used the platform to find help obtaining food services, including food pantries and emergency food, increased to a high of one-third of all searches in April 2020.

In response to this dramatic surge in need our company moved quickly to list new critical programs, such as mutual aid groups and emergency food pantries, that were springing up as a result of the pandemic. We began listing these new programs alongside our database of hundreds of thousands of other social service programs on findhelp.org. In addition, to further our mission and support public health, we partner with researchers and academic institutions to use our robust aggregate data to better understand community-level needs and assess alignment of resources. We would be happy to share anonymized social needs data with the CDC and other federal agencies.

Need for Tools, Barriers, & Potential Government Action
We are experiencing a care coordination boom driven by a shared interest in better addressing the social drivers of health. Hospitals, health plans, and state governments are experimenting with approaches to integrate health care and social care. Through digitizing the nationwide supply of non-profits and reduced cost social services, we are building a more responsive and efficient safety net. For example, the COVID-19 Public Health Emergency (PHE) has enabled millions of Americans to maintain continuous Medicaid coverage. When the PHE ends, nearly 80 million

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Medicaid beneficiaries will have their eligibility reassessed and it is estimated that approximately 15 million beneficiaries could lose their health insurance coverage. As states go through the redetermination process, findhelp will serve as a resource for both individuals and professional navigators to support connections to available support services during this time of need.

There are three fundamental areas that require policy leadership as we tackle what is possible with regard to improving navigation and connection to care:

Interoperability
Interoperability and data standardization is paramount for maintaining seamless linkages and continuums of care. With guidance from the Office of the National Coordinator (ONC) on data standardization and interoperability, best practices can be adopted by organizations across the U.S. and enable data-sharing across entities. We are actively engaged in and support national interoperability initiatives, such as the Gravity Project, to advance Social Determinants of Health (SDOH) data standards and data sharing infrastructure across the United States.

We applaud the efforts to expand US Core Data for Interoperability (USCDI), whereby public specifications can be used to encourage, regulate or certify technology that complies with interoperability. We believe in the future, there may be a role for ONC to certify FHIR based and/or interoperable vendors that can demonstrate accurate state and federal reporting for state funded or federally funded initiatives. Our platform was the first to be certified for the Accountable Health Communities Grant model.

Consumer-Directed Privacy
We cannot compromise on protecting the privacy of personal information. Social care information, however, can currently be created, shared, and used entirely outside of HIPAA regulation. We believe the lack of clear safeguards to protect consumers' HIPAA-adjacent data will have a chilling effect on equitable access, trust, and use of social services through closed-loop referral management systems and networks. New Hampshire (SB 423), Connecticut (SB 6), and Rhode Island (HB 7994) are leading the way on this issue by advancing legislation to ensure the adequacy of privacy protections in this currently unregulated space. We encourage your office to examine the policy frameworks that are being advanced by these state legislatures and support federal legislation to address the gap that is currently leaving individuals' most personal information vulnerable.

Connecting Funding to Service Delivery
We know that addressing upstream social drivers of health is foundational for building community health and advancing health equity. CBOs are historically underfunded, but expected to provide an array of services to the communities they serve. We are encouraged by states like Massachusetts and California that are beginning to test payment models for social care services through 1115 Demonstration Waivers, and hope that these models are not only replicated, but also accompanied with funds to build the capacity of effective non-profit organizations.

We appreciate and extend our gratitude to the White House OSTP for the opportunity to highlight the great work of findhelp, and look forward to future partnerships, collaborations, and engagement. Please feel free to reach out to us at ▮▮▮▮▮▮▮▮▮▮ at any time.

Submitted on behalf of findhelp, A Public Benefit Corporation

FIRST CALL

2-1-1

March 31, 2022

Responding to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

The Mansfield Richland County Public Library (MRCPL), located in Mansfield, Ohio has been involved with providing local information and referral (I&R) for well over 30 years. In 2004, a formal Memorandum of Understanding was signed between the Richland County Job & Family Services Department and MRCPL creating what is now First Call 211, an Alliance of Information and Referral Systems (AIRS)-accredited 2-1-1 community resource service operating 24 hours a day/365 days a year serving more than 188,000 Ohio residents (approximately 2% of Ohio's full population). This service is one of 14 AIRS-accredited call centers all belonging to the Ohio AIRS statewide affiliate that together cover the entire population of Ohio.

We appreciate the opportunity to comment on the RFI issued by the OSTP on this important area as we believe that over the past two years, targeted corporate marketing is creating an imbalance between strengthening through technology as opposed to strengthening through technology AND direct community services. The resolution to finally directly address core SDoH issues and improve health disparities is in danger of being led astray.

Ultimately, we all want the same thing: **healthy outcomes for consumers** *with the added benefit of reduced financial burdens on the healthcare systems, improved navigation through government bureaucracy and intentional allocation of taxpayer dollars.* These outcomes will likely require a collaborative framework between healthcare institutions, private sector technology innovators, government agency policies and funding mechanisms, and community-based organizations geared to help individuals and families across the full spectrum of human need. Every player in this field has a level of expertise to contribute in crafting an equitable solution.

Closed loop referral (CLR) software platforms can provide a tremendous leap forward providing the software vendor remains a software vendor. Existing 2-1-1 centers have **DECADES** of providing one-on-one I&R interactions to all members of a community through professional standards which include: building trusted rapport, assuring confidentiality of shared information, providing nonpartisan referral to resources and deploying an appropriate level of advocacy when necessary. The community resource databases maintained by these services adhere to additional high level professional standards, the most important being regular vetting and updating of the information it contains. Our experience with corporate database vendors has consistently found errors in their products. Oftentimes they show local resources no longer in existence but according to their records were recently updated. Additionally, a large array of national resources may be listed, but a notable lack of the local, homegrown non-profits and faith-based services that only known down at the grassroots level. Being a relatively small call center, we personally know many of the directors and service providers listed in our community resource database. We live in the same community that we serve; we mutually attend community meetings; we collaborate on local initiatives as well as statewide initiatives; we have local staff dedicated to updating the database on a daily basis to keep these records as accurate as possible.

Genuine Community Information Exchanges (such as in San Diego) governed by the community itself or similar projects such as the Community Referral Network developed by the Greater Flint Health Coalition showcase the possibilities of how a large, yet integrated system of local providers, leveraging available technology, can move the needle toward the desired outcome of healthier populations. Note that the US Administration for Community Living is also encouraging the development of similar collaborative models that promote health equity.

Thank you again for broadening the engagement of nonprofit organizations such as AIRS and individual 211 service providers in this important discussion and at this important juncture. MRCPL would welcome the opportunity to provide any information and assistance that is required as this process moves forward. We fully support the input of the national Alliance of Information & Referral Systems.

Respectfully submitted,

Terry Carter, 211 Coordinator
Mansfield Richland County Public Library, First Call 211
43 West Third Street
Mansfield, Ohio 44902

www.mrcpl.org/services/first-call-211

Response to: Request for Information (RFI) on Strengthening Community Health Through Technology

Responding Entity: Zipongo DBA Foodsmart
Contact: Chad DeVos | Product Marketing Manager █████████████████

1. Successful models within the U.S.: Descriptions of innovative examples or models of how community health providers within the United States successfully use digital health technology to deliver healthcare, enable healthier lifestyles, or reduce health disparities. This can include: The key features of the organizations and/or the digital health technologies that have been most successful, what is needed to support the scale up beyond individual organizations, examples of best practices, examples of important user protections to institute (e.g., privacy best practices), examples of positive user experiences, metrics or measurement strategies of how community health providers measure outcomes or success, and creative ideas or models that may be in nascent stages.

What Foodsmart Is
Foodsmart combines expert telehealth guidance from our national network of registered dietitians (RDs) with our digital platform that enables members to make changes outside of appointments. This combination of personalized resources is clinically proven to reverse chronic conditions related to nutrition such as diabetes and hyperlipidemia and helps members navigate food security, access, and affordability.

How It Works
By providing nutrition care with Foodsmart, members can meet with a registered dietitian to receive medical nutrition therapy. The dietitian can make clinical recommendations to the patient no matter their condition, provide education, and help develop a plan for success. Outside of dietitian visits, the member uses the Foodsmart app to get help eating well while saving time and money to create long-term behavior change that is clinically proven.

Within the digital platform, Foodsmart's marketplace of healthy food options helps members combat rising inflation costs through embedded cost savings. Members can access recommended foods and recipes through an auto-populated virtual shopping cart with delivery from Walmart, Amazon, and Instacart. In addition, there are quick options like ready-to-eat medically tailored meals and restaurants via Grubhub. Nutritious choices stay in focus without end-of-aisle grocery store distractions or unhealthy food advertising.

The dietitian and the digital platform help to promote self-efficacy in the patient over time, empowering them to take control of their nutrition, resulting in health improvements. Our program offers a comprehensive solution to addressing not only

nutrition care for members but also assessing and providing resources for related SDoH needs that adversely impact improving nutrition care and overall member health.

The platform includes features such as:
- Nutrition assessment to identify areas for improvement and members facing food insecurity
- Meal planning
- Healthy recipes with filters based on dietary preferences, budget, and cooking time
- Grocery ordering pricing comparison through Instacart and Walmart
- Recipe suggestions based on ingredients on-hand
- Grubhub integration to recommend healthy ordering
- Meal kit integration for healthy, easy-to-prepare meal options

Key Outcomes/Metrics

- 33% of members with obesity sustain >5% weight loss at 24 months ([study](#))
- 36% with dyslipidemia return to normal lipid levels ([study](#))
- 33% of users with stage 2 hypertension returned to stage 1 or lower ([study](#))
- 21% with diabetes improved their HbA1c levels to normal ([study](#))
- 33% of food insecure members become food secure at 4 months (study in review)
- Net Promoter Score (NPS) of 87

New Opportunities for Impact

Foodsmart regularly seeks and tests new ways to help members overcome food insecurity and address chronic conditions. We recently launched a program with Independent Health called [Food First](#), where Medicaid members get unlimited visits with registered dietitians and one year of free grocery delivery through Instacart Express or Walmart+. Through subsidizing the costly delivery fees, Independent Health and Foodsmart remove an additional barrier that members face when trying to access and afford nutritious food.

7. Health Equity: Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies

Food and nutrition insecurity is one of the most prominent social determinants of health and drivers of health inequity in the United States. The problem has been exacerbated by the COVID-19 pandemic and it is estimated that the number of food insecure

individuals grew from 37 million to 42 million in 2021. Further, food insecurity is both (1) strongly correlated with increased rates of chronic disease and (2) more prevalent in minority communities - worsening health inequity across communities.

Through partnering with community health plans and leveraging community-based resources, Foodsmart helps 33% of food insecure members reach food security after 4 months. Foodsmart helps community health plans identify and reach members in need, educate members on nutrition, community, and health plan resources, and provide tools to enable long term behavior change.

For example, Foodsmart partners with Children's Community Health Plan (CCHP) in Wisconsin to tackle food insecurity and chronic conditions ([case study link](#)). Leveraging questions from the USDA food security questionnaire as part of its nutritional assessment, Foodsmart found that 70% of CCHP members reported food insecurity. Foodsmart and CCHP strategized how best to meet members where they were and engage in the community. Together, they identified a variety of opportunities for Foodsmart to enroll members and drive impact:

- Trained Foodsmart RDs to provide SNAP enrollment support to eligible members
- Supported CCHP in getting state approval for outbound text and calling campaigns to increase enrollment and engagement
- Worked closely with CCHP Community Outreach Coordinators to attend in-person events for Medicaid members, such as vaccine drives
- Conducted trainings with care managers and community based organizations to highlight how Foodsmart supports improving chronic conditions and SDoH

As a result of these community-based efforts, over 2,000 CCHP members have enrolled in Foodsmart within the first 6 months of launch, with 1,500 of them completing at least one telehealth visit with a registered dietitian. Additionally, Foodsmart collected over 1,000 new member emails and phone numbers, providing CCHP with crucial information for reaching members in the future.

As with CCHP, Foodsmart has realized the most success when leveraging its partners' local experience to get involved in the community. Not only does this allow Foodsmart to better enroll and engage members, but it also enables Foodsmart's registered dietitians to refer members to local community resources such as food pantries and farmers markets that accept EBT payment.

Genentech
A Member of the Roche Group

600 Massachusetts Ave., NW, Suite 300
Washington, DC 20001

████████

February 25, 2022

SUBMITTED ELECTRONICALLY TO ████████████████████.

Re: Request for Information Regarding the Connected Health RFI from the White House Office of Science and Technology Policy

To Whom It May Concern:

Genentech, a member of the Roche Group, appreciates the opportunity to respond to the request for information issued by the White House Office of Science and Technology (OSTP) regarding how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity. As a leading biotechnology company that discovers, develops, and manufactures novel medicines to treat patients with serious or life-threatening medical conditions, we are committed to improving patients' lives through new innovations, investing $15 billion globally in research and development – more than any other health care company in the world As a result, in the past ten years, we have delivered to patients 20 new medicines that treat devastating diseases like cancer, multiple sclerosis, and hemophilia. In addition to our over 40 approved medicines, we have 70 potential new medicines in clinical or preclinical development and have been granted 39 FDA Breakthrough Therapy Designations for medicines with the potential to provide substantial improvement over currently available treatments.

Digital health technologies can be used to impact various stages of the patient journey from diagnosis of disease to the use of digital endpoints as primary outcome being measured by a clinical trial, to treatment selection with digital therapeutics and smart-drug delivery systems, to better access to care through virtual clinical trials and digital solutions for remote monitoring. In doing so, digital technologies can improve health outcomes, particularly among individuals for whom access to high-quality care has been elusive.

We are listing below important definitions relevant to how we are applying digital health to drug development:

- **Digital endpoints** are precisely defined variables intended to reflect an outcome of interest that is statistically analyzed to address a particular research question derived from data captured with digital health technologies.

- **Digital therapeutics** are ways for healthcare providers to intervene and rehabilitate patients via a digital application. The software-based intervention can be used independently or in concert with medications, devices, or other therapies to potentially help optimize patient care and health outcomes.

- **Decentralized clinical trials** (DCTs) utilize technology, processes, and services to collect data in a way that reduces or eliminates the need for patients to physically visit the trial site. Elements of a DCT such as telehealth, wearables, electronic data collection, remote clinical assessments, home health, local labs, and local imaging enable: location-flexible study designs; choice and optionality for patients and sites; improved patient recruitment and experience; and collection of data that can be more proximal and relevant to patients' daily functioning and can offer a finer-grain view into the temporal dynamics of

symptoms. Potential benefits of a "decentralized" approach include increased access and diversity, as well as the potential for fewer patients or shorter clinical trials to detect a potential treatment effect, compared with traditional approaches.

- **Digital Patient Monitoring (DPM)** integrates the ecosystem of digital health solutions to empower patient management. These strategies improve safety, outcomes, quality of life, evidence generation and health-care utilization. DPM can provide individuals in remote areas, or those that otherwise face barriers to accessing health care providers (e.g., due to a lack of transportation, no caregiver support or childcare, etc.) access to care.

- **Smart-Drug delivery systems** leverage technology to deliver real-time drug administration, and to deliver treatment to where it may be most effective and least toxic.

Given the benefits to patients of integrating digital technologies into clinical development and care, we are committed to R&D in this space. Below, we provide a few examples of how we have employed digital technologies in some of these applications.

- **Decentralized clinical trial & remote patient monitoring**—Recognizing the need to improve healthcare access and cancer care for veterans who live in rural and underserved areas, Genentech and the Department of Veterans Affairs (VA) partnered on a unique research program using a decentralized clinical study design. The aim was to make clinical research more efficient, equitable and cost-effective by bringing some aspects of cancer care into patients' homes. Veterans taking part in the study consented electronically and were equipped with a wearable device to track their overall well-being and health-related activities, such as sleep and activity levels. Telehealth visits and a customized mobile app were also part of the overall study design. This initial study provided us data on the feasibility of a decentralized approach and on whether such an approach is scalable. The collaboration also laid the foundation for broad deployment of innovative clinical trial designs and explored the next level of service and access to patients, which could mean applying the decentralized trial platform to a more complex study setting.

  As another example, in decentralized clinical trials for early-stage Parkinson's disease, we have provided participants with a smartphone and smartwatch, to remotely quantify the severity of motor symptoms in a more ecologically valid context and beyond the confines of specialized medical centers. Exploratory findings from this research demonstrate the promise of these tools for accelerating other healthcare innovations.

- **International models**—In the midst of the COVID-19 pandemic, Roche piloted the Home Vision Monitor (HVM) mobile app (and physician web portal) to remotely monitor vision in patients with potentially blinding conditions, allowing them to avoid traveling to testing sites. It debuted as a pilot at Moorfields Eye Hospital in London as a tool to support COVID-19-vulnerable patients and physicians struggling with the necessity of managing chronic eye diseases amid the dangers and logistical challenges associated with the pandemic. The results go to their healthcare professional, who accesses them through the web portal and evaluates the need for additional testing or interventions. We see this approach being of value beyond the pandemic as it may allow us to detect progression of disease earlier and therefore allow for intervention sooner.

- **Improving patient experience**—We have partnered with several industry and advocacy groups to construct an integrated data sharing platform for individuals with autism and their families, including a community portal by which these individuals can engage with the medical research community (the Autism Sharing Initiative). Using this system, participants could opt to contribute genomic or phenotypic data to privacy-preserving patient registries and volunteer to participate in studies of remote patient monitoring tools like those described above. This combination of community outreach, patient-centered design, and digital health technologies has the potential to unlock new opportunities for clinical trial participation on the basis of precision genotypes or phenotypes, and to inform the

development of these trials on the basis of the interests and unmet needs of these individuals and their families.

In another example, we developed a patient-centered software application (app) that included patient information to improve patient experience in a breast cancer trial. The application included information on mental health and mindfulness, diet and exercise, preparing for the study, how cancer can change family/friend relationships, and how patients could speak about their diagnosis. It also included several activities patients could complete with family members.

With increased digital literacy, many patients are in a better position to embrace and benefit from effective digital health technologies. However, access to those tools—and individuals' comfort with them—is not universal. As with any policy, great care should be taken to fully understand and address barriers to adoption, both at the individual and community level. Thoughtful partnerships with community-based stakeholders, as well as continued research into appropriate and safe use of technology and data, will ensure digital health technologies are equitable, accessible, and effective. Appropriate data privacy safeguards must also be central to a digital health future. This means ensuring, in part: collection of only necessary information, clear disclosure of how information will or will not be reported or shared (and providing such disclosures in simple terms and in multiple languages), and continual investment in the latest cybersecurity technology.

Another barrier to the broader adoption of digital technologies, particularly outside the clinical trial setting, is the absence of a replicable, sustainable coverage and reimbursement pathway for digital health under the Medicare program, which undermines broader uptake of these technologies and potentially exacerbates health disparities among our population. To foster adoption of these innovations, digital health technologies should be recognized as a covered benefit under the Medicare program, with modernized payment systems to enable timely patient access. Digital technology coverage and reimbursement policy should be flexible to allow for the incorporation of existing and emerging modalities, given that innovation in health care technology likely will outpace policy development.

Finally, interoperable systems and access to broadband are critical to most effectively leverage digital health technologies. We note the urgent need for meaningful action to advance the maturity of interoperable data systems.

<p style="text-align:center">*   *   *   *   *</p>

Thank you for the opportunity to provide our feedback on how digital technologies can further improve patient health and address health inequities. We would like to offer to be a resource for additional input and support as your Office continues its work on this important issue. If you have any questions, please do not hesitate to contact David Burt at ███████████ and/or Rasika Kalamegham at ███████████

Sincerely,

David Burt
Executive Director, Federal Government Affairs
Genentech, Inc.

Rasika Kalamegham
Head, US Regulatory Policy
Genentech, Inc.

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SUBJECT: Connected Health RFI

Stakeholder type: Individual who has used digital health and telehealth

RFI:

The Request for Information on Strengthening Community Health through Technology focuses on improving existing limitations in the U.S. healthcare systems. The Office of Science and Technology Policy (OSTP) wishes to know how digital health technologies can transform community health, individual wellness and health equity.

The solution to many, if not all, of these areas lies in enabling communities to allow their members to collect their own health data, monetize it, and broker it, along with controlling access to who views, uses and/or monetizes their data.

Communities and/or patients have little or no control over their health data; other entities, such as hospitals, insurance companies, technology companies and data brokers have a thriving profitable business buying, selling and trading patient data, with no oversight or regulation. Worse, with cybersecurity risks in healthcare increasing daily, the chances of this data ending up on the dark web and being used to damage or hurt patients – with little liability nor consequence to the covered entity.

This lack of personal control, combined with the sense of exploitation, has led to eroding levels of trust in traditional health sources and providers, as well as public health; indeed, the recent attempt by Apple & Google to create a privacy-preserving contact tracing application during the COVID-19 pandemic was met with skepticism, scorn and low participation, due to a lack of trust in these companies, government agencies, and how the data would be used. Despite the threat of a pandemic, people were willing to take their chances rather than giving up their privacy to an app with questionable origins.

We suggest enabling a national sovereign identity model, like enabling national social security numbers or each home/resident having a postal address and/or mailbox. This would allow citizens to collect their data transparently and determine what level of sharing and or participation they wish to have. This would also have the added benefits of creating a potentially taxable income stream, supporting potential initiatives such as Universal Basic Income, and allow for citizen-based health data collection to help with evaluation of local healthcare systems for Value-based contracts and programs.

1) Successful models within the US – several companies currently offer data platforms that allow patients to have control of their data – Ciitizen, (recently acquired by In Vitae), ZibdyHealth, Seqester, and Pluto Health are part of the crop of companies that are built

to handle this type of patient and citizen choice. They allow patients to collect their data, control access, and in some cases, monetize that data.[1,2,3,4]

2) Barriers – In discussions with insurance companies, healthcare systems and providers, its been brought up that creating financial incentives to motivate healthcare data collection or improved healthy behavior may be seen as being an unfair model for low-income or other disadvantaged groups. Nevertheless, this approach deserves a closer look, and research into how to do this while achieving health equity, diversity, and inclusion – perhaps using the captured monetary value to address Social Determinants of Health (SDoH) by allowing for purchase of groceries or prescriptions, payment of fuel bills, rent or transportation, etc.)[5]

3) Trends from the pandemic – pharmaceutical companies such as Pfizer, Moderna, Johnson & Johnson and others must be in constant development mode to educate patients, observe infection patterns and mutations in the coronavirus, re-formulate the vaccine, and observe for adverse side effects. Many are having to go through non-traditional channels to reach out to a more diverse population. The HAIR (Health Advocates in Research) program, a program that distributes care and conducts research through 1,000+ barber shops across five states, has been addressing vaccine hesitancy and offering vaccination to their populations. HAIR is currently seeking partners that allow them control of their data and full transparency as to who uses their data, and how it is being used as even a requirement for participation[6].

4) User experience – healthcare as designed currently keeps information about procedures, quality, pricing, outcomes and navigation opaque. The aforementioned platforms also have or are building the capability to pull in claims, clinical and other data into longitudinal records. However, this type of interoperability usually only benefits clinical workflows, not patient self-management of health. Allowing for loyalty programs, cryptocurrency approaches based on the accurate incentivized collection of health data for clinical trials, care delivery operations, etc by collaboration with patients addresses the issues of data cleaning and data quality[7], but also recruits patients into the process, reducing the need for data cleaning and governance, which can be prohibitively expensive. Moreover, if the value of their contributions can be allowed to pay for a portion of their healthcare expenses, it may prove an even more potent engagement model to link patients to their healthcare systems and create more patient-centered care programs.

[1] https://www.ciitizen.com/
[2] https://www.trypluto.com/
[3] https://www.seqster.com/
[4] https://www.zibdy.com/
[5] https://www.kff.org/wp-content/uploads/sites/2/2012/01/rivkin_-_what_do_they_want_-_article_1-5.pdf
[6] https://sph.umd.edu/hair
[7] https://digitalhealth.folio3.com/blog/importance-of-data-quality-in-healthcare/

Proposed government actions – create either grant programs or tax advantages to support novel incentivized personal health information data collection models, allowing healthcare systems to enter into contracts with patients – this would require companies to inventory and track any and all uses of the data collected for auditing purposes, along with consent obtained from patients, and to put up adequate cybersecurity protections in place. Healthcare data should be considered a financial asset, as it is being bought, sold and traded as such, with no tax implications, and should be regulated by the Financial Accounting Standards Board. Lastly, financial transactions for the use of financial data should be treated as other loyalty programs – the accounting must be audited so that companies using them don't unduly incentivize nor exploit patients. The Health Data Use and Privacy Commission Act introduced by Sen. Bill Cassidy and Sen. Tammy Baldwin may begin to address this[8] – if the commission moves forward, creating protections and stopgaps for how health data can and should be handled as a financial asset should be considered – as well as protections for data subjects that generate the data. There are viable business models that would allow for these protections to exist and still allow for useful data sharing – but without all of the financial value being captured solely by healthcare companies who currently have no incentive to compensate citizens for their data nor protect it unless forced to.

5) Health Equity – as in the aforementioned examples, transparency and consent are key factors in addressing health equity; giving patients and citizens choices on how they data is shared, used, and monetized is important; past events such as the Tuskegee syphilis study, the case of Henrietta Lacks, events leading to the Nuremberg code – all of these have parallels now in the Cambridge Analytica event, NHS and DeepMind UK citizen data access without proper consent of UK citizens[9], mental health apps selling data on patients[10] - all require more strict privacy and data handling standards to truly make health equity tenable.

6) International Models – In Belgium, a new platform, "We Are" is launching, with the following description[11]:
"Indeed, "We Are" is a citizen-centric data platform that will give citizens the ownership and control over which personal (health) data he or she wants to share with whom.
The platform is built by VITO, on the basis of #SOLID, which is the new iteration of the web and is basically addressing how we deal with data. Data will no longer be brought to other companies and stored there, but will rather be provided in personal online data stores (PODs) that are spread around in a decentralized fashion.
Apps that plug into citizen centric data utilities such as 'We Are' can tap into the user's personal data to power personalized services, while contributing more data to the user's personal data store, which he or she in turn can share with researchers and other services."

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[8] https://www.govinfo.gov/app/details/BILLS-117s3620is

[9] https://www.cnbc.com/2021/10/01/google-deepmind-face-lawsuit-over-data-deal-with-britains-nhs.html

[10] https://privacyinternational.org/report/3351/mental-health-websites-dont-have-sell-your-data-most-still-do

[11] https://we-are-health.be/en

European countries are supported by much stronger privacy laws, such as the General Data Protection Regulation (GDPR), just as Brazil is by the Brazilian General Data Protection Law (LGPD), India by the Personal Data Protection Bill, and China by the Data Security Law (DSL) – in these countries, privacy is seen as a human right – however in the United States, it is not, nor is it explicitly stated anywhere. Therefore, to make this model work in the US, privacy may need to be made either a business requirement and/or a value proposition – an extra charge or feature offered to citizens to be forgotten or at least protected.

Thank you for this opportunity to state my opinion. If any comments need further clarification or explanation, please reach out.

Respectfully yours,

George T. Mathew, MD, MBA, FACP
Chief Medical Officer
Dedalus North America

Grapevine Health (GH) is pleased to offer insights, reflections and suggestions to the White House Office of Science and Technology Policy's Request for Information (RFI) on Strengthening Community Health Through Technology. Grapevine Health is a digital health media company creating relatable and culturally-appropriate health content for underserved communities like those insured by Medicaid. Our work is informed by listening directly to the underserved communities. Our team includes medical, public health, digital health and communication experts and community outreach and engagement personnel. Before and during the pandemic, we partnered with trusted community-based organizations to build trust and deliver trusted health information in person and virtually. We have conducted quantitative and qualitative data collection among Medicaid patients and underserved community members to better understand barriers to care, access to and perceptions about smartphone usage and trusted sources of health information.

Throughout the pandemic, we have provided telemedicine services, conducted home and clinical visits and performed an evaluation of telemedicine implementation at a local hospital. Therefore, our experiences and community engagement in underserved communities enable us to comment briefly on several topics listed in the RFI. We have also previously published on this topic here and here.

Key digital health innovation observations from our work include:
1. Smartphone access among underserved communities is at an all-time high, but digital health innovations are not built for and are not readily available for this population.
2. Despite high smartphone ownership in underserved communities, digital literacy is low among seniors, some previously incarcerated persons and those with low background literacy.
3. Virtual education effectively delivers health messages through trusted messengers and shifts behavior. We saw at least a 30% increase in vaccine uptake among those engaged with a GH physician messenger.
4. There is limited access to remote patient monitoring tools that could reduce hospital-related costs and morbidity if made available consistently.

Specific Responses to RFI
We have a few observations specific to this RFI.

Successful models within the U.S
A few successful models for care and outreach are notable. First, deploying care into the community via mobile vans and home visits successfully reached community members who are marginally engaged or disengaged from care. In collaboration with United Medical Center, the Black Coalition Against Covid and Blue Rock Care, our virtual and street outreach in underserved communities helped identify and engage people with no consistent engagement in primary care. Through these efforts in 2020 and 2021, we have touched over 1,500 underserved community members directly through our 'feet on the street' approach. We continue to receive positive feedback and gratitude for our engagement. Thus, deploying health education, outreach and health care navigation support in accessible and convenient locations suggests this type of engagement is vital for reaching people deemed hard to reach. Second, use of trusted and culturally-appropriate messengers to deliver health information and demystify Covid-19 vaccines

led to increases in vaccine uptake both virtually and in person. Third, home visits, particularly for people living in public housing provide context needed to understand how to devise and deliver impactful social determinants-related interventions. For example, a team member was late for a home visit after waiting 20 minutes for the sole functioning elevator in his high-rise building. The patient shared the chronicity of missing medical transportation due to being trapped on the 11th floor due to malfunctioning elevators.

<u>User experience and barriers to the use of digital health technologies in community-based settings</u>
The greatest challenge to using health technology, namely telemedicine, was not the absence of broadband but low digital literacy. In interviews with 52 patients attempting or executing telemedicine visits, 88% reported requiring a 'helper' to assist with navigation of the telemedicine visit. In addition, interviews with clinic staff for these patients confirmed the most significant challenge with telemedicine implementation was the time needed to assist seniors with preparation for telemedicine visits. In addition, the absence of remote patient monitoring tools among Medicaid and Medicare patients was striking. Through Blue Rock Care, we provided RPM tools like blood pressure cuffs and pulse oximeters, which highlighted the need and feasibility for these diagnostics in underserved communities. The greatest challenge to access to RPM for Medicaid patients is an absence of consistent reimbursement across Medicaid plans. There is also a need to improve digital literacy, proficiency and trust in RPM tools among underserved groups.

<u>Tool and training</u> needs
The [cost-effectiveness and efficacy of community health workers](#) have been demonstrated repeatedly, yet CMS has no reimbursement model for this support system. In addition, the pandemic has shone a bright light on the need for trusted messengers and tailored communication to shift health behaviors. For example, our vaccine outreach in Black, underserved communities revealed a 30-50% uptake of the Covid-19 vaccine after interaction with a Black doctor. (Agency self-report data). Race is likely not the only factor contributing to the success of health education. The approach using non-judgmental and culturally-appropriate language and examples can be taught throughout the health systems, academic and research institutions. Appropriate and accessible language is vital for building trust in underserved communities.

<u>Health Equity</u>
[Trends in emergency room overuse](#) are due to a lack of convenient access to primary care and sub-specialty services for the underserved, particularly Medicaid populations. The pandemic has exacerbated these access gaps resulting in further delays in care and early diagnosis. In addition, the lopsided access to RPM tools and reimbursement for upstream engagement focused on preventive services, including health communication, further exacerbates disparities in early diagnosis and treatment. Achieving health equity will require increased reimbursement and other provider incentives to employ these technologies and strategies needed for upstream care and diagnosis.

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Recommendations

Our experiences highlight long-standing social factors and community perspectives that can be addressed to improve digital health access or techquity (technology equity) and move us closer to health equity. Based on our on the ground experiences and listening directly to community members being served by our programs, we believe a few practical interventions can enable innovation in science and technology to reduce access barriers. These include:

1. Implement and reimburse for digital health tools with parity across Medicare and Medicaid, including remote patient monitoring access.

2. Eliminate challenges to using text-based communication and accept instructions guided by the end-user or patient. For example, text messaging has historically been a taboo strategy for interacting with patients, requiring them to be re-routed to secure websites. This extra step discourages engagement. End-user consent to use text messaging to seek health support should be the only requirement for engaging in text-based conversations. This facilitates access because it is the least common and most common tech denominator among the underserved.

3. Provide support to improve digital literacy which can increase access to and uptake of digital health tools.

4. Implement digital health education in elementary and secondary education and among incarcerated populations with low digital literacy. For example, early preparation for leveraging digital tools, understanding and tracking data, and finding reliable health information will obviate the need to address these skill deficits later in life when health needs may be much greater.

5. Shift the focus on the lack of broadband among 12-20% of the US population to include an equal focus on the digital health needs of the majority with access to smartphones. Too often, broadband deficiencies are the singular focus of failures in digital health equity and access. A greater missed opportunity is innovation for the majority population that could be better served by smartphone innovation for everyone, including the underserved, who often prefer text, video-based content and the Internet for digital engagement.

We appreciate the opportunity to share our experiences and relate the community's voice. We would be delighted to have further and more in-depth discussions about these issues should the opportunity arise.

Sincerely,

Dr. Lisa K. Fitzpatrick, MD, MPH, MPA
Founder and CEO, Grapevine Health

February 25, 2022

By electronic submission to ███████████████████

Dr. Alondra Nelson
Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: The Gravity Project's Response to Request for Information on Strengthening Community Health Through Technology

Dear Deputy Director Nelson:

The Gravity Project submits these comments on the request for information on strengthening community health through technology, dated January 5, 2022. The Gravity Project develops, tests, and implements consensus-based standards that facilitate documentation and exchange of social determinants of health (SDOH) data nationwide across diverse systems and settings of care and social services. We do this by convening over 2,000 subject-matter experts, stakeholders, and public members across the nation through an open, public collaborative process. We thank you for the opportunity to provide these comments.

The Office of Science and Technology Policy (OSTP) asks if there are successful national models to strengthen community health through digital health technologies. The Gravity Project's work since 2018 has created a critical national model to build out consensus-based standards for SDOH data use and exchange. We describe the Gravity Project for OSTP's benefit and conclude with four strategic recommendations.

I.   The Gravity Project as a National Model

Experts have long known that **social and environmental factors explain 80-90 percent of a person's and population's health status**.[1] The COVID-19 pandemic highlights this reality daily. Prior to the Gravity Project, no national electronic standard existed to represent and exchange structured SDOH data for health care across the disparate digital systems used by clinical, community, and home settings. This omission highlighted the urgency of a national standard, and the Gravity Project has been working diligently to fill this void.

The value of collecting and coding SDOH data for clinical care and other use cases is well established in the literature.[2] Integrating SDOH data in health care is essential for the Triple Aim to improve care, health, and value, and has become a core expectation of the Federal

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[1] Robert Wood Johnson Foundation, *Frequently asked questions about the social determinants of health* (2010).
[2] E.g., Abigail Arons, Sarah DeSilvey, Caroline Fichtenberg & Laura Gottlieb, Documenting social determinants of health-related clinical activities using standardized medical vocabularies, 2 J. Am. Med. Info. Ass'n 81 (Apr. 2019); Institute of Medicine, Capturing Social and Behavioral Domains in Electronic Health Records, Phase 1 (2014).

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Health IT Strategic Plans for 2015-2020 and 2020-2025.[3] The wholesale support among the Gravity Project's 2,000+ collaborators nationwide and diverse stakeholder segments illustrates the deep need for and immediate value of collecting and exchanging SDOH data for better care, better health, and better health equity.

The Gravity Project began in 2018 after a diverse group of national experts and stakeholders concluded that a concerted strategy was urgently needed to achieve consensus-based, comprehensive coding standards for SDOH data in electronic health record (EHR) systems. Since then, the Gravity Project has provided critical leadership to convene experts, stakeholders, and interested members of the public nationwide and has coordinated a structured, comprehensive, and efficient approach to:

- Understand the value and use of SDOH data for clinical care, population health, social care, and public health;
- Analyze gaps and develop standard vocabulary and coded terminology to represent and use SDOH concepts in EHRs and digital health technologies across clinical and community settings;
- Develop an HL7® FHIR® Implementation Guide for clinical care to support nationwide exchange of SDOH data using FHIR release 4 and FHIR-based application program interfaces (APIs);
- Develop a reference implementation to support real-world pilots and end-to-end exchange among individuals, community services, clinical settings, and nationally recognized screening tools and community-referral platforms (e.g., PRAPARE, UniteUs, findHelp, Accountable Health Communities (AHC)), with smartphone and web-based applications using FHIR APIs; and
- Analyze and develop bi-directional mapping between non-health care data and relevant health IT standards (FHIR resources, profiles) for use in clinical care and non-clinical settings.

The Gravity Project's work is open source and technology agnostic for public use nationwide.

On October 23, 2020, the Gravity Project submitted to the Office of the National Coordinator for Health Information Technology (ONC), for inclusion in the U.S. Core Data for Interoperability (USCDI) version 2, an initial set of fourteen critical SDOH domains (food insecurity, housing instability, homelessness, inadequate housing, transportation insecurity, financial insecurity, material hardship, employment status, educational attainment, veteran status, stress (general), social isolation, intimate partner violence, and elder abuse), across core clinical activities (e.g., assessments, diagnoses, goals, interventions), using key code systems and value sets (e.g., LOINC, SNOMED-CT, ICD-10-CM, and CPT/HCPCS). **On July 9, 2021, ONC added these SDOH data elements to USCDI version 2 for nationwide interoperability.**[4] Other

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[3] Office of the National Coordinator for Health Information Technology, _Federal Health IT Strategic Plan 2015-2020_, p. 11 (Sept. 2015); Office of the National Coordinator for Health Information Technology, _2020-2025 Federal Health IT Strategic Plan_, p. 11 (Oct. 2020); see also id., pp. 9, 23, 29.

[4] Office of the National Coordinator for Health Information Technology, United States Core Data for Interoperability Version 2, pp. 5, 10, 15, 16 (July 9, 2021).

federal agencies are beginning to integrate these SDOH data standards.[5]

II. The Gravity Project's Recommendations

The Gravity Project is an extraordinary model and collaborative process building a national ecosystem of SDOH terminology and exchange standards that leverages ONC's Cures Act regulation requiring FHIR API access for nationwide interoperability to reach individuals and their community- and social-service organizations. From that cornerstone, we share four recommendations:

- Explicitly **incorporate Gravity's standards** across federal regulations, federal programs, contracts, grants, cooperative agreements, and pilots to enable nationwide interoperability and use of SDOH data—as federal agencies are already beginning to do;
- Contribute **funding and training** to help the community- and social-service organizations on the ground, which never had a Meaningful Use incentive program, build out capacity, workflows, and use cases;
- **Bridge digital divides** that continue to be barriers for underserved communities;
- Integrate **bi-directional exchange** and write API access now, so patients, family caregivers, and community organizations can contribute SDOH data, and providers, public health agencies, health plans, etc., have access to these critical missing data.

If you do that, the nation will have better care, better health, and better equity across the ecosystem as we integrate data on the missing 80-90 percent of factors relevant to health status.

Thank you very much for the opportunity to provide these comments. The Gravity Project looks forward to working with the White House and Office of Science and Technology Policy and public and private stakeholders across the nation to strengthen community health with digital health technologies. If you have additional thoughts or questions, please contact Mark Savage, the Gravity Project's policy lead, at ███████████████████████

Sincerely,

The Gravity Project

cc: Chiquita Brooks-LaSure, Administrator, Centers for Medicare & Medicaid Services
Micky Tripathi, National Coordinator for Health Information Technology

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[5] E.g., Medicare Program; CY 2022 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment Policies, 86 Federal Register 64996, 65385 (Nov. 19, 2021) (listing Gravity Project's standards); Office of the National Coordinator for Health Information Technology, Special Emphasis Notice (SEN) Interest in Applications to Advance Health IT Standards and Tools to Improve Social Determinants of Health Data Exchange, pp. 3-4 (Aug. 11, 2021) (requiring use of same); Administration for Community Living (ACL), Innovative Technology Solutions for Social Care Referrals (Mar. 26, 2021) (requiring use of same); CMS State Health Officials Letter No. 21-001 on Opportunities in Medicaid and CHIP To Address Social Determinants of Health, p. 34 (Jan. 7, 2021) (listing same); U.S. Department of Health and Human Services, Report to Congress: Social Risk Factors and Performance in Medicare's Value-Based Purchasing Program, p. 20, 213, 272 (Mar. 2020) (listing same).

HARVARD MEDICAL FACULTY PHYSICIANS
AT BETH ISRAEL DEACONESS MEDICAL CENTER

HARVARD
MEDICAL SCHOOL

and at our affiliates
Beth Israel Lahey Health

March 30, 2022

Akriti Bhambi
Director of Health Equity
Massachusetts Hospital Association
500 District Avenue
Burlington, MA 01803

Dear Ms. Bhambi,

Thank you for the opportunity to send comments on the experience of Harvard Medical Faculty Physicians (HMFP) on the deployment of telemedicine into its everyday practice and the importance of maintaining the unfettered availability of this service to our patients.

Due to the foresight of my leadership team, when the pandemic hit in 2020, HMFP and its thousands of health care providers were ready to operationalize telehealth at the scale and breadth necessary for the pandemic conditions. Although it was still an incredible mobilization effort, we had telehealth up and running in a few weeks, moving the organization from dozens of visits to thousands; telehealth now helps HMFP's patients access health care through more than 300,000 visits a year.

It is clear that telehealth - and insurers reimbursing healthcare providers for *both* video and telephone care - has brought health care to our most vulnerable citizens: the elderly, those who live in remote areas or lack access to transportation or interpreters, economically disadvantaged patients, working parents and caregivers, and those who would otherwise not be able to see a health care provider at all.

Through our extensive experience in creating, deploying, and utilizing telehealth in the past two years, we have the following commentary and recommendations for continuing to offer it to help all patients nationwide:

- Telehealth increases care continuity in that it decreases canceled visits and increases the likelihood that a patient will see his or her healthcare provider as needed on a regular basis (for example, in the case of diabetic patients, who may require frequent visits for discussions or evaluations that could easily be conducted via phone or video);
- Telehealth allows for specialized access to care for rural areas, where patients are far from medical centers (and where hospitals are closing and there are doctor and nurse shortages): these patients would not otherwise have access to sub-specialized services, such as pediatrics or oncologic clinical trials;

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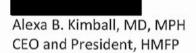
- Telehealth bridges disparities in care for working families, where telehealth often facilitates off-hours and weekend appointments, it also reduces the amount of time needed to take off from work, school or child care to attend medical appointments;
- Telehealth should be reimbursed across state lines to allow those in remote areas or states without specific services to be able to access the health care they need (for example, diabetes care from the Joslin Diabetes Center in Boston for a patient from rural Maine);
- Telehealth allows for greater family participation in visits, (which is essential in many cases to providing adequate care in between visits or to provide an interpreter between the patient, physician and family member);
- Telehealth eases patient access and navigation hurdles by allowing easier access to those patients with limited mobility, limited transportation options or those who cannot take time off from work to attend healthcare visits easily: where an in-person visit may mean taking an entire day off from work to drive to the doctor's office, find parking, navigate the hospital, etc., with telehealth the patient need simply take the time allotted for their appointment;
- It is imperative that audio-only visits continue and that providers be reimbursed for them: more patients can utilize these services (vs. video visits) because they eliminate the need for broadband availability, facility with technology, etc. and therefore provide access to millions of patients who would otherwise be unable to take advantage of telehealth;
- Payment parity must continue, and providers should be paid for the services provided based on CPT coding policies (time and resources) rather than reimbursing based on the modality of provision of services;
- Telehealth can address the issues caused by shortages in the healthcare workforce, which lead to higher wait-times and clinic workflow obstacles: direct physician-patient telehealth visits via video or telephone can avoid these issues and allow more patients to access health care services.

Maintaining telehealth availability and payment parity will allow physicians to continue to provide our patients with the care they need at the location of their choice. It will help the medical community continue to rebound from the clinical and financial pressures they experienced during the pandemic.

Thank you for the opportunity to provide these remarks on this important topic. I would be happy to meet with you to discuss any areas outlined above in greater detail.

Sincerely,

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Alexa B. Kimball, MD, MPH
CEO and President, HMFP

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Boston, MA 02215

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White House Office of Science and Technology (OSTP): Request for Information (RFI) on Strengthening Community Health Through Technology

Organization Filing Comment: <u>Hazel Health</u>, School-Based Telehealth Provider (healthcare provider, telehealth service)

<u>Successful models within the U.S.</u>

Hazel Health is a pediatric telemedicine provider that has been partnering with school districts across the United States to provide school-based health care for children since 2015. Hazel's team of experienced, licensed medical professionals work with school districts and their school health staff to conduct video visits in school health offices and/or at home. While Hazel began by offering physical health/urgent care to students, Hazel's care team consistently found that physical symptoms such as a headache or stomach ache could often be attributed to an underlying mental health concern. As a result, Hazel Health introduced mental health visits with licensed therapists in 2021 to help combat the sharp uptick in mental health issues among youth. Some innovative features and best practices of the school-based telehealth model include:

- Platform was designed in partnership with school nurses to fit within the workflow of the typical school health office.
- Trained school staff can call in a Hazel pediatric specialist through video technology supplied by Hazel; average wait time is less than 3 minutes. Hazel also supplies a medication cart, telemedicine stand, and peripherals.
- Families can access Hazel at home through their personal computer or mobile device and initiate an on-demand visit with a Hazel provider when remote learning or during school breaks.
- After a visit, Hazel providers communicate with school staff, parents, and a student's regular doctor (if they have one), including sending a detailed visit summary.
- When Hazel discovers gaps in care, we connect students with local providers for regular care, such as primary care providers, dentists, and therapists to fill that gap, make an appropriate referral, and share data. We focus on maintaining the medical home families have established for their students, improving health literacy for families and enhancing the local medical neighborhood.
- Hazel works with school districts, insurance plans, and other organizations to make services available at no cost to families.
- Hazel strictly adheres to FERPA, HIPAA, and district and federal policies (privacy best practices), and offers multilingual and culturally competent care.

<u>Trends from the pandemic</u>

Hazel Health has been a telehealth provider since its founding in 2015. Even before the pandemic, Hazel recognized the power of telehealth to expand health equity by reaching more children and providing timely care. Because of this, Hazel provided services virtually both before and during the pandemic. However, when COVID-19 hit, Hazel Health quickly realized that an at-home option for telehealth was necessary, since most students were no longer able to access health services in school with remote learning. Hazel quickly launched "Hazel at Home," allowing students to connect with Hazel doctors directly from home, with parent/guardian consent. Even though millions of people are now vaccinated and most children have returned to school in person, Hazel has still seen increases both in overall utilization of its telehealth services as well as at-home services, as seen in Figure A and Figure B below, suggesting that the use of

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school-based digital health care will likely continue well beyond the end of the COVID-19 pandemic.
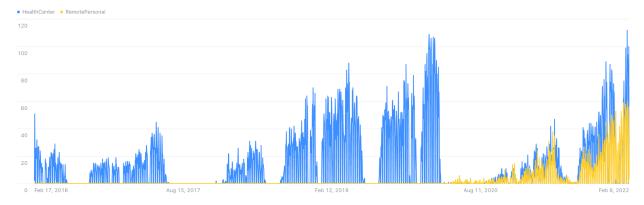
Figure A: Blue represents in-school telehealth visits. Yellow represents at-home telehealth visits.

Figure B: Shift from in-school to at-home telehealth visits at different points of the pandemic.

	Pre-Pandemic (before April 2020)	**Start of Pandemic -Widespread Vaccine Availability** (April 2020-May 2021)	**Widespread Vaccine Availability - Present** (May 2021-Present)
% Visits In School	100%	57%	62%
% Visits At Home	0%	43%	38%

Proposed government actions

We strongly recommend an increased investment in telehealth in order to increase and improve healthcare access available to U.S. K-12 public school students nationwide. Telehealth technology can be provided directly within the homes of students through personal devices, as well as be formally installed in school nurse offices as a long-term solution. Through combined bipartisan efforts in the last Congress, the offices of former Senator Cory Gardner (R-CO), Senator Catherine Cortez Masto (D-NV), and Senator Kyrsten Sinema (D-AZ) have joined together to propose funds be made available for this purpose. Hazel Health encourages Congress to continue these efforts. This could take place in the immediate future (0-2 years).

In addition, the Federal Government should consider legislation to change licensure requirements for cross-line (multi-state) licensure for both physical and mental health providers. One benefit of telehealth is that individuals are no longer limited to seeing providers only in their immediate area. This especially benefits children who live in rural areas where there is further distance to providers. Nearly a quarter (23%) of Americans in rural areas say access to good doctors and hospitals is a major problem in their community[1], and more than two-thirds of U.S. counties do

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[1]https://www.pewresearch.org/social-trends/2018/05/22/views-of-problems-facing-urban-suburban-and-rural-communities/

not have even one psychiatrist.[2] In theory, providers can treat patients anywhere through telehealth, but in practice, they are limited to treating those within their state licensure area. Eliminating this barrier would expand equity and access to people everywhere in the country, making it easier to find providers who match needs such as by type of insurance accepted or a medical specialty, regardless of geography.

Health Equity

Hazel Health's digital health technology helps to reduce health disparities and increase health equity in a number of ways:

- **Provides care to all participating students, regardless of financial, insurance, or immigration status.** Approximately 30% of providers do not accept new patients with Medicaid due to low reimbursement rates.[3] This means that those who are already financially disadvantaged face even greater barriers to finding care. Hazel works with school districts and insurance providers, including Medicaid and other public plans, to make these services available to all families. This allows universal access, including for those who are uninsured and underinsured.
- **Diversifies the provider team.** The better a patient is represented and understood, the better they can be treated, and the more likely they are to experience positive health outcomes. More than 50% of Hazel's medical providers identify as people of color, and more than 40% are bilingual. Since all sessions are virtual, students are no longer limited to seeing only doctors in their immediate area, and can tap into a more diverse medical network.
- **Increases telehealth utilization.** In a study conducted by the Institute for Educational Sciences and funded by the U.S. Department of Education about Hazel's implementation in a school district, researchers found that Black students utilized Hazel's school-based telemedicine services at a rate 50% above the overall student population, and Hispanic students demonstrated higher usage for preventative/wellness reasons.[4] These findings suggest that school-based telemedicine services fill an unmet need and can impact health equity.
- **Address complex systems of social determinants of health.** In addition to the above, school-based telemedicine can address and mitigate other social determinants of health, which cause and perpetuate inequities in health outcomes. For example, parents can also join a visit virtually from work, avoiding lost pay and employment. Case managers connect students without a regular primary care provider (PCP) to local pediatricians, dentists, and therapists, and can help connect families to community resources such as food services and housing. School-based telehealth also eliminates the barrier of travel by meeting students where they already are, at school and at home, and students can receive immediate care for physical health concerns (less than one week for mental health), ensuring timely treatment.

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[2]https://publications.aap.org/pediatrics/article/144/6/e20192646/37924/Meeting-the-Demand-for-Pediatric-Mental-Health
[3]https://www.cdc.gov/nchs/data/databriefs/db195.pdf
[4] https://files.eric.ed.gov/fulltext/ED610677.pdf

March 29, 2022

Alondra Nelson, PhD
Deputy Director
Office of Science and Technology Policy (OSTP)
Executive Office of the President
1650 Pennsylvania Avenue
Washington DC, 20504

Re: Connected Health RFI

Submitted electronically to ████████████████████

Dear Deputy Director Nelson:

The response of Health Level Seven (HL7) International on the White House Office of Science and Technology Policy (OSTP) Connected Health RFI is below. This letter includes perspectives from our leadership, Policy Advisory Committee, International Council, HL7's Orders and Observations Work Group and the Gravity Project, an HL7 FHIR Accelerator. HL7, its Fast Healthcare Interoperability Resources (HL7® FHIR®), HL7 Accelerator activities and other critical tools and initiatives are central to advancing health equity and health access, as well as achieving other relevant RFI goals. The Gravity Project is particularly critical to these goals, collaboratively building a national ecosystem of Social Determinants of Health (SDOH) terminology and exchange standards. HL7's Gender Harmony Project, focused on identifying primary types of sex/gender classifications and uses needed of health data documentation and exchange that reflects user needs, is also of note. Should you have any questions about the attached, please contact Charles Jaffe, MD, PhD, Chief Executive Officer of HL7 International at ████████████████

  Sincerely,

Charles Jaffe, MD, PhD   Andrew Truscott
Chief Executive Officer   Board of Directors, Chair
Health Level Seven International   Health Level Seven International

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HL7 Comments: Overarching

HL7 and its standards, technology and tools play a key role in empowering patients, strengthening care coordination, improving population health and eliminating health disparities. They are critical in facilitating appropriate, cutting-edge health data sharing within and between institutions and individuals. In particular, our work on standards, terminology, data exchange and workable, easily understood implementation guides that can be accessed by a variety of key stakeholders is foundational to supporting information flows that lead to healthier communities and can eradicate health disparities. HL7 FHIR standards support individuals' access to health information and through patient-focused apps. Such patient-centric access has enormous value for health access and leveling care disparities in underserved communities. *HL7 supports additional federal incentives for provision and use of discrete patient-centric health data, including patient generated data.*

During the COVID-19 pandemic, HL7's public health preparedness work and laboratory implementation guides have kept critical data moving and available to those who need it most at the local, state and federal level. The Helios FHIR Accelerator for Public Health, an initiative jointly supported by HL7 the Center for Disease Control and Prevention and the Office of the National Coordinator for IT seeking to use widely recognized data exchange standards is an important locus for activity. The on-going work of HL7's Public Health Working Group and the Situational Awareness for Novel Epidemic Response SANER Project that uses HL7 FHIR to enable easier public health reporting, are also of note. *HL7 recommends a continued, sustained and well-funded focus on electronic public health tools and related infrastructure to ensure citizen health in the COVID-19 pandemic and beyond.*

HL7 Comments: Specific RFI Themes

Barriers: Regarding current barriers to using digital health technologies in community-based settings, HL7 notes that during the COVID-19 pandemic, several states have layered on their own unique public health reporting requirements (in addition to Department of Health and Human Services (DHHS) requirements) without regard to the additional data that could be supported in existing electronic transactions, e.g. from electronic health record (EHR) systems, the laboratory, or received by the target public health agencies. *HL7 suggests that HHS provide guidance to state governments so requirements for public health data exchange are not passed without first determining if the applicable PHA and electronic exchange standards can support the proposed state requirements.* Additionally, federal support for harmoniztion of state requirements would help speed reporting and lessen development costs since there could be a single harmonized standard for public health reporting versus 50+ customized versions per state/jurisdiction.

Trends from the Pandemic: Regarding how digital health technology use has changed over the course of the pandemic, HL7 notes that each entity involved in pandemic response must fulfill their role, focusing on data consistent with their health care function. *Technical changes should support and promote data being reported from the "source of truth" where the data originates,* which could include primary care doctors, patients presenting at a testing facility, school testing, hospitals, nursing homes, employers, at-home testing environments, etc. Only when the laboratory is the "source of truth" (e.g., when the patient seeks testing directly from the laboratory without having the test ordered by another provider) should the laboratory report. *HL7 recommends that adequate funding which supports the appropriate work of all stakeholders in public health reporting, be ensured.*

Health Equity: HL7 standards, efforts and tools are critical to advancing health equity and health access. The Gravity Project, an HL7 FHIR Accelerator, is particularly important, collaboratively building a national ecosystem of Social Determinants of Health (SDOH) terminology and exchange standards that leverages

ONC's Cures Act regulation requiring FHIR API access for nationwide interoperability to reach individuals and their community- and social-service organizations. *HL7 highlights and endorses the Gravity Project's four key Connected Health RFI recommendations, which are to:*

- Explicitly incorporate Gravity's standards across federal regulations, federal programs, contracts, grants, cooperative agreements, and pilots to enable nationwide interoperability and use of SDOH data—as federal agencies are already beginning to do;

- Contribute funding and training to help the community- and social-service organizations on the ground, which never had a Medicare or Medicaid health IT incentive program, build out capacity, workflows, and use cases;

- Bridge digital divides that continue to be barriers for underserved communities;

- Integrate bi-directional exchange and "write" API access in HHS payment rules and certification requirements, so patients, family caregivers, and community organizations can contribute SDOH data, and providers, public health agencies, health plans, etc., have access to these critical missing data.

HL7's Gender Harmony Project, focused on identifying primary types of sex/gender classifications and uses needed of health data documentation and exchange that reflects user needs is also of notable in the area of health equity. As the project page notes, "Currently, it is common that a single data element is used to capture both sex and gender information, often assuming these two items are one unified idea. It is imperative that both sex and gender vocabulary be formally integrated into clinical care because they are not interchangeable. Both influence health outcomes. Gender-marginalized individuals face significant barriers to adequate and culturally responsive healthcare, leading to numerous health disparities. By adopting structured data sets, agnostic systems will be better equipped to transmit (share) and accept data elements that will improve the accuracy of patient information. Furthermore, standardizing data enables information to be combined with other data sources used to evaluate clinical outcomes. While data collection and documentation are critical factors in clinical decision-making, these new data will also promote important dialogue between clinicians and patients. Ultimately, this will assist with improved quality of care, reduced clinician burden and less fragmentation of a person's clinical record." *HL7 stands ready to assist and inform federal and state government agencies in the area of gender harmony and health data documentation and exchange.*

International Models: The Connected Health RFI sought global examples of innovation at the intersection of healthcare delivery and technology. The HL7 International Council has this submission from Denmark. In Denmark, collecting data for quality monitoring and care coordination close to the citizens has gained importance, as a way to ensure that high quality health care can be delivered to all. The core infrastructure of two important initiatives are HL7 FHIR-based and they include a:

- Nation-wide common telemedicine and PRO framework
  https://docs.ehealth.sundhed.dk/v2020.8/ig/index.html
- National home care core model
  http://build.fhir.org/ig/hl7dk/KL-dk/index.html
  http://build.fhir.org/ig/hl7dk/kl-gateway/

HL7 and its International Council stand ready to provide a forum and further expertise regarding global innovation and standards use at the intersection of healthcare delivery and technology.

Response to OSTP RFI on Community Connected Health

<u>Response Topics</u>: Reponses herein tied to Barriers, User Experience, Tools and Training Needs, Government Actions.

Community Challenges:

In select communities where health outcomes and health factors are low (such as Baltimore City), experience suggests three prominent driving factors as barriers to quality care access:

1. An <u>undercurrent of distrust</u> toward government-driven programs, large healthcare institutions and technology companies. This undercurrent derives from a tendency to view large institutions as "not necessarily representative of us and not necessarily looking out for us". This can lead to a general lack of attention to physician or nurse prescribed care recommendations, medications, self-care practices, etc. As well as a lack of schedule commitment in routine primary care visits. Society needs a call to action for more care providers and community health advocates that look like their patients and interact regularly with them. Positive peer experiences goes a long way.

2. A <u>lack of personalization</u>, customization or tailoring of healthcare services and digital health applications for communities of color, lower income residents, and immigrant populations. This is equitable health vs. simply equal health. Society needs a related call to action for stronger investments in health IT and digital health applications that can (a) be personalized to communities with poor health factors and outcomes and/or tailored to racial health but also (b) facilitate patient-driven and patient-controlled experience. This patient 'ownership' comes from depth of education, control over data and the provision of a service that feels tailored to the individual. Nobody will fix their own broken leg, but each individual can own their own data, own their own wellness and own triggering preventive health and wellness activities through health tech.

3. A <u>lack of resources</u> dedicated to medically underserved communities and the organizations that serve them. There is a large capital resource divide between large medical systems on one end and, on the other end, community health clinics and federally qualified health centers. At clinics, federally qualified health centers and similar organizations there is often 'just enough' resources to meet basic community resident health service needs. To achieve equitable health outcomes there must be equitable investments in emerging patient care practices. How many large medical institutions or payers have an incubator, accelerator or venture fund? Almost all of them. Conversely, how many community health clinics are connected to an innovative hub or venture fund? Almost none of them.

Suggested Actions:

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The Digital Health Navigator, a Super User role. We need to turn our certified nursing assistants, geriatric nursing assistants, home health aides, family health advocates and like roles into super users with Digital Health Navigator powers. This role to be certified and licensed but with strong digital health knowledge, technology savviness and be populated into ambulatory settings, in-the-home settings, to assisted living centers, etc. They should advocate for telehealth services and remote patient monitoring as well as emerging standards of care such as remote diagnostics, utilization of wearables, digital prescriptions, medication adherence notifications. etc. They may also help triage health apps into communities. And by the way, they should probably look very much like their community patients.

Patient @ Center Square.

Rock Health reports $29.1B of venture investment flowed to digital health solutions in the U.S. in 2021. Most of these solutions are targeting providers (not surprising) but many also are focused on users/patients (somewhat surprising given patients provide little financing of healthcare). Separately, through HL7/FHIR standards and the Cures Act, emerging solutions will technically enable patient ownership of data. Natural language processing with an AI/ML layer for patient interpretation and personalized health coding/scoring will be very valuable. Patients who own their own data will exercise owning more of their healthcare experience.

There are countless new models and applications being introduced that allow the patient to control their healthcare experience. This may entail encounter experience, i.e., at visit, using near-field communications and triggering a 270/271 eligibility check, with automated front desk check-in and an exit survey. Or it may include wellness engagement, i.e., opt-in, opt-out health and wellness notifications, preventive care needs or wellness marketing offers. Separately, it will likely include digital health experience, i.e., services from a huge emerging class of personalized health solutions such as black/brown care providers; racial dermatology services; medical condition-based services for autism, new moms, mental well-being; safe zone immigrant networks, etc. Society would benefit from digital literacy campaigns targeted to community populations and individuals with poor health factors and poor health outcomes. These campaigns should focus on empowering individual users/patients to utilize services when they need them or if they want them. One can also envision a digital health network (similar to community resource networks such as Aunt Bertha, NowPow or United Us) focused on personalized digital health solutions that users/patients can access.

Community Health Credits.

It will be important to incent persons with poor health experience to adopt new practices. Health credits could be issued to individuals with acceptable wellness engagement practices such as regular primary care visits, follow-up on prescriptions and medication adherence, utilizing subscription-based health and wellness services, etc. In trial, it is imagined these credits be issues by regulatory bodies. In practice, it is imagined this could be funded by a payer

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revenue-based contribution. Ultimately, payers most financially benefit from reduced care costs from improved community health.

FQHC Digital Transformation. Federally Qualified Health Centers need to figure more prominently in digital health advocacy, assessment and study of emerging digital health solutions, and assistance with patient utilization. FQHCs are sizable enough to offer patient volume but also ROI scale from technology investments. Capital infusion to create Patient Experience Zones is imagined; i.e., a lab experience where at-home or app-based services can be accessed as a trial experience. This lab would help greatly with initial adoption as well as instilling a routine care practice. And it can be physician and nurse prescribed or patient-driven. FQHCs can be akin to what Regional Banks have become in the financial institution industry – an active player in digital transformation. They can also advocate and sponsor 'communities of experience' to drive personalized digital health for at-risk populations and individuals.

In closing. The more organic, the more community-generated, and the more patient-owned any solution is, the better. For those individuals or communities with poor health factors or poor health outcomes, this is meeting them where they are.

Greg Miller is a former executive with Blue Cross Blue Shield, current Board Chair of the National Kidney Foundation of MD-DE and a Co-Founder and Partner of Health Tech Alley. He actively advises and mentors health tech startups and communities-of-color founder-entrepreneurs through a variety of venture mentoring services.
https://www.linkedin.com/in/gregmmiller/

Health Tech Alley is a Maryland-based non-profit that provides solutions and services to organizations that operate within medically underserved communities and underrepresented populations. HTA currently operates under a Federal SPRINT Challenge grant with programming that includes: workforce development partnership with UMD Medical Center focused on bringing professional opportunities to lower-skilled lower-educated communities of color; health technology implementation for organizations such as Grass Roots Crisis Intervention Center, Volunteers of America and Whitman Walker Health; telehealth literacy training in partnership with MedChi (MD state-based physician advocacy society) for small-mid-sized primary care providers in safety net communities; and a variety of other catalytic activities and advisory services to enable minority founder-entrepreneurs in their startup journey including a HBCU health innovation challenge. https://www.healthtechalley.org/

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March 31, 2022

Alondra Nelson, PhD
Acting Director for Science and Society
White House Office of Science and Technology Policy

Submitted electronically via ████████████████████████

Dear Dr. Nelson:

On behalf of the Healthcare Information and Management Systems Society ([HIMSS](#)), we are pleased to provide written comments in response to the [Request for Information on Strengthening Community Health Through Technology](#).

HIMSS is a global advisor and thought leader supporting the reform of the global health ecosystem through the power of information and technology. As a mission-driven non-profit, HIMSS offers a unique depth and breadth of expertise in health innovation, public policy, workforce development, research, and analytics to advise global leaders, stakeholders, and influencers on best practices in health information and technology. Through our innovation engine, HIMSS delivers key insights, education, and engaging events to healthcare providers, governments, and market suppliers, ensuring they have the right information at the point of decision. Established in 1961, HIMSS serves the global health information and technology communities with focused operations across North America, Europe, the United Kingdom, the Middle East, and Asia Pacific. Our members include more than 105,000 individuals, 480 provider organizations, 470 non-profit partners, and 650 health services organizations.

We offer the following thoughts and recommendations for consideration as the federal government creates new policies and programs geared towards exploring how science and technology innovation can lower the barriers for all Americans to access quality healthcare and lead healthier lives by meeting people where they are in their communities.

Successful models within the U.S.

Need for and Role of Remote Patient Monitoring (RPM) in Advancing Quality Care at the Community Level
HIMSS is encouraged by the work underway to utilize RPM in creating value for patients in underserved communities.

As technology and telehealth assume an increasingly critical role in healthcare delivery, well-designed RPM is more vital than ever to address the health gaps that exist for underserved communities. Today's standards for appropriate clinical care delivery, as well as best practices for some of our nation's most prevalent conditions (heart failure, diabetes, chronic obstructive pulmonary disease, and multiple chronic conditions), rely upon provider-patient communication of biophysical data and care

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management in near synchronous and asynchronous means. RPM is the standard of care for many chronic conditions of high prevalence in many of these communities. For example:

CHRISTUS Health System: an integrated health system, is serving many rural communities. CHRISTUS provided post-discharge services of care management enabled by biometric monitoring. Care management enabled by biometric monitoring (RPM) reduced hospitalizations, lowered costs per hospitalization, and showed a return on investment. See a case study utilizing RPM from CHRISTUS Health System here.

Care Beyond Walls: A National Institutes of Health (NIH)-funded trial of remote monitoring for the underserved found reduced hospital costs from the use of RPM. The patient population in the pilot lived in remote and underserved areas with a disproportionate number of Native Americans. See the evaluation of the program here.

University of Mississippi: 100 Medicaid rural residents with type 2 diabetes received care management, and education enabled through remote monitoring technology. Outcomes included improved health and lowered costs. See poster here.

Furthermore, health gaps could be better addressed if Medicare and Medicaid cover RPM—via the Medicare-approved current procedural terminology (CPT) codes—for patients and providers. While there is Medicare coverage in place, more education on its availability and its role in addressing health gaps is needed in order to gain more acknowledgement on how it has the tremendous ability to positively impact health outcomes. For Medicaid, there is an opportunity for programmatic-uniformity across the states and territories through an enhanced federal-state match for remote monitoring. While some states are proactively covering RPM for this purpose, the lack of consistency across the states presents an equity gap.

We encourage reading our recently updated Digital Connected Care article series which further highlights deeply embedded obstacles that hinder the full benefits of digitally connected care.

Barriers

The Importance of Access to Quality Reliable Broadband in All Advancing Equity Discussions
Broadband availability and access must be addressed for successful, modern, evidence-based health care delivery to be equitably available and provided to Americans no matter where they live or work. HIMSS has long worked to highlight and bring attention to the important and valuable role that broadband-enabled connected care plays in improving access to quality of health care, particularly in underserved communities.

Through discussions across our membership, we identified several recommendations for broadband proposals that we believe would be essential for delivering successfully connected care. Broadband policy must include:

- Plans for long-term sustainability
- Commitments from community partners, including physicians, hospitals, health systems, and home health/community providers to make needed investments in their broadband infrastructure to support patient engagement and continuity of care in underserved communities
- Documented commitment from all health care payer(s) or insurers who cover the population likely to receive telehealth services of their willingness to reimburse for telehealth services as well as the proposed clinician time and clinical care delivered as a telehealth service
- Evidence-based or evidence support for the telehealth services to be provided

Focusing on the Need to Improve Trust with Underserved Communities
Trust is fostered through greater accountability and transparency. Government programs need to demonstrate accountability and transparency to establish trust, and ultimately identify and address equity gaps as well as the translatability of current government programs to all populations.

Building trust, accountability, and transparency across government points us to advocate for the creation of a program that funds personal health navigators to help underserved communities understand and access benefits that will improve their health status as well as overcome social determinants of health (SDOH)-associated challenges. Given our work in the health information and technology field, we see [ONC's Regional Extension Center (REC) Program](#) as a model to consider implementing for these specific purposes.

The REC Program was enacted as part of the Health Information Technology for Economic and Clinical Health (HITECH) Act (Public Law 111–5), to select not-for-profit organizations that would commit to support a defined number of providers in a set geographic area to reach "meaningful use." We envision that a REC-like program could be set up to serve underserved populations, in targeted geographic areas, with resources to better address health equity and help individuals navigate to existing programs and services that should be servicing their health needs. Funding such a program would make great strides in connecting underserved communities with government programs and services where they should have full access.

Proposed government actions

Determining An Actionable Path Forward and How Technology Can Be Thoughtfully Embraced in the Effort to Mitigate Health Inequities
Looking ahead, our [HIMSS SDOH Task Force](#) focused on how technology can serve as both an enabler and a polarizer by cementing differences among communities rather than bridging them together. We strongly recommend digital health applications and tools be made available on multiple platforms with translation services offered to empower and engage a broader number of community members. These tools should be interoperable and clearly outline individuals' data use and ownership to ensure privacy and compliance. Culturally and linguistically appropriate language should be made widely available in communications, app development and available during care coordination.

Consider Utilizing the HIMSS Internationally Recognized Maturity Models That Evaluate and Map a Path to Digital Health Transformation in Organizations and Communities
We appreciate the opportunity to contribute our ideas on maximizing the role of digital health in strengthening community health. HIMSS Maturity Models are a resource for understanding the value of advanced quality and data analytics associated with increased investment in digital healthcare. We are committed to being a valuable resource to the Administration and believe our existing tools as well as those in development aimed at addressing digital maturity in communities, can be an asset in your goals. Please leverage our organization, as well as our members and stakeholders in your efforts as your work progresses.

We would welcome the opportunity to discuss these issues with you and your leadership team in greater detail. Please feel free to contact Ashley Delosh, Senior Government Relations Manager, at █████████████████ with questions or for more information.

Thank you for your consideration.

Sincerely,

Harold F. Wolf III, FHIMSS
President & CEO

March 28, 2022

The Honorable Alondra Nelson
Acting Director
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information on Strengthening Community Health Through Technology (3270-F2-P)

Dear Director Nelson:

The Healthcare Leadership Council (HLC) appreciates the opportunity to provide comments on the request for information (RFI) on, "Strengthening Community Health Through Technology."

HLC is a coalition of chief executives from all disciplines within American healthcare. It is the exclusive forum for the nation's healthcare leaders to jointly develop policies, plans, and programs to achieve their vision of a 21st century healthcare system that makes affordable high-quality care accessible to all Americans. Members of HLC – hospitals, academic health centers, health plans, pharmaceutical companies, medical device manufacturers, laboratories, biotech firms, health product distributors, post-acute care providers, home care providers, and information technology companies – advocate for measures to increase the quality and efficiency of healthcare through a patient-centered approach.

The COVID-19 public health emergency (PHE) has highlighted the enormous role that technology can play in delivering high-quality care to consumers. These tools can provide greater at-home services as well as leverage current innovations in care delivery. While innovative technologies have the potential to positively impact patient outcomes, focus should be given to ensure that these opportunities do not actually widen disparities. HLC offers the following comments as you evaluate policy solutions to strengthen community health through technology:

Successful Models Within the U.S.

The use of telehealth during the PHE has provided a much-needed source of care as in-person options were significantly limited due to stay-at-home orders and limitations in hospital and workforce capacity. A December 2021 study found that over 52 million telehealth visits were furnished for Medicare beneficiaries in 2020.[1] These services were seen across specialties, with

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[1] Lok Wong Samson et al., *Medicare Beneficiaries' Use of Telehealth in 2020: Trends by Beneficiary Characteristics and Location*, Assistant Secretary for Planning and Evaluation, Department of Health and Human Services (December 3, 2021), https://aspe.hhs.gov/sites/default/files/documents/a1d5d810fe3433e18b192be42dbf2351/medicare-telehealth-report.pdf.

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the greatest number of telehealth visits for behavioral health services.[2] Telehealth services have been overwhelmingly popular with patients, with over 80% of patients reporting satisfaction with their visits.[3] Additionally, telehealth has been shown to be an effective tool to manage complex conditions. A recent study found that patients who received care through virtual platforms were 19% less likely to visit an emergency room or urgent care facility.[4] In addition to telehealth, other digital options such as remote patient monitoring (RPM) have been highly effective in providing care. RPM allows healthcare providers to collect necessary information about a patient so more accurate treatment solutions can be provided. These tools have been shown to not only increase patient engagement but lower hospital readmissions as well.[5]

One of the greatest opportunities in healthcare innovation has been the ability to use artificial intelligence (AI) to improve care outcomes. AI not only has the potential to reduce administrative burden but leverage complex data processes to swiftly render care options.

These advancements in care have a particularly strong impact on community health. Community Health Centers (CHCs) provide essential services to approximately 29 million patients, many of them in traditionally underserved communities.[6] Before the PHE, providers in CHCs were more likely to use telehealth tools than other providers.[7] Due to regulatory flexibilities and federal assistance during the PHE, CHCs were able to deliver essential care to vulnerable populations when most needed.

Barriers

In order to leverage technology to improve community health needs, robust infrastructure is needed to deliver these tools, particularly in the home. A stable broadband connection is essential for many of these platforms to be utilized. The Federal Communications Commission (FCC) has found that approximately 18 million Americans do not have access to high-speed internet. Over 26% of that population lives in rural areas.[8] Additionally, many Americans cannot afford the cost of broadband services as well as obtaining technology and gaining digital literacy to optimize the use of these services.

Additionally, lack of standardization for both collection and use of data has led to incomplete or misleading data, in addition to disjointed systems that create barriers in care coordination. To strengthen data sharing for community health purposes, community-based organizations should be further supported and included in efforts such as initiatives by the Department of Health and Human Services (HHS) to strengthen interoperability.

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[2] *Id.*

[3] Hannah Nelson, *COVID-19 Telehealth Delivery Reaps High Patient Satisfaction*, mHealth Intelligence (April 15, 2021), https://mhealthintelligence.com/news/covid-19-telehealth-delivery-reaps-high-patient-satisfaction.

[4] Paige Minemyer, *Cigna study: Virtual care can reduce unnecessary ER, urgent care visits by 19%*, Fierce Healthcare (January 21, 2022), https://www.fiercehealthcare.com/payer/cigna-study-virtual-care-can-reduce-unnecessary-er-urgent-care-visits-by-19.

[5] Jordan D. Coffey et al., *Implementation of a multisite, interdisciplinary remote patient monitoring program for ambulatory management of patients with COVID-19*, npj Digital Medicine (August 13, 2021), https://www.nature.com/articles/s41746-021-00490-9#Abs1.

[6] *Community Health Center Chartbook 2021*, National Association of Community Health Centers (April 22, 2021), https://www.nachc.org/chartbook-final-2022-version-2/.

[7] *Health Center Program: Impact and Growth*, Health Resources & Services Administration (August 2021), https://bphc.hrsa.gov/about/healthcenterprogram/index.html.

[8] Harmeet Kaur, Why rural Americans are having a hard time working from home, CNN (April 29, 2020), https://www.cnn.com/2020/04/29/us/rural-broadband-access-coronavirus-trnd/index.html.

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While AI can greatly improve care, steps must also be taken to ensure that harmful biases are not exacerbated through this technology. A 2019 study found that an AI algorithm failed to properly refer African American patients to necessary treatments. In this instance, the algorithm was designed to assume prior "cost of care" as a proxy to determine who may need access to a care coordination program. The algorithm failed to consider historical and systemic inequities that decreased African American patients' access to and use of care, and thus incorrectly trained the algorithm on determinations for the care coordination program. [9] To maximize the benefit of AI, steps must be taken to ensure algorithmic development, including for algorithms used to render care decisions, identifies and mitigates any adverse biases as well as threats to individuals' privacy that may disproportionally and negatively impact care and services.

Proposed Government Actions

HLC encourages the White House Office of Science and Technology Policy to work with other federal partners to examine current regulatory limitations on improving care using technology. In particular, we support efforts to remove restrictions on where virtual services can be offered. Additionally, we thank the Administration for its work to provide $65 billion to improve broadband connectivity and make these services affordable for millions of Americans. As these funds are distributed, we encourage the FCC to work with the National Telecommunications and Information Administration (NTIA) to ensure funds are appropriately distributed and reflective of individuals and community healthcare needs.

We also support efforts to reduce regulatory barriers on the development of innovative technologies and encourage agencies such as the Centers for Medicare and Medicaid Services (CMS) and the Food and Drug Administration (FDA) to collaborate on how to best provide these solutions to patients. This collaboration should focus on a sustainable pathway to cover AI, algorithm and other software-based or driven technologies, while sufficiently addressing security and privacy matters, as well. Additionally, agencies across the federal government should examine how to best manage concerns around responsible AI use so that these tools do not widen health disparities.

HLC looks forward to working with you on ensuring that patients have access to the most innovative tools to improve health outcomes. Please contact Tina Grande at █████████ or █████████████ with any questions.

Sincerely,

██████████████████████

Mary R. Grealy
President

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[9] Heidi Ledford, *Millions of black people affected by racial bias in health-care algorithms*, Nature (October 26, 2019), https://www.nature.com/articles/d41586-019-03228-6.

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Name: Wesley Ma, CEO of HealthOpX

Organization: HealthOpX

Background: HealthOpX is a social determinants of health software platform that partners community-based organizations and homecare agencies with healthcare and government entities to engage and improve the health of at-risk patients. Community based organizations such as churches or local community groups have expertise and trust within the community. We are giving them the tools to become formally involved in healthcare, essentially transforming these organizations into provider-less health centers and getting them integrated within health systems and government initiatives. HealthOpX separates itself from competitors by providing software and tools that improve the operating efficiency of community organizations so that they are incentivized to use the software and participate in initiatives.

HealthOpX would like to comment how HealthOpX's digital health technology could be used in the future to improve community health, individual wellness, and health equity for underserved populations. This comment will go over the following prompts in order: successful models
within the U.S., Barriers, Proposed government action, and health equity.

1. *Successful models within the U.S.:* Johns Hopkins J-CHiP care coordination program saved millions of dollars and improved health outcomes in Baltimore, Maryland. "The Johns Hopkins Community Health Partnership (J-CHiP) was a care coordination program with two central elements: a set of

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acute care interventions, which were piloted in two of the city's hospitals, and a community-based care management piece based primarily in ambulatory care settings, according to a study published in JAMA Network Open." – Fierce Healthcare (https://www.fiercehealthcare.com/hospitals-health-systems/johns-hopkins-saves-millions-improves-outcomes-its-j-chip-care) HealthOpX's software takes the essence of this approach by having healthcare and government entities easily work with community-based organizations in a much more scalable fashion. HealthOpX's HIPAA compliant software leverages community-based organizations to fill in the missing pieces and personal touches that government and healthcare entities cannot provide. Community-based organizations in underserved communities have the trust, knowledge, and expertise in working with their community and should be efficiently leveraged to combat health disparities. HealthOpX is currently developing a pilot with CareFirst BlueCross BlueShield's Medicaid plan and community-based organizations in Washington D.C. (such as church organizations) to achieve improvements in the following metrics: resource utilization, promotional and prevention wellness, updating member contact information, increasing # of health and social needs screenings, and increasing the # of traceable referrals to organizations. Community-based organizations have been easy to convince to join the platform due to the software's ease of use and overlap with their
day to day activities and goals.

2. *Barriers:* HealthOpX has identified barriers in community-based settings from community members and community-based organizations. Community members do not have wi-fi or data, and in some cases do not have a smart phone to download apps. HealthOpX has allowed for engagement to community members to be solely text message based in receiving and confirming services. Community-based organizations do not have the software to structure data, engage community members through text services, refer members to other organizations, receive referrals, manage volunteers, or even digitize existing forms to capture data. HealthOpX provides tools to solve all of these problems and in turn allow structured individualized data to be seamlessly shared to government and

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healthcare entities. Community-based organizations are hesitant to adopt new technology that does not benefit their day-to-day work, and have been resistant to adopt referral and resource network technology especially when they do not have the manpower to complete their regular work. Government and healthcare entities are hesitant to partner with community-based organizations on data and analytics projects when they are not using a HIPAA compliant and secure platform for data.

3. *Proposed government actions:* HealthOpX proposes that the government take immediate action by using HealthOpX technology within 2022 in 5 pilot settings around the U.S. to collect personally identifiable health and social determinants of health data in communities that score a 2 or less on the Area Deprivation Index. HealthOpX also proposes that the government use HealthOpX to work with community organizations, healthcare entities, and existing government organizations on those areas to act upon the data and individual feedback captured by community members via HealthOpX's text messaging platform on how to create improvements in their social determinants of health.

4. *Health Equity:* HealthOpX provides community-based organizations software to store identifiable community member information that can be used to combat health disparities and achieve health equity. Community-based organizations can send text message campaigns on resources and events, and can also receive feedback from community members via text on barriers or health/socio economic challenges they face. Having traceable and identifiable feedback is the first step in creating structural vs. theoretical change in communities. The advantages of HealthOpX include: access to identifiable data and the ability for community organizations and relevant organizations to act on that data to drive toward a reduction in health disparities. Bringing digital health technologies on the community level to be leveraged in underserved communities is the most effective, verifiable, and scalable way to achieve health equity.

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March 31, 2022

Dr. Alondra Nelson
Acting Director and Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson,

Thank you for the opportunity to respond to this RFI. Healthy Alliance is an organization originally funded by NYS DSRIP. Our organization manages and curates a SDHN as a regional strategy to help tackle SDoH in an upstate NY region.

Sincerely,

Elena Rosenbaum, MD
Medical Director, Healthy Alliance

RFI response:

1. *Successful Models in the U.S.:*

Healthy Alliance, located in upstate New York, provides a novel example of how community health providers successfully use digital health technology to coordinate social, behavioral, and clinical services to enable people to live healthy lives and reduce health disparities. Healthy Alliance was founded on the now largely recognized concept that to improve health, we must address social needs before they turn into costly medical problems.

For decades, community-based organizations have been helping individuals get connected to services not covered by government benefits. These same individuals go to medical and behavioral health organizations too – yet all these sectors are siloed and have disjointed communication, creating redundancies and a complicated system for individuals to navigate. To fix this, Healthy Alliance developed a single regional, closed-loop SDoH referral network to connect providers of all kinds – medical, behavioral, and social care – using technology to simplify, streamline, and improve a client's and community health provider's experience. Once an organization joins the network, they work closely with our robust Performance Team who assists partners with the quality of their services, as well as navigating and optimizing the use of the platform. Community members access services either through these trusted network partners (i.e., CBO or health care provider) or if they are not ready to get connected while at a partner site, through a self-referral via our website/phone call when they are ready. The goal, which is being made possible through technology, is that there is no wrong door for community members to get connected to services that are essential for a healthy life.

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We have found that technology (in our case, Unite Us) is a useful tool to improve access and connections that are occurring in the community, while also gathering relevant and useful social care data to better understand the health needs of the whole person (not just medical care). The richer the data set, the better informed we can all be – providing organizations with the ability to prioritize funding in the services needed the most. Ideally, a region would use a single referral platform – although some areas have multiple referral platforms and systems in place, creating even more confusion among clients and community health providers. Interoperability within systems may help prevent further breakdown of communication and confusion among clients where different networks and technology systems are in place.

2. *Barriers:*

A successful SDoH network is much more than just the technology platform used. Our four years of experience in implementing Unite Us in the Upstate NY region has validated that human infrastructure is necessary to help organizations onboard, use, and provide quality services in the SdoH network. CBOs have varying resources, staffing, and capacity to implement technological tools – that's why Healthy Alliance has provided support and funding for organizations to establish processes and standards to use the common referral platform, ensuring that sending and receiving referrals is as easy as possible. Healthy Alliance has worked with organizations of different sizes, staffing, and capabilities – providing community members with access to a broad range of services. We've learned that some organizations are equipped to refer directly to another organization but need support in understanding eligibility requirements for the different CBOs and which organization(s) best meets the community member's need(s). To close this gap, Healthy Alliance developed a referral center to assist and manage referrals across the 500+ organizations (spanning 22 counties) within the network – all connected in the single referral platform. Since its inception in 2018, Healthy Alliance's SDoH network has had 38,000 service requests – serving 18,000 unique community members with a successful connection rate of over 70%. In addition to funding and stipulations for interoperability for a technology platform, resources must be allocated to provide capacity building for CBOs in the areas of data and technology. This has been especially critical for small grassroots organizations that have few workers, making it harder to adopt the technology. Healthy Alliance has often supported organizations with funding and resources for months to support the adoption of simplified acceptable workflows.

Another barrier has been that each sector tracks data differently. Even though we have a single common referral platform, organizations do not want to input their work twice. Many already have their own case management systems and other tools – CBOs have case management systems, excel sheets, and other systems; public health organizations have their unique systems for contract tracing and other population-based programs; health care providers have other technological tools to track data such as their EHR; and other SDoH service providers, such as government agencies, have different data systems. Still, successful cross-sector collaboration requires common communication tools. This is another example of an area where interoperability rules would facilitate communication and provision of services.

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Healthy Alliance has also developed a quality and equity framework, working to bring together clinical and social care data sets to understand the impact on individual and population health. Existing social care data aggregators do not exist and funding is required for this to be successfully implemented – covering the cost and ability to merge different sources of data, data formats, and systems. Healthy Alliance has also navigated issues around privacy, data sharing agreements, and responsible use of data between sectors and of sensitive information.

5. _Tools and training needed:_
Our experience has demonstrated that implementation of an SDoH network requires adequate access to computers, staffing, and training. Although CBO's have already been asking SDoH screening questions and many health systems have begun to implement it, we have found gaps in the way the screening is administered. Agencies need training around cultural competency and trauma response when interfacing with people and asking SDoH questions. We have found that some agencies screen over a period, while others capture the information but do not help the client get connected to needed services. Developing best practices and training for SDoH screening is a necessary component of implementing a successful SDoH network.

Data is only as good as what is captured. Having a SDoH network as a component of the work towards health equity requires that we have a data framework and the ability to capture the correct data. We have asked that agencies capture demographic information that is necessary to measure impact. For example, race and ethnicity have been part of the required fields for a long time, yet 55% of this data set is captured as unknown, making health disparities analyses challenging. Training and best practices around asking for demographic data, avoiding redundancy in questions, and aggregating data from sources that already have this information is necessary to move forward.

6. _Proposed government actions:_
As a result of Healthy Alliance lessons learned, we recommend the following government actions:
- Incentivize use of regional closed loop referral platforms rather than service directories. This enables agencies to ensure the connection has occurred and prevents individuals from falling through the cracks.
- Incentivize single regional SDoH networks rather than multiple redundant closed initiatives within the same community.
- Technological interoperability requirements would ease the burden of double documentation and improve visibility of services and connections for all sectors.
- Sufficient funding for the implementation of the network, beyond funding for the technological platform. Network implementation and performance optimization requires capacity building.
- Clarification and simplification of data privacy rules to facilitate information exchange between sectors.
- Funding for social care data aggregation to enable adequate health outcome and health equity analysis.

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To the White House Office of Science and Technology Policy Team:

Help Center 211 is writing regarding the OSTP's request for input from community health stakeholders concerning how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity. We appreciate the opportunity to participate and provide input into this important decision. We also welcome the development of new technology that combined with existing efforts could potentially result in better service delivery and increased positive outcomes for our communities.

Help Center 211 is in Bozeman, Montana and is part of the Montana 211 statewide network. We have been providing 24-hour crisis and referral services since 1971. We also became a 211 in the early 2000s growing to provide our already existing 24-hour crisis intervention and information referral information services to 13 counties in rural Southwest Montana.

As a 24-hour crisis and suicide intervention program, we talk with individuals and families who have a variety of needs. Our extensive database of human resources allows us to provide information and referral to people who call us. While many folks might struggle with mental health concerns, often their crisis stems from lack of resources to meet their most basic needs such as food, shelter, rental assistance, transportation, medical services, utilities, employment, or other financial concerns. During the initial COVID-19 crisis of 2020, our local city/county government called upon us to be the 24-hour contact for individuals who were looking for general information about the restrictions or protocols and information about new assistance programs as they became available. We collaborated with our local hospital and community mental health center to provide a walk-in urgent care for mental health crisis to avoid overloading the hospital emergency department.

Across the country 211 is known as an information and referral line for human/social services. But in our experience, it is often so much more. Our call center operators are trained to listen 'in between the lines' and to practice active listening with all callers. In this process we frequently discover that a person asking for the address of the local food bank, may start crying and reveal that they are so desperate, they have had suicidal thoughts. Our crisis counselors are readily available to provide support and intervention as needed.   While technology can perhaps provide the most up to date resource, it cannot provide this type of insight or assistance when a caller needs more than simple information. In addition, many clients are followed up with to verify that the individual was in fact able to connect with the resources and have their needs met and if not, then we can pivot to finding further support.

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The experience of COVID-19 has illustrated that the human connection is as valuable as ever. People appreciate being listened to and hearing someone who cares about their situation. Technology can help that happen better – but it cannot replace it. Currently, funding related to the social determinants of health is going into the private sector rather than the community-based sector. We believe that there needs to be a better balance, and this is overlooking and minimizing the support community-based non-profits and organizations have been providing for decades.

Our organization is also part of the Emergency Management Systems for our county and belong to All Hazard All Discipline and Community Organizations Active in Disasters. We have been called upon to act as a communication system during times of local disasters such as forest fires, local crime situations, (in addition to COVID-19).

While considering how digital technologies can be used, we hope that the OTSP will take into consideration some of our concerns. Many providers across the healthcare spectrum already have software in place on which they record contacts with their clientele. We fear additional work for client-serving agencies who are being asked to document client transactions in multiple systems without recompense. We would recommend considering how and if a new product can interface with currently used systems to assure that client-serving agencies and their providers will not have to work in multiple systems at once taking away valuable client interface time.

We would like to see any new community software governed by local community collaborators. 211s have been maintaining community resource databases according to national standards for decades. Our hope is that instead of establishing competing resource databases that are not based on standards, vendors be able access the existing 211 resource databases via API. It makes smart sense to not recreate the wheel when there is already a strong existing platform. Duplicating the existing work of community-based agencies in resource database maintenance that follow national standards

Governance of new community software should be through community collaboration and not through for-profit software companies. Diverting funding from the agencies dealing directly with clients to venture capital funded software providers is concerning to health outcomes. The governance/stewardship of regional software systems designed to engage community-based agencies within the broader healthcare system should be community-based rather than vendor-driven.

There are available examples OSTP may find fruitful to investigate as models that focus on collaboration, such as: the US Administration for Community Living, the Community Information Exchange developed in San Diego, or the Community Referral Network developed by the Greater Flint Health Coalition.

Thank you for the opportunity to participate in this important discussion and provide a window into the services we provide and how these decisions will impact agencies like us. Our agency would welcome being a part of the ongoing conversation if you need more information or would like to further discuss.

Regards,

Help Center 211 Team

Christina Powell, Executive Director

Kathy Allen Kinman, Program Manager

Help Center 211

421 East Peach St

Bozeman, MT 59715

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Web: >www.bozemanhelpcenter.org< ; >www.montana211.og<

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Company name: Hippo Technologies, Inc.
Website: myhippo.life
Established: 2020
Headquarters: Seattle, WA
CEO: Dr. Patrick Quinlan
Contact: ████████████

Short description: Hippo Technologies, Inc., is a global virtual care company servicing the healthcare and medical education sectors. The Hippo Virtual Care^{TM} platform includes a hands-free, voice-activated, head-worn tablet and HIPAA/GDPR compliant software allowing clinicians to communicate and video conference in real time with remote colleagues and students, search medical records, and automatically access files and imaging during patient examinations, procedures, consultations and rounding. Hippo delivers a unique "through the eyes of the clinician" experience with all the safety and convenience of remote care.

The Problem: Most patients in the US are struggling to access Specialty Care due to distance, delays and the existing care delivery model. The current wait time for a specialty care appointment is **over 20 days** and the conversion rate of specialty referrals is **below 30%.** People are frustrated with the specialty care chasm and are opting to just go to the ER. The impact on individual and national health is stunning with **over $1 Trillion of care focused on just 5% of people that use 50% of Specialty Care.** Conventional telehealth has failed specialty physicians by not providing the collaborative care model or capabilities required for remote specialty care. We need to change the care delivery approach to help specialty physicians manage care teams to provide new virtual care models that will reduce the barriers of delay, distance and a centralized care delivery model that are driving this crisis in specialty care.

The Solution: The Hippo Virtual Care^{TM} platform provides a new care delivery model that works for remote specialty care. Clinician extenders (RNs, LPNs, EMTs) at the patient bedside or in the home can collaborate with remote physicians to immediately diagnose, treat and educate the patient on improving their health. By using a wearable headset with advanced workflow and clinical technologies, the care team can provide the level of care that specialty physicians need to effectively manage remote patient care in the ER, OR, ICU, Outpatient, Skilled Nursing Facility, Home Care, First Responder and Hospital-at-Home scenarios. Remote Physicians using an internet browser (PC, tablet, smart phone – anywhere on earth) can collaborate with local Caregivers (RN, EMT) wearing the headset to provide expert care for patients. The integrated workflow provides support for orders, checklists, patient education and documentation using industry leading cybersecurity and compliance. This next generation of telehealth offers the level of telemedicine sophistication required by specialist physicians to provide remote care. Healthcare providers can overcome distance, delay and care delivery barriers that currently impact patient quality of care.

Why We Are Different: Hippo Virtual Care is designed by clinicians for clinicians. Our wearable IoT, remote patient monitoring, workflow, care planning and Intelligent Automation (IA) technologies are the best in the industry. The platform uses an advanced work engine to aggregate and communicate the essential information and control, without burdening caregivers with complex technical interfaces. By focusing on patient and physician outcomes, our team of seasoned healthcare experts provides solutions that are easily adopted and adapted by customers.

Potential Users: Our primary customers are healthcare providers who provide the solution to physician care teams that adopt the virtual care solution for their patients. **Health Systems and Hospitals** select the product to improve clinician productivity, improve patient outcomes, increase outpatient revenue and reduce outcome risks, such as readmissions. **Health Plans** select the product to manage their chronic care management initiatives focused on improving patient health to improve medical loss (ER and Hospital visits). And **Health Professional Education** customers select the solution to drive their virtual training and proctoring initiatives, which are being quickly expanded to deal with the clinician shortage crisis and the new realities of a COVID workplace.

Traction to Date: Our first year of piloting the solution was focused on completing the MVP product, establishing referenceable proof-of concepts, building a strong channel partner network and growing our customer base. After the first year of operation, Hippo has completed

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the version 1.0 platform, established six referenceable pilots (including Johns Hopkins, Barry University, and Adtalum), acquired more than 60 customers around the world and developed strong channels with Lenovo, Qualcomm and Telus (Canada).

Additional materials:

Hippo Overview video: https://www.youtube.com/watch?v=h8nYSL5HVTc&t=12s

EMS Use Case: EMS Video

Surgical Use Case: Suturing Video

Professional Health Education Use Case: ████████

How Hippo Helps Fill the Specialist Gap Between Telehealth and Telemedicine

https://myhippo.life/how-hospitals-can-save-money-using-hippo-virtual-care/

How Hospitals can save money using Hippo Virtual Care

Early intervention
A 200-bed hospital with annual 5,000 EMT patients, could save **$1.1 million** in inappropriate ER costs.
save **$1.1M**

Improve OR efficiency
Improving anesthesiologists' productivity by just 15% can reduce OR delays, saving an average hospital **$700,000** annually.
save **$700K**

Decrease ER wait times
A 200-bed hospital with 40,000 annual ER visits and a 30% emergency patient treatment delay rate could save **$2.7 million** annually.
save **$2.7M**

Reduce inpatient stays
A 200-bed hospital that cut their extended patient stays in half could save **$6.2 million** annually in inpatient costs.
save **$6.2M**

Improvements in efficiency can translate to better margins
Overall, a 200-bed hospital that implemented Hippo Virtual care in EMT, ER, OR and inpatient discharges could save **over $10 million** in costs.

Total savings $10+M

Contact Hippo today to begin unlocking these cost and performance improvements in your hospital!

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From:	Hilton Perez
Sent:	Thursday, January 6, 2022 11:42 AM
To:	MBX OSTP Connected Health
Cc:	Hilton Perez
Subject:	[EXTERNAL] Request for Information on Strengthening Community Health Through Technology - Hoy Health Comments

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Green Category

Good morning,

Hoy Health is a health-tech company that provides an integrated, comprehensive, and innovative approach to the provision of access to high quality patient care, via digitally enabled, low-cost products and services. The company promotes the utilization of best-in-class, technology-facilitated care models, that allow patients to better navigate their journey into health and wellness, preventive care, and chronic condition management with better, faster, and more cost-effective solutions.

As healthcare technology companies continue to better develop and utilize present knowledge, it has become more common for patients to access high quality healthcare services that meet their medical, social and health educational needs. Patients appreciate the convenience and cost savings of this innovative approach and continue to improve their healthcare visit experience. Its key features are flexible and tailored to minorities and underserved communities that face Social Determinants to Health, as cultural and linguistic barriers. Hoy Health utilizes a simple software design and user interface that facilitates patient interaction, while its monitoring infrastructure provides continuous engagement with the patient at little or no implementation cost.

Hoy Health utilizes demographics, SDoH and biometrics for data analysis and predictive analytics. Digital Health applies digital transformation in healthcare through the use of software, and hardware. Hoy Health utilizes mobile health apps, electronic health records, electronic medical records, and telemedicine, and remote patient monitoring (RPM) to better serve the needs of minority vulnerable populations living in underserve ed communities.

Digital Medicine could be used with pharmaceuticals, biologics, devices, or other products to better optimize patient care and promote health outcomes, while digital therapeutics are evidence-based therapeutic interventions supported by software programs to prevent, manage, or treat medical disorders.

Organizational Systems utilizes platforms to support healthcare systems, clinics, and other organizational settings through Predictive Analytics and Clinical Trial Management; and the Clinical Services utilizes platforms to promote Health Information Technology through electronic medical record, prescribing systems, and Telehealth platforms for clinicians and clinical staff support.

Digital Technology supports products for diagnostic and monitoring including digital diagnostics, biomarkers, Remote Patient Monitoring (RPM) Tools, and connected drug delivery devices, lifestyle and wellness apps, activity and fitness trackers, medication reminder apps, and consumer health information.

Thank you for the opportunity.

Cordially,

Hilton Perez, MD. MBA-HA | Chief Innovation Officer
Direct: ██████████
██████████████ | [>www.hoyhealth.com<](http://www.hoyhealth.com)

HOYHEALTH®

Subject: "Connected Health RFI"
 In response to the Request for Information (RFI) on Strengthening Community Health Through Technology from the Science and Technology Office regarding (1) Successful models within the U.S.

A Successful Model to Transform Community Healthcare Supported by Hucu.ai
When considering the many social determinants of health (e.g. non-emergency medical transport access, gaps in health insurance coverage, economic stability, medical literacy) that dictate patients' health and well-being, healthcare providers appear limited in what aspects of patient health they can explicitly address. Add in complex communication and coordination issues post-discharge between patients, care providers, and their support systems, and there is a clear need for more transparency. Without organized communication and patient management systems that bridge multiple electronic health records (EHRs), challenges in care coordination arise. These problems compound into harmful delays in healthcare treatment and delivery, disorganized caseloads and burnt-out staff, and confusion about patient status and priorities. This is where Hucu.ai, a HIPAA-compliant, patient-centered, and multi-channel messaging platform can fundamentally resolve these communication issues. Although Hucu.ai possesses many valuable features that enable it to be a successful model for healthcare communication and messaging, its key specializations are its care coordination, patient analysis, and patient empowerment abilities.

As a technology developer for person-centered healthcare communications service, Hucu.ai can step in as a valuable model for how digital health technologies can drive more equitable and accommodating healthcare delivery. Instead of relying on countless methods of communication with patients and co-providers (e.g. phone, email, text, fax), Hucu.ai consolidates messaging into one app location where patients, care groups, and support systems can securely communicate. Additionally, Hucu.ai organizes communication channels by patient, risk level, topic, and other factors to facilitate patient transition and evaluation. In doing so, Hucu.ai ensures that care providers spend less time following up on emails and phone calls and more time delivering patients the care they need.

Technology-Supported Community-Based Care Coordination
Hucu.ai is an impactful care coordination tool that enables practice groups, home healthcare providers, Area Agency on Aging (AAA) case managers and Medicare Advantage plans to more effectively manage diverse patients with diverse needs. Whether patients are transitioning from an inpatient to an outpatient setting or being discharged home, multifaceted communication tools like Hucu.ai are essential in maintaining a consistent, accurate, and secure transfer of knowledge. Without Hucu.ai, a patient's case manager, patient administrator, healthcare providers, and personal caregiver may be on five or more different lines of communication. By concentrating team communications around each patient so that all relevant parties are operating in patient-centered teams, more time can be invested in identifying structural barriers to care (e.g. lack of transportation, scheduling unavailability, confusion surrounding treatment adherence) and in addressing support service gaps.

MPAC Healthcare experienced the challenges firsthand of connecting their geographically dispersed teams of nurse practitioners and social workers in addition to providing their clients with comprehensive telehealth services. After furnishing their staff with Hucu.ai access, MPAC staff connectivity subsequently improved with care teams praising faster response times, easier

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patient file sharing, and uncomplicated real-time team coordination for patients. In terms of expanding comprehensive telehealth services, MPAC not only connected patients with the right telehealth team more efficiently, but they also assessed the productivity and quality of telehealth care delivery.

Outside of the hospital setting, home healthcare providers also benefit greatly from real-time communications tools. Hucu.ai's digital platform makes remote monitoring and telehealth care options attractive and simple. After downloading the app, geographically disparate nurse practitioners, social workers, and physicians can digitally convene at a patient's touch. These features make Hucu.ai a foundational system in building out home-based care, which is particularly attractive for patients seeking more accessible forms of care and for clinicians addressing structural obstacles to high-quality healthcare that disproportionately impacts BIPOC and aging populations' health outcomes.

Patient Acuity Analysis and Organizational Process Analysis
Hucu.ai enables patient-centered organizations to more effectively manage and assess patient progress and healthcare delivery for systemic issues by analyzing patient journey data. In order to manage patient caseloads and record case manager activities, Hucu.ai developed acuity scores for each person, which takes five acuity assessments (i.e. risk of readmission, fall risk, overall loneliness, elder abuse risk, and risk of depression) into account. These risk assessment scores allow healthcare providers to triage patients by risk and standardize care delivery among similar cases. Another key feature is Hucu.ai's mapping of patient journeys over time on visual dashboards and reporting systems, where patient condition can be assessed over time and by location. These powerful features expand healthcare organizations' scope from the individual level to the entire patient community by easily identifying gaps in continuity of care and opportunities for patient experience improvement.

As a service provider for older adults living independently, Clearfield County Area Agencies on Aging (CCAAA) leverages these technical features for better caseload management and outcomes. CCAAA relies on Hucu.ai to provide interpretable, real-time overviews of patient progress while flagging special, risky cases within CCAAA's older adult community. Because of Hucu.ai, the service provider can broadly assess community health status as well as pinpoint older individuals that demand more medical attention or social support. They are also coordinating with transportation, meal delivery, and community health providers more easily.

Patient Empowerment
Another aspect of Hucu.ai's care coordination model that can drive greater community health is its patient-centered foundation. Professional patient channels and patient-family chat features empower patients to ask questions, to become more engaged in patient well-being, and to collaborate on treatment solutions, mediate difficult medical decisions, and keep dispersed family members in the know. These features are key to Hucu.ai's success as they constitute an accessible way for patients and their family members to become more invested in their health, to increase patient satisfaction, and to improve retention with their care providers. Health care providers also benefit as their avenues of support beyond the hospital and outpatient centers are extended, reducing the likelihood of readmission or poor health outcomes.

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Overcoming Barriers

Traditionally, technology has been deployed in healthcare through complex investments with the help of larger institutions, involving large-scale implementation planning and extended timelines. Hucu.ai differs by providing unlimited access to unlimited users through Hucu.ai Basic, or the first level of Hucu.ai technology. While sponsoring organizations have access to Hucu.ai Plus/Pro versions, which have powerful analytical capabilities, Hucu.ai Plus is available for a nominal per patient/per month fee and Hucu.ai Basic is free, putting zero cost on patients and providers. Moreover, Hucu.ai can be implemented in minutes, because it is as simple as other ubiquitous consumer facing applications. Because of its affordability, Hucu.ai reduces both barriers to access along with barriers to effective communication.

Ease of use is a central concern for healthcare professionals and patients alike. The user experience of Hucu.ai has been designed in collaboration with frontline healthcare professionals looking to reduce time spent on the app and increase time spent with patients. It has been continuously improved through rollouts in more than 150 communities to more than 1,000 users. Users report that Hucu.ai is significantly easier to navigate than traditional EHRs and other communication tools and facilitates communication in one- to-many team channels as opposed to single-threaded one-to-one communications which must be repeated.

Many healthcare professionals actually fear being more accessible using real-time messaging technology. Two innovations make this feasible with Hucu.ai. First, users can manage their availability and notifications separately from the personal SMS text or other communication channels. Second, Hucu.ai has addressed this concern by supporting teams in rolling out Hucu.ai and assuring appropriate services levels are communicated to all actors. By making truly patient-centered messaging easy, healthcare teams are able to be responsive at the right credential level and to escalate questions with realtime notifications to specialists or higher credentialed team members. Reporting makes it clear how manageable the messaging volume is, as an inquiry answered in a timely fashion prevents multiple further inquiries and further complications.

Concluding Notes

Without effective communication across healthcare providers and community members, it's impossible to address broader, systemic issues within local communities of interest. Digital health technologies that address this fundamental problem cannot rely on merely functioning as a platform for messaging and patient discussion within siloed organizations. These technologies can provide simple ways for all relevant parties (i.e. patient, caretaker(s), physicians, nurses, social workers, case managers) to congregate in one virtual place for the sake of improving the patient's mental and physical well-being. These technologies must also make the platform a convenient and accessible avenue of discourse for patient and relevant parties to understand the full extent of a patient's illness, their options, and their sources of aid. By making the patient central to the digital platform's design, Hucu.ai empowers patients by integrating them into the same environment as their healthcare providers, reduces confusion amongst healthcare administrators and providers, and holds healthcare systems accountable in treating each patient individually and equitably. Strengthening community health through technology rests on the imperative of strengthening communication across health systems, communities, and individuals.

For further information, contact ███████████████████████

HURON

STRENGTHENING COMMUNITY HEALTH THROUGH TECHNOLOGY

REQUEST FOR INFORMATION

White House Office of Science and Technology Policy (OSTP)
February 25, 2022

SUBMITTED TO:
Ms. Jacqueline Ward

█████████████████████████

SUBMITTED BY:
Nicole Bengtson
Huron

████████████
████████████████

Large Business
Unique Identifier (fka DUNS): 111367897
CAGE: 3KVQ9

GSA Schedule
Contract # GS-00F-146DA

Special Item Numbers (SINs):
333318TDTM, 541611, 611430 Professional Services Schedule

GSA Schedule
Contract # GS-35F-291CA

SINs: 54151S IT Professional Services

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Capability Statement

1. SUCCESSFUL MODELS WITHIN THE U.S.

At the onset of the COVID-19 pandemic Huron and Medically Home partnered to develop a solution to address changing market needs. Medically Home allows health systems to safely shift advanced medical care from hospitals to patients' homes, replicating the capabilities of a traditional hospital. Huron is the sole implementation partner for Medically Home. The partnership unites Huron's extensive healthcare expertise with Medically Home's proprietary Cesia® technology, utilizing an innovative virtual hospital model to improve health outcomes, reduce costs, and connect patients and families to providers, equipment, medication, and supplies 24/7.

Our Medically Home model has successfully provided on-demand, acute medical care management in a home setting through the following three key components:

1. **Command center:** A physician-led, nurse-powered virtual center that provides a totally connected care team for patients and families 24/7 regardless of community access.
2. **Technology in the home:** State-of-the-art technology kits keep patients and their families connected to their caregivers.
3. **Acute rapid response services:** Provides everything patient's need brought to the home on-demand.

2. BARRIERS

Longstanding health inequities in the United States have become more acute during the COVID-19 pandemic. Food insecurity, housing insecurity, and access to healthcare and transportation have become more prevalent during the last 2 years. The following barriers must be addressed as a country so we can reduce healthcare expenditures and have communities thrive.

- **Technical:** Data collection is fragmented, inconsistent, and fraught with bias. Current approaches neglect the collection of crucial information on social, economic, and cultural dimensions of life leading to an incomplete picture of patient and population health. Policies and infrastructures that are focused on modernizing, setting clear standards, ensuring accessibility, and collecting holistic data are critical to addressing the persistent challenges.
- **Training:** Health systems that provide medical care without properly educating the patient on proper habits and self-care are likely setting up the patient for negative health outcomes. Health literacy must be addressed to ensure provider and user adoption.
- **Costs:** Health systems incentives are not aligned to social determinants of health (value based is primarily quality care that is efficient and lower cost).
- **Reimbursement/policies and buy-in:** Reimbursement for telehealth and phone-based services must support both the provider investment in necessary infrastructure and the value that telehealth and phone-based services provide.
- **User education:** Infrastructure for telehealth services must ensure that privacy requirements, including HIPAA standards, are met and data collection is carried out consistently.

HURON

3. TRENDS FROM THE PANDEMIC

As described in question 2, the pandemic created a greater divide in social and economic vulnerability in our country – exacerbating the issue for those already vulnerable and making far less of an impact on stable populations. The data is clear – the way we deliver care and partner must change. Figure 1 shows the consumer-centered healthcare model we anticipate is likely to continue in a post-pandemic world.

Figure 1. Consumer-Centered Care Models Strengthen Communities. *The future requires more flexible and coordinated care models to be developed in conjunction with key social determinants of health measures. Health systems, payors, government agencies, and community-based organizations must partner to prioritize aligning on a single view of patient data along with a holistic patient experience.*

In January 2022, Huron acquired Perception Health to allow us to offer providers, self-insured payors, and research institutions data insights across the care continuum to make better decisions and proactively improve patient care and clinical outcomes. Using Perception Health's large data sets, Huron can produce insights to help inform policy decisions aimed at closing health equity gaps.

4. USER EXPERIENCE

As described in question 1, Huron and Medically Home's exclusive partnership unites Huron's extensive healthcare expertise with Medically Home's proprietary Cesia® technology to provide a hospital experience in the home. To deliver the best possible patient experience we focus together on:

- **The patient's perspective on care**. Studies have shown that physicians and patients have differing views on and priorities for the hospital experience, including end of life care. We focus digital technology on the patient's needs, wants, and comfort.
- **The patient's needs over profit.** When evaluating our development roadmap, technological partnerships, and new care models, we strongly prefer those that are centered on people and the patient experience over financial gains.

Through this focus, we have successfully removed barriers that prevent access to care as described in question 2, and provided customer experience benefits that improve access, satisfaction, connectivity, and convenience, and reduce pressure, stress, confusion, and alienation. In assessing the user experience, Medically Home relies heavily on user testimonials, several of which can be viewed at https://www.medicallyhome.com/testimonials/.

5. TOOL AND TRAINING NEEDS

Technology is a vital component for community-based health providers and workers to survive and thrive in the future. A primary need of community-based health providers and workers is to identify innovative technologies that meet local consumers' needs and wants and implement

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them to improve care and drive health equity. We have implemented these technologies at hundreds of organizations.

Once implemented, many community-based providers fail to harness the full potential of their technology due to a lack of training, familiarity with their systems, or interoperability. An underlying challenge is the ability to collect, process, store, synthesize, and act on the data that now comes from 100+ applications. Huron collates data from a wide range of sources to drive concise and actionable insights, including the Perception Health offering that provides decision intelligence to identify risk factors in vulnerable communities like health literacy and technical gaps. Huron can leverage experience from hundreds of complex engagements, scaling technical and operational trainings to a diverse group of stakeholders, to ensure relevant information is effectively documented and communicated to drive intended large scale change.

6. PROPOSED GOVERNMENT ACTIONS

Digital health technologies are essential to achieving health equity. The federal government can support the transformation of community health settings through innovative digital health technology initiatives that:

- Enable interoperability across all Electronic Health Record's (EHRs) and align physicians to improve care access, coordination, and communication across the entire system.
- Improve communication between patients and their care team, including real time appointments and asynchronous encounters, and incentivize health systems to invest in this technology by expanding Medicare reimbursements for telehealth and other virtual interactions
- Seek to identify and narrow geographic and socio-economic broadband gaps, expanding access to telehealth.
- Facilitate private-public partnerships that are working to improve the health of at-risk communities across the U.S.
- Increase access to patient education resources and health information.
- Require doctors to submit and regularly update their Tax Identification Number, providing the industry with accurate insights to identify at-risk populations and the doctors they see.

7. HEALTH EQUITY

The road to achieving health equity must include addressing head-on the social determinants and drivers that influence health access and outcomes. To drive towards a reduction in health disparities, digital health technologies can be used to:

- Leverage community and health system data to identify disparities within target/ impactable populations and understand root causes to inform solutions.
- Use Huron's Perception Health data to gain sophisticated local-level insights and predictive risk assessments around community characteristics, patient behaviors, and engagement preferences.
- Identify geographic and socio-economic broadband gaps and narrow them, enabling increased access to telehealth.
- Conduct culturally competent research to demonstrate and measure the efficacy of different social determinants of health solutions in varied contexts.

HURON

March 31, 2022

Re: RFI Strengthening Community Health Through Technology

IMPACT Inc. has served the greater Milwaukee area for over 60 years, providing assessment and referral services for people seeking to regain stability in their lives. As the designated provider of 211 services in the nine-county region of Southeastern Wisconsin, we respond to nearly 300,000 requests for assistance each year, powered by a curated resource database containing 8,584 resources.

We appreciate the opportunity to comment on the RFI issues by the OSTP and to share our experience with technology integration and health/social service navigation. In our experience there is a vast dissociation between private digital health vendors' actions and their proposed mission to help communities. In order to create a sustainable system to address the social determinants of health (SDOH) of diverse communities, we need to empower community members to engage with digital health networks that are the best fit for them. This is the foundation of a Community Information Exchange (CIE.)

IMPACT's CIE, IMPACT Connect, is modeled after the San Diego CIE which has achieved multiple successes increasing overall community health because it follows three tenets. First, build a directory of validated programs and services and cultivate relationships with providers throughout the community in various systems. Second, create a platform in which partners can connect using a shared language capable of tracking/measuring client outcomes. Third, invite participation in a governance board that values cross-sector collaboration and establishes network data parameters to increase capacity, measure community health issues, remove barriers and address community needs with an emphasis on vulnerable, underrepresented populations.

Although technology platforms are an integral component of any digital health network, they are insufficient to a Community Information Exchange without equal investment in community relationship building; resource cultivation and maintenance; and inclusive, fair governance. For example, addressing social determinants of health means that hospitals have appreciated reduced readmission rates, reduced ED visits, and reduced overall costs. However, a network-wide governance system ensures health equity.

Not only in Wisconsin, but nationwide, private tech firms that have launched data platforms in communities struggle with engagement because they poach resource data (often from the established 211 system) and prioritize revenue generation over community well-being. A recent study released by Trenton Health Team and the Social Interventions Research and Evaluation Network (SIREN) outlined community organizations' challenges integrating privatized data

tools. Barriers included the training investment required to learn the platform; the lack of comprehensive resources in the tool; and a lack of confidence in the outside firm's intentions. Their business model is incongruent with the nature of creating sustainable digital health networks as their focus is signing on additional users of the platform rather than a genuine investment in a community. Even instances in which the tech firm has provided access to the platform free of charge, it was a strategy to build a network of providers so that larger systems would be enticed to buy in. Furthermore, many community stakeholders and organizations have expressed concern about data ownership upon collection. Universal standards set by private technology platforms may create tension between communities who experience differential treatment in social services and suffer vastly different outcomes.

IMPACT Connect encourages participating organizations to join network committees in an effort to promote cross-sector collaboration and allow social service sectors (food, housing, public safety, etc.,) to advocate and communicate their needs in tandem with the broader network. Each sector appoints a representative to the governance board to further increase equitable decision-making among organizations serving various communities. By supporting each sector's ability to contribute to the Community Information Exchange, it remains focused on community needs and solutions rather than competition and revenue generation. .

In conclusion, digital health technologies can create positive, sustainable change in the community but without community-led implementation you risk a non-equitable distribution and interaction with available resource.

Respectfully,

John M. Hyatt
IMPACT
President & CEO

Building on our 60-year history, IMPACT provides the essential first step toward regaining personal stability, and collaborates to advance health and human services throughout Southeastern Wisconsin.

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One California Street, Ste. 2300 San Francisco, CA 94111

███████████████ | includedhealth.com

February 28, 2022

Dr. Alondra Nelson
Director, White Office of Science and Technology Policy
Executive Office of the President

Submitted electronically

Re: Connected Health Request for Information (RFI)

Included Health appreciates the opportunity to submit the following response to the White House Office of Science and Technology Policy's Connected Health RFI. At Included Health, we are removing the friction in order to provide high quality care for patients and family caregivers across the country. We are not just setting the standard in healthcare, but raising it, for everyone. Included Health provides unique virtual care services that uses innovative and emerging technology, including telehealth and artificial intelligence (AI), to better serve patients nationwide. By leveraging the combination of high-quality care delivery via telehealth, and data-powered engagement which enables patient advocacy and navigation to local community providers and resources, Included Health is creating the future of healthcare.

A Successful Model Within the U.S.

While the rest of the healthcare world seems to be moving towards creating more fragmentation and silos or attempting to cut costs by taking services away, at Included Health we believe that data, technology and clinical expertise when effectively combined can drive better outcomes. We are the first nationwide virtual care practice to enroll and serve Medicare Part B beneficiaries, and are also providing affordable visits to active and retired TRICARE beneficiaries and their families, Medicaid and working families in other states. Because of this we have been able to serve a vital public health role in mitigating the case of infectious disease spread and providing safe access to routine care to all who need it. Our impact is evident showing telehealth's effectiveness in reducing depression symptoms. Our practice uses PHQ9 which is the professionally known standard and scale for measuring the presence and severity of depression. When we reviewed data for 2300 patients for those receiving four psychiatry visits, over 60 percent of patients improved PHQ9; for those receiving eight therapy visits 44 percent of patients improved the PHQ9 metric.[1]

Included Health also uses artificial intelligence and data-powered engagement to improve care coordination and care management. These features provide information to patients to help them navigate the complex world of health care, and also connects a patient with the best quality doctor or specialist in their local community that meets their unique medical. Patients and their families can make informed decisions about their healthcare treatment strategy at the onset of their diagnosis which allows them to pick the most effective treatment plan for their needs. This

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[1] Case Study: Reducing Depression Symptoms with Virtual Care. Doctor On Demand. 2020.

comprehensive and tech-enabled support includes It includes services like advocacy, financial guidance, claims support, care management, benefits routing and provider matching to help people find high quality in network providers.

Contrary to popular belief, virtual health care providers and traditional brick-and-mortar providers are not competing with each other for patients. More often than not, as evidenced by our telehealth and navigation model, they work collaboratively to ensure optimal care coordination and care management when needed which reduces fragmentation, duplication of services and delays in receiving necessary care. Also similar to a traditional health care experience, telehealth enhances the longitudinal patient-provider relationship.

Health Equity

Included Health understands the importance of addressing health inequities by providing affirming care from a diverse and inclusive health care practice. We have Included Health Communities, which will house Included Health's LGBTQ+ care equity program, our Black community focused service (currently being developed as part of our Black Community Innovation Coalition), and other future services developed for under-resourced communities.

Barriers

Medicare premiums are rising, and beneficiaries are expected to save between three and eight percent more to cover premiums, deductibles, and other health expenses over the next five years. Research shows that Medicare beneficiaries are more likely to skip or delay needed care because of costs than older adults in other high-income countries. Medicare beneficiaries should not have to make unconscionable decisions about how to use their discretionary dollars. Generally, high out-of-pocket health costs can lead patients to delay care or forgo it entirely, which can produce poorer health outcomes and raise overall health care spending.

Moreover, the uncertainty of navigating a post-pandemic future is also taking a toll on the provider workforce. This country faces an unabating pandemic and growing shortage of primary care and behavioral health providers that continues to pose financial strain on health care providers and patients. Research shows that half of health workers are reporting burn out, and provider shortages are impacting patient access. Excluding telehealth providers from any network, benefit, or service makes the limited number of provider resources presently available even more limited. This disproportionately affects those who already experience the harsh reality of finding a healthcare provider who accepts new patients and waiting weeks for the first visit.

In-Person Requirements
The Consolidated Appropriations Act, 2021 (CAA) imposes an in-person visit requirement, after the PHE ends, for certain mental telehealth services provided in certain locations. Specifically, the in-person visit requirement applies when providers seek to deliver certain mental health services via telehealth without meeting Medicare's typical geographic restrictions or when the

originating site is the patient's home, regardless of geography. In these circumstances, providers must first see the patient in-person before being able to provide certain mental telehealth services. We strongly oppose the in-person visit requirement for mental telehealth services, as it unnecessarily restricts access to much-needed mental health care after the pandemic.

If enforced, the in-person requirement would stifle beneficiary choice and necessitate the termination of countless existing provider-patient relationships. This would not be because the clinical quality is inferior, but simply because the practitioner lacks a brick-and-mortar location. The in-person requirement also inadvertently discourages and places a moratorium on Medicare provider enrollment for behavioral health providers at a time when the demand for, and ability to, access behavioral health treatment has significantly increased. Many studies show that, within the past year, the prevalence of serious psychological distress among adults older than 55 nearly doubled compared to pre-pandemic levels.

Medicare Coverage

Absent the waivers put in place during the PHE, Medicare generally only allows beneficiaries in specific, qualifying zip codes and health care facilities to access telehealth services. These geographic and originating site restrictions are extremely limiting: only two out of every 100 Medicare beneficiaries reside in counties eligible to receive telehealth services under the restrictions.

Employer-sponsored Care

Section 3701 of the CARES Act created a safe harbor allowing those with Health Savings Account (HSA)-eligible High Deductible Health Plans (HDHPs) to have telehealth services covered on a first-dollar basis, which has meant that millions of Americans with employment-based coverage have had access to telehealth services during the pandemic. Without further congressional action, Section 3701 expired on December 31, 2021, leaving many with higher out-of-pocket costs for services such as primary care, and mental health services. Moreover, many part-time workers and their families are at-risk of losing telehealth coverage from their employers made temporarily available by the PHE.

Proposed Government Actions
- Protect access to and improve the mental health of Medicare beneficiaries by permanently repealing the "in-person requirement" for telehealth.
- Protect Medicare beneficiaries' access to care by permanently repealing the originating site and geographic restrictions in traditional Medicare.
- Lower out-of-pocket costs for working families that have a high deductible health plan by permanently allowing telehealth safe harbor and first dollar coverage, and allowing telehealth as an ERISA- excepted benefit when paid entirely by the employer or other plan sponsor.
- Make Medicare and Medicaid claims data sets freely available to improve physician quality.
- Include patient navigation services like advocacy, financial guidance, claims support, care management, benefits routing and provider matching as core component of Medicare and Medicaid value-based models to help people find high quality in network providers.

In closing, advances in telehealth have made health care more accessible and equitable, and we believe that these advances should remain part of our health care system after the pandemic ends. We welcome any opportunity to work more closely with OSTP to ensure that no individual or family is disconnected from their choices for quality, accessible and affordable health care.

Sincerely,

Latoya S. Thomas
Senior Director of Policy and Government Affairs
Included Health (Doctor On Demand + Grand Rounds Health)

February 28, 2022

Office of Science and Technology Policy
The White House
██████████████████

SUBMITTED VIA EMAIL

      Re: Comments about Strengthening Community Health through Technology

To Whom It May Concern:

Indiana Disability Rights (IDR) is the federally-mandated protection and advocacy organization (P&A) for the State of Indiana. Congress has authorized P&As to legally advocate with and represent individuals with disabilities whose rights have been violated. IDR serves its clients in a variety of contexts, including health care. For example, IDR has represented nonverbal clients with autism whose insurers denied critical augmentative and alternative communication (AAC) devices; advocated for the family members of a hospitalized patient to be remotely trained on her medical care needs, during the height of the pandemic, so she could return home; and demanded that hospitals provide deaf patients with in-person American Sign Language (ASL) interpreters when video remote interpreting (VRI) equipment breaks down. As such, IDR provides the following comments in response the Office of Science and Technology Policy's (OSTP) *Request for Information (RFI) on Strengthening Community Health through Technology*.

The RFI offers eight topics for which public comment may be submitted. IDR's comments are limited to three of those topics: Barriers, Tool and Training Needs, and Health Equity. Although some comments are relevant to more than one topic, IDR has divided its comments into three sections, each of which begins with one of the RFI's topics in bold text.

Barriers. Digital health technologies have been liberating for many individuals with disabilities, including those who use AAC devices to communicate and those with chronic conditions who can now nearly effortlessly monitor critical vital measures like glucose or blood pressure levels. Nonetheless, not all digital health technologies have universally benefited people in the disability community. Consider, for example, telehealth. Telehealth expanded dramatically during the COVID-19 pandemic, making health care more accessible to many, including those who have

Equity Through Advocacy

The Protection and Advocacy System for the State of Indiana

4755 Kingsway Drive, Suite 100
Indianapolis, IN 46205
IndianaDisabilityRights.org

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transportation needs, which is regularly the top barrier people with disabilities experience in accessing their community. Nonetheless, the expansion of telehealth has left those who are deaf or hard of hearing behind.

Telehealth providers, including physicians and hospitals, often choose a singular platform to conduct telehealth appointments with patients. These platforms must be secure to ensure compliance with the Health Information Portability and Accountability Act's (HIPAA) confidentiality requirements. However, these platforms tend to allow only the provider and patient to be present during an appointment; there is no opportunity for a third-party, such as an ASL interpreter, to attend. As such, individuals who are deaf and hard of hearing often choose to make in-person appointments with their health care providers, potentially increasing their exposure to COVID-19. Simply, telehealth is currently not effective for the deaf community.

Relatedly, even when deaf and hard of hearing patients attend in-person medical appointments, they may still experience barriers. Most individuals who use ASL prefer in-person ASL interpreters when communicating with someone who uses spoken English. However, laws like the Americans with Disabilities Act do not explicitly require in-person interpreters for all medical appointments. Resultantly, hospitals and other medical offices typically use VRI, which is on-demand and less expensive, when treating patients who use ASL. VRI can be a great tool when all parties have adequate technology and bandwidth. But too often Internet bandwidth is insufficient for deaf and hard of hearing patients to view all of the interpreter's actions in real time, and vice versa. Sometimes medical offices also expect patients to use VRI via cell phone or another device with a relatively small screen. This inadequacy creates additional communication barriers, especially if the patient also has visual disabilities.

Tool and Training Needs. Community health workers and other medical providers are likely not receiving a balanced view of population health, as multiple kinds of digital health technology are inaccessible to people with disabilities. Various vital statistics can be obtained through wearable devices, like smartwatches, and aggregated into a de-identified snapshot of the general public's health. Aside from more universal accessibility issues, like smartwatches being more difficult for impoverished individuals to obtain, disability-specific accessibility issues also exist. For example, a wheelchair user might be burning hundreds of calories per day by pushing their wheelchair on a nightly stroll. Yet, because they are not logging steps, their health metrics are skewed even if they have access to a particular device.

As the U.S. Access Board continues to develop recommendations regarding the accessibility of medical equipment, it could provide the OSTP with detailed feedback about the (in)accessibility of tech-heavy medical equipment. Perhaps the OSTP could form its own accessibility advisory

board to provide ongoing feedback about barriers, equity issues, and other items prohibiting full participation by U.S. citizens in the use of digital health technologies. Not only could such a board weigh in on training needs, but also could aid in developing standards for new technologies.

Equity. Technology has improved the lives of many people with disabilities and advanced equity. Wheelchairs, for example, allow those who cannot walk to be mobile in their local community. Hearing aids allow individuals who are hard of hearing to communicate with colleagues and neighbors. In addition to the direct benefits these pieces of assistive technology bring to their users, they also indirectly improve their user's quality of life and mental health. Emerging digital health technologies should ideally continue advancing these benefits.

However, some with disabilities fear that the digital revolution will leave them behind. Consider that, "[f]or disabled adults, rates of physical inactivity are 120% higher, obesity 57% higher, smoking 47% higher, and hypertension 13% higher than for nondisabled adults. People with disabilities of all ages have more than twice the incidence of diabetes, and rates of cardiovascular disease, the leading cause of death in the U.S., are three times higher."[1] Common refrains like suggestions of running around the block will not assist an obese quadriplegic. Public health measures like the increased taxation of cigarettes will not prevent a person with schizophrenia from smoking.

Instead, digital technologies could provide tailored support to users with disabilities. The patient with quadriplegia could participate in behavioral therapy with a nutritionist to discuss healthier meal options, and the smoker with schizophrenia could participate in behavioral therapy through his smart phone to avoid the urge to smoke. Nonetheless, the U.S. has not yet achieved the individualization needed to reduce disability-related inequities. Given the benefits that technology has thus afforded them, it is reasonable to expect that further resources devoted to the development of digital technologies for people with disabilities will be of exponential value.

Thank you,

[redacted]

Emily Munson
Policy Director

[redacted]

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[1] Mike Jones, Frank DeRuyter, and John Morris. *The Digital Health Revolution and People with Disabilities Perspective from the United States*, 17 INT. J. ENVIRON. RES. PUB. HEALTH 2 (2020).

Strengthening Community Health Through Technology
via Smart Health Communities!

The current belief is that the global healthcare system is in an "Amazon Moment" as a long term impact of COVID-19 and there has to be the prioritizing of health, wellness and prevention as a prescription for prosperity. The coronavirus pandemic has made the world realize the value of our health, at whatever age and prevention should inform the 'Platform for Innovation and Change'. This coronavirus pandemic has revealed our most precious asset is each human being and prioritizing health to '*Build Back Better*' a healthier US population is a prescription for prosperity via the implementation of Smart Health Communities (SHCs) initiatives. The short and long term impact of SHCs will include:

- Preventative health to build up health and economic resilience.
- Provide healthier outcomes for all.
- The power of digital technology becoming essential medical tools to avoid and tackle chronic diseases.
- Deliver on innovation as an invaluable clinical skill and doctor-patient relationship to became the doctor-digital-patient relationship,
- To deliver real-world deliverable to address health inequities supported by dyadic care model(s).
- To assist ALL citizens/patients/consumers to be better engaged in their health and wellness with a longitudinal health record (PHI) tied to a virtual medical assistant where a person has their entire PHI continually updated seamlessly from the time they are in the womb until the present. This will integrate their genome, their microbiome and their environmental sensors as part of the data collections process.
- That deliver to the US healthcare system needed "a trusted" communications platform other than Facebook or Twitted (*yes, imagine a health & wellness version of these platforms*) to deliver information from the CDC, FDA, HHS, CMS, World Health Organization (WHO) and other Centers of Excellence.
- The implementation of SHC's initiatives would have an immediate impact on the community!

Long-term prevention and health promotion cannot simply be left to healthcare providers or healthcare systems. It is quite literally the total community's business. Preventative health is vital to build up health and economic resilience. Indeed, arguably the even bigger crisis looming is the chronic disease "epidemic".

Maybe the single lesson from the U.S.'s pandemic experience is that comorbidities and elder care models make millions of us vulnerable to other diseases and viruses. Trillions in dollars will be spent along with unimaginable numbers of lives lost and contracted virus in the U.S. partly because we did not recognize that we are not aging healthfully. We were ill-prepared. *We cannot never again be taken unaware!*

Premature and avoidable ill health degrades people's lives, local communities and their economies. Up until COVID-19 struck, the developed world was largely ignoring this, and governments have failed to pursue the great gains that prevention, early detection and mitigation can bring. Far more wellbeing and health can now be gained by preventing illnesses than by treating them. Indeed, prevention will always be better than the best treatment. We now know better how to do so, but a change in public attitudes and cultural norms is critical to drive impact – hence the need for SHC's.

A SHC is an entity that can operate largely outside of the traditional health care system and encourages disease prevention and overall well-being in a geographic or virtual community setting – but, all of this is enhanced by having ALL stakeholders (*Primary Health Centers, health departments, providers, hospitals, the business community and others*) be active participants. The basics of SHCs have been around for many years but not have evolved because of lack of leadership to drive acceptance, technological advances and a

greater understanding of health behavior change derived from the behavioral sciences. Advanced SHCs have all of the elements shown in figure 1.

The five key elements of smart health communities

- Empower proactive health and well-being management
- Foster a sense of community and well-being
- Enabled by digital technology and behavioral science
- Meaningfully use data to improve outcomes
- Enable new, innovative ecosystems

Source: Deloitte Center for Health Solutions and Deloitte Center for Government Insights.

Deloitte Insights | deloitte.com/insights

The dramatic changes reshaping healthcare today are driven in part by the intersection of Metcalfe's Law and Moore's Law. Metcalfe's Law describes how the value of a network escalates dramatically as membership increases.

Moore's Law observes how computing power has doubled every two years or so for several decades and projects similar trends into the future. In tandem, these two phenomena will allow SHCs to grow and become more sophisticated, interconnected, and influential over time. As this happens, the impact of community-based health interventions could be brought to scale, while becoming more personalized. Data collected from (and voluntarily shared by) community members, including genetic and medical data, could help detect and prevent disease progression at an individual level, and assist in disease surveillance for the benefit of population health. With the use of our *a***HealthBook** platform (*to engage the citizen/patient/consumer*) and our *RingMaster* Ecosystem (*to engage ALL other stakeholder*) the SHCs can become fully integrated into daily lives, allowing for more preventive and personalized health interventions that can exist alongside and collaboration with the existing health care structures.

Imagine the maximizing of both Moore's Law and Metcalfe's Law paired with utilizing the owners of the largest number of endpoints (*the US wireless carriers and their 240+million users*) - included in these are a significant number of the homeless and those with health disparities - in the use of the "**Smartphone As The Swiss Knife Of Digital Health**" to allow the most unique creation of SHCs nationally to implement the CDC developed 15 national public-health-emergency preparedness capabilities *https://www.cdc.gov/cpr/readiness/capabilities-change.htm*: or for HHS's **Pediatric Mental Health Care Access Program**; the US **MyHealthEData** initiative; the initiatives of the Office of Minority Health (OMH); the CDC's **EmPOWERed** Health initiative that will spark better physician-patient communication and improve shared decision-making.

Louis A. James

Value propositions: Bending the cost of healthcare in the healthcare market segment; **e**ngaging the patient**,** reducing the cost of archiving and storing of information; Using Infisys' solution physicians, hospitals, and clinics can expect to reduce the expenses of operation while increasing the quality of care being administered. All stakeholders will be able to extract value from the SHC: the healthcare providers will be able to provide care within an environment tied into EHR/EMR systems where they see little or no loss in net income; patients will see better equitable outcomes from care delivery systems; employers & payers will be able to provide better coverage at lower cost; governmental units will be able to provide better care to the population.

How can governmental units get involved with SHCs? The Biden-Harris administration can lead on support SHCs in several ways. They can create a payment model that stimulates the development of SHCs through the use of COVID stimulus funds. As SHCs mature and proliferate, their governance and funding approaches could become more sophisticated, affording them the management and resources necessary to empower communities to invest in their own health and wellbeing – not just to stave off illness, but to reach their full physical and mental potential.

Governmental entities establish establish data-sharing agreements then collect, analyze and share data on local population needs with other players in the SHC ecosystem to collaborate on innovative solutions. Making information available to SHCs can help accelerate research and discovery, develop upstream solutions with predictive analytics and empower individuals to make healthy choices. Additionally, governments can help SHCs by developing and/or supporting SHCs' technological infrastructure and governance, including standardization and security of data.

Looking ahead: What does the future hold? Many of today's stakeholders operate in silos, largely isolated from each other and the geographic communities in which people live. As technologies such as Internet of Medical Things (IoMT) connect even more people and more advanced devices to one another, SHC's will become larger. Per Metcalf's law, the growth of these communities will make them more powerful; they will capture more data from the growing number of membership and the many devices their members use, rendering the data richer and more comprehensive. This will allow SHC's to conduct more robust research, learn more about the science of behavior change, and create cohesive and supportive social groups based on common interests and values.

In the future, we expect many more of the communities in which we live, work and interact (*both virtually and physically*) to consist of a web of interconnected SHCs. They would address SDOH, such as access to food, transportation, and employment; incorporate emerging technologies such as artificial intelligence, augmented/virtual reality, robotics, and radically interoperable data; use behavioral science to empower individuals to eat right and exercise; and detect and treat disease at its earliest stages using genomics and precision medicine.

Lastly, the provider shortage is a consequence of broken care delivery system and will not be solved by simply injecting thousands of MDs into the supply. While digital health offers several benefits, given the complex and systemic nature of the shortage, no single treatment will cure the issue. A swath of solutions that brings in stakeholders across the ecosystem will be required to ensure that care delivery is not compromised. Ultimately, digital health solutions will be critical to empowering informed connected healthcare consumers to proactively self-manage their care and be part of the solution for combating the growing providers supply shortage.

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February 28, 2022

Dr. Alondra Nelson
Acting Director
Office of Science and Technology Policy (OSTP)
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson,

On behalf of Innovaccer Inc. ("Innovaccer"), I am pleased to submit comments to the Office of Science and Technology Policy on how community health can be strengthened through the use of technology. We commend the OSTP for its efforts to further its mission to maximize the benefits of science and technology to advance health, prosperity, security, environmental quality, and justice for all Americans.

About Innovaccer

Innovaccer Inc., the Health Cloud company, is a leading San Francisco-based healthcare technology company committed to accelerating innovation in healthcare. The Innovaccer® Health Cloud empowers healthcare organizations to integrate data from any source—electronic health records, clinical, claims, labs, pharmacy, genomics, social determinants of health, devices, government sources, and more—to create a 360° view of the patient that enables whole-person care. The company's portfolio of Innovation Accelerators empowers technology teams and digital innovators to rapidly develop scalable, modern applications that improve clinical, financial, and operational outcomes. More than 200,000 providers, as well as payers and life sciences organizations, have used the Innovaccer Health Cloud to unify more than 39 million patient records and generate more than $600 million in savings. Innovaccer is the #1 rated Data and Analytics Platform by KLAS, and the #1 rated population health technology platform by Black Book.

Executive Summary

Our perspective on how to strengthen community health through technology is based on our extensive experience and successful partnerships with innovative customers who are leading the transformative change necessary to advance a more connected healthcare experience. Below we share a successful model of a community health provider's use of a cloud-based data platform to dramatically improve connectivity, interoperability, access to data across

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systems and settings; and unify patient records to achieve equitable whole-person care and better community health. We also comment on barriers, health equity, insights from the pandemic and a call to action.

A Successful Model for Community Health

It's important to address the social determinants of health (SDoH) as a part of achieving effective population health management in communities. Connecting patients to community resources in real-time enables timely interventions to improve outcomes for at-risk Medicaid and dual-eligible populations, and helps organizations reduce costs.

We work with an Accountable Community of Health (ACH) organization in the Pacific Northwest which sought to streamline care coordination for its partners across practice sites. It was challenged to integrate data from disparate sources and close gaps for hundreds of patient records. The lack of a common standard for storing and sharing patient data from disparate sources—including electronic health records (EHRs), ADT feeds, health information exchange (HIE) feeds, claims files, X12 834 files, and CCDA documents—resulted in data silos and operational inefficiency. Decentralized care coordination between staff and complicated workflows made care transitions difficult and kept referral loops open. Since patient data was distributed across the system, primary care providers had a limited view of the entire care program and its impact.

The organization partnered with Innovaccer for its care and population health management initiatives to streamline the care delivery process. Using the Innovaccer Health Cloud's integrated application suite and developer toolkit, the ACH created interoperable applications that allowed it to leverage unified patient records to track patient journeys and analyze patient needs. The ACH leveraged more than 100 integrations to digital health services and a large collection of intelligent APIs with cost, quality, and utilization metrics to review its network performance and lower care costs. It empowered its care teams with smart worklists for collaborative workflows, to coordinate their daily schedules and obtain an overview of patients' health conditions to determine the need for screening, treatment, and follow up.

The organization streamlined coordination of providers and communication with community health resources, and enhanced care delivery across its network. The ACH unified patient records from multiple data sources, and used them to track patient outcomes while measuring and analyzing patient needs. Results included savings of $6 million in care costs, 13% increase in referral success rates, access to actionable insights on network performance, and seamless coordination across the care continuum.

Barriers to the Use of Digital Health in Community-based Settings

Barriers to the use of digital health technologies in community-based settings by individuals include poverty, digital illiteracy, and a lack of access to broadband and smartphones. As mentioned in the model presented above, the slow and inconsistent adoption of existing

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standards (and limitations of those standards) for storing and sharing patient data from disparate sources is a technical barrier that impedes interoperable systems and applications among health systems, public health departments, and community-based organizations.

Another barrier to interoperability stems from divergent policies related to privacy, security, and trust that govern how electronic health information is exchanged or used. For instance, many digital health applications in use by consumers/patients may not be required to make electronic health information available in the same manner as certified health information technology (e.g., EHRs).

Finally, the lack of a common unique identifier across members of a community can be a barrier to the effective use of digital health applications, where identity of individuals is critical for health interventions, and traditional means of improving patient matching (such as a residential address) can be challenging, given the fragmentation that is common in seeking care between hospitals, physicians, and social services.

Trends and Lessons Learned from the Pandemic
COVID-19 shined a light on gaps in public health information and the lack of interoperability across health entities while pushing providers towards virtual care. Value-based care, digital transformation, and health equity all demand pervasive connectivity, interoperability, access to data across systems and settings (including third-party data), and a unified patient record that is essential to achieving whole-person care. A cloud-based data platform can give health systems, health plans, digital startups, and even county public health departments the accelerated transformation capabilities and intrinsic access to quality data from both inside and outside of their organizations. The pandemic also exposed the consumers' need for on-demand online scheduling, virtual care, and rapid automated triage to direct individuals to the most appropriate venue of care.

Health Equity in Community Health
To improve health equity, health systems and community clinics need information that their EHRs and other core systems cannot give them. These organizations and county public health departments need holistic data in a longitudinal unified patient record that documents the patient's economic, living, and working conditions, as well as education, income, neighborhood characteristics, social inclusion—not just their medical care and claims. Accurate third-party SDoH data integrated into the patient's record would enable providers to understand the socioeconomic elements that can help drive meaningful changes in care delivery. This would go a long way to making health equity a core plank of whole-person care. This data would also help unify patient data beyond the health system's four walls.

Proposed Government Actions
Innovaccer appreciates the opportunity to provide comments to the OSTP on ways to strengthen community health through technology. We offer the following recommendations:

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1. Foster the adoption of cloud platform solutions to efficiently and cost-effectively unify patient records and improve interoperability among healthcare organizations and community-based organizations (in the next two years).
2. Invest in and promote data sharing among public health departments, relevant community-based organizations, and health care entities (in the next two to five years), and specifically:
   - Require that, with minimal effort, a core set of electronic health information can be reported to local public health agencies;
   - Align subsequently, with county, state and federal agencies, using interoperable electronic mechanisms; and
   - Catalyze and codify through other initiatives such as The Office of the National Coordinator for Health Information Technology's Trusted Exchange Framework and the Common Agreements.
3. Promote the development of consensus-driven standards for collecting, storing, and sharing person-specific SDoH; develop implementation guides to facilitate adoption and provide training and education about the importance of collecting SoDH (in the next two years).
4. Study the opportunities and challenges of implementing a common patient/person identifier across community health organizations and social services to create efficiencies and promote interoperability of data and services (in the next two years).

Innovaccer is prepared to support the Administration as you promote innovation to strengthen community health.

For questions and further information, please contact Mary McDevitt, Head of Public Affairs at ███████████████████████ or Anil Jain, MD, Chief Innovation Officer, Provider Digital Transformation at ███████████████████

Sincerely,

███

Mary McDevitt   Anil Jain

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From:	Bruce Ahern ███████████████████
Sent:	Monday, January 10, 2022 2:17 PM
To:	Lander, Eric S. EOP/OSTP; Gupta, Rahul EOP/ONDCP
Cc:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Overview of Addiction Prevention Program - OSTP RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Green Category

Dear Dr. Lander and Dr. Gupta,

One of my colleagues alerted me to the RFI that the White House Office of Science and Technology Policy had issued to strengthen community health through technology. My wife and I run a technology company in the content delivery and collaboration space. In 2019 we spun off a subsidiary, InterAct LifeLine in the addiction prevention space as a direct response to the overdose death of my stepdaughter in 2017. Throughout 2019 and into 2020, we directed our focus to address addiction and the opioid crisis. At the time, we had active interest from Accenture, the White House Office of National Drug Control Policy (Jim Carroll and Anne Hazlett) along with the governors of Colorado, Georgia and Florida all looking for help with the opioid crisis. We were poised to move strongly in 2020 and then COVID hit. Since then, we had to make yet another pivot into providing virtual events using the same SaaS platform. Fortunately, that product is propelling growth and could provide us with the capital to return to the addiction marketplace soon. The virtual event market segment will eventually be spun out.

InterAct LifeLine is the first in a series of online technology solutions designed to reduce addiction relapse, improve long-term recovery care and offer drug abuse prevention support for families. LifeLine helps leverage technology to better serve clients, students and families, keeping them connected and improving patient outcomes.
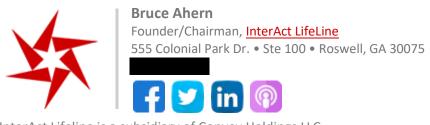
The LifeLine technology solution provides addiction treatment centers, state and local government and collegiate recovery programs with a custom branded knowledge portal for wellness and recovery education populated with an on-going stream of new content. The mobile platform and smart phone app communicate with clients for reminders and status checks and provides connections to treatment professionals and telepsychiatry both online and in person. Clients and their families can participate in virtual support groups, HIPAA compliant group meetings, online classes, and discussion forums. The program will improve safety and streamline processes to help treatment providers and families better support those effected by this disease, protect them, and put them on a path to long-term wellness. InterAct launched its first pilot programs in the collegiate recovery community with 6 major universities in August 2019.

The second phase of the solution is called SafetyNet, a subscription service for parents of adolescents and young adults that are at-risk for addition. SafetyNet provides parents with tools to elevate their understanding of the risks of addiction, strategies to prevent the onset of the disease and a mobile application to track and monitor the safety of their children while holding teens and young adults accountable. This online/mobile platform will be integrated with wearables to provide monitoring technology, online family support/telehealth,

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tracking, breathalyzers, geolocation and vitals monitoring, automotive disable technology and intelligence to report the risk of overdose.

I have to be upfront with you and say that we are not currently in this business today. This solution is largely built and fully operational just being used for a different purpose. We are selling the same thing though our strategic partner, Verizon in business markets around the world. InterAct LifeLine has the potential to reach many millions of families with at-risk kids, persons with addiction or just teens in trouble. Please put us on your RADAR as you think about the next generation addiction prevention and resources to deal with the opioid crisis. We'd be happy to show you what our solution is all about.

Bruce

Bruce Ahern
Founder/Chairman, InterAct LifeLine
555 Colonial Park Dr. • Ste 100 • Roswell, GA 30075

InterAct Lifeline is a subsidiary of Convey Holdings LLC

The ISfTeH Response to the OSTP RFI: A framework to enhance greater benefits from digital health worldwide

S. Yunkap Kwankam, PhD, Executive Director
Michele Y. Griffith, MD, President

The International Society for Telemedicine and eHealth (ISfTeH) is a federation of national professional societies, healthcare institutions, corporate entities, individual professionals and students. It's mission is to "Facilitate the international dissemination of knowledge and experience in Telemedicine and eHealth and provide access to recognized experts in the field worldwide" (Vsit www.isfteh.org for more information). Through its membership the ISfTeH has a footprint in over 100 countries and territories. It was designated a non-state actor in official relations with the World Health Organization in January 2008, and has maintained that designation through its collaboration with WHO ever since, with the most recent re-designation coming in January 2022.

The ISfTeH has engaged in modeling the barriers that stand in the way of health systems deriving greater benefits from innovations in technology, especially in low-, and middle-income countries (LMICs). Digital health grand challenges are identical successors to eHealth grand challenges, which were identified in 2012. These Grand Challenges are:

1. Creating a knowledge commons for digital health (i.e. a widely available repository of knowledge and information on digital health that is global in scope);
2. Scaling-up digital health interventions to a size that is commensurate with the magnitude of the problem to be addressed;
3. Creating integrated digital health systems to resolve the perennial issues of siloed systems and lack of interoperability;
4. Transforming all health workers into ePractitioners, thereby developing individual and institutional capacity to use digital health tools and services
5. developing ICT for health further by viewing health as a production function and investigating where ICT can support such production (not just through care but also at other points along the pathways influencing health, such as by modifying the social determinants of health);
6. Building ICT for the health system of the future by anticipating future needs (unfortunately, today's interventions are often designed in response to yesterday's challenges and will not take effect until tomorrow).
7. Cybersecurity. In LMICs key causes of cybersecurity vulnerabilities are: a) prevalent use of unlicensed software; b) out of date systems; c) siloed health solutions that exchange data without understanding security vulnerabilities and protections, and d) lack of trained Ministry of Health staff in cybersecurity, leaving health systems vulnerable to exploitation, misuse, and undetected data breaches. These are exacerbated by: i) shortage of trained cybersecurity specialists within the international development community, and ii) great variance in cybersecurity planning across high-income countries (HICs) on the one hand, and low- and middle-income countries (LMICs) on the other.

The solutions to these challenges lie in systemic thinking. In this vein, the Society has been engaged in developing models of digital health planning, implementation and assessment since 1993 – beginning with Telemedicine, then eHealth, mHealth and now digital health. A

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framework for promoting successful collaborative work in digital health was developed in the early 2000s through a grant from the Rockefeller Foundation.

We believe this framework is an appropriate high-level approach to addressing the issues outlined in the RFI, which include, what is needed to support the scale up beyond individual organizations. Elements of the approach have shown success in countries, for example, India Estonia and Rwanda, to name but a few.

- **India:** Digital health strategy as part of digital India
- **Estonia:** Development and implementation of a key Infostructure element, a trusted information exchange, which led to the unlocking of the country's digital health potential in all sectors of the economy.
- **Rwanda:** Widespread adoption of digital health tools and systems throughout the health system.

This framework is adaptable to digital health planning and implementation at subnational level as well. It is therefore usable in decentralized health care systems such as in the US.

It is our contention that digital technology has the potential to improve everything that we do in health and care. And the greatest opportunities lie in producing health, not in curing diseases. There are more pathways to health that digital can influence, the five key domains being: 1) water and sanitation; 2) food and nutrition; 3) housing and shelter; 4) Education; and 5) healthcare. Prof. Francis Omaswa, the 2019 Hideyo Noguchi Africa Prize laureate, famously said, *"Health is made at home and only repaired in health facilities."* Various institutions of the ISfTeH have investigated the problems that plague health and care in LMICs. Their findings mitigate in favor of promoting prevention and self-reliance, for several reasons: a) the shrinking ratio of health workers to population, and thus greater reliance on people to help take care of themselves – an underlying tenet of the Health-for-All dream declared in Alma Ata in 1978; b) WHO projections on all-cause mortality through 2030, show that the top six causes can be mitigated by lifestyle changes, and technology can support such changes through behavior change communications (BCC). There is huge potential in mobilizing social media networks to support health education for the public; c) digital technology can support all eight components of the EU's active and health ageing (AHA) initiative. And it is not a zero-sum game. Digital technology can do more to produce health, without diminishing what it can do in caring for the sick.

Research points to the need for two types of Infrastructure:
- Technological infrastructure – Infostructure to solve problems of: a) identification; b) trusted Health Information Exchanges (HIE) for data exchange; c) reliable electrical power; d) consistent connectivity
- Organizational infrastructure – to create pull forces for digital health in countries

Technological infrastructure (infostructure). The ITU has also recently published a guide titled "Digital Health Platform: Building a digital Information Infrastructure (Infostructure) for Health" It makes a strong case for the development of digital common services, which can be used across sectors of the economy, such as unique identifiers, interoperability frameworks, health exchanges, data warehouses, etc. The platform underscores the principle of building once and using it over and over again.

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In a report titled "Safeguarding our healthcare systems: A global framework for cybersecurity", the authors examine cybersecurity of healthcare providers in 13 countries. They show results by each of the six dimensions of their framework – which are governance, awareness, education, regulation, technology, and resilience. Their framework is called Essentials of Cybersecurity for Healthcare Organizations (ECHO) and is based on those six dimensions and five building blocks that they suggest for cementing cybersecurity readiness.

Organizational infrastructure. Research has shown that the failure of information technology initiatives in certain contexts most often stemmed from generic differences between two key stakeholder groups: the designers and the users. The Society addressed this issue and proposed the ISfTeH framework for successful partnerships in digital health.[1] That framework not only incorporates users but also extends their role beyond transformation to the three preceding stages in the "innovation value chain": 1) identification of the challenges to be resolved (facilitation); 2) research to find solutions (discovery); and 3) dissemination of the results (diffusion).

The framework's five structures are key pull forces, required to make digital health take root and grow in LMIC health systems. It can help health systems of all typologies (from well-functioning health systems with pockets of inequality all the way to those in crisis) to bring about the transformation that we expect from the digital revolution – transform all health workers into ePractitioners, and all patients into digital health savvy citizens. Digital health has the potential to: a) use all segments of the health care pyramid – with emphasis on the home and the community, where research shows that 70-90 % of all interventions occur; b) to leverage the most abundant resource in the health system – the people; c) help us reach the previously unreached; and d) extend the catchment area of every healthcare facility, from a geographically circumscribed area to a virtually boundless online community.

The way forward consist in galvanizing the knowledge and know-how of the community into a coherent whole that can provide useful information and tools to the world, to support the international dissemination of knowledge and experience in digital health and promote its adoption worldwide. This is because the key challenge we face in this space is that of converting our collective knowledge into a global public good, that is accessible to all, thus enabling each digital health actor to benefit from what others know. A Global Knowledge Commons (GKC), would answer the question, "Who is doing what, where, how well is it working, what can we learn from it, and what can we reuse form it'". The GKC would leverage existing repositories of the digital health space, and lead to five significant beneficial outcomes: i) Digital health intelligence at-a-glance through dash-boards by geography, application area and thematic area; ii) Clearinghouse for IP on digital health issues; iii) Development of new knowledge as well as reinforcement of partnerships; iv) More effective and efficient use of digital health resources through better use and re-use of digital health experience; and v) Availability of instruments for transforming the knowledge from the Commons into new products and services through creation of product development partnerships (PDPs) and incubator systems for digital health innovation.

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[1] Kwankam SY, Successful partnerships for international collaboration in e-health: the need for organized national infrastructures. Bull World Health Organ 2012;90:395–397 | doi:10.2471/BLT.12.103770

March 24th, 2022
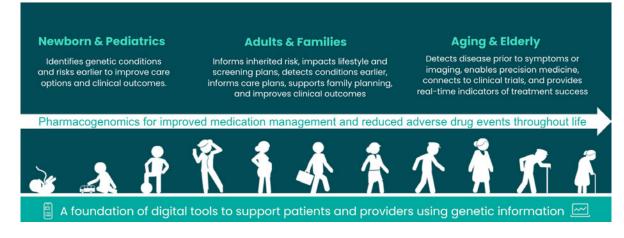
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Emailed electronically to: ███████████████████

To Whom It May Concern,

On behalf of Invitae, thank you for providing the opportunity to submit comments in response to the Request for Information (RFI) on "Strengthening Community Health Through Technology." Invitae is a leading medical genetics company, delivering genetic testing services that support a lifetime of patient care—from inherited disease diagnoses and family planning to proactive health screening and personalized diagnosis, treatment, and monitoring of cancer— combining genetic and clinical information to drive research and improve health decision-making. By pioneering new ways of sharing, understanding and applying genetic information and relevant clinical information, we are transforming the field of genetics from a series of one-time, one-dimensional queries to a lifelong clinical dialogue with our genes using comprehensive analyses and information management to improve medical decisions and optimize health interventions.

To that end, Invitae's mission is to improve healthcare for everyone, including by making genetic testing more accessible and more affordable to all who may benefit. Invitae's tests primarily rely on next-generation sequencing-based genetic technology to provide health information throughout the entire patient's care journey. Our digital health tools are integral to Invitae's mission, and we appreciate the opportunity to share our experience with you to help inform your efforts to leverage these tools to strengthen community health.

Barriers to Accessing Genetic Information and Counseling:

Before the COVID-19 pandemic, many communities already faced barriers to accessing clinical genetic services including genetic counseling and testing. A 2017 workforce study that modeled demand for genetic counseling services against the supply of genetic counselors documented this imbalance, noting that it may be as late as 2030 before the supply of genetic counselors meets the current demand for their services in the United States.[1] Moreover, a recent U.S. Government Accountability Office (GAO) report found that the number of medical geneticists and genetic counselors varies significantly by geographic region and state.[2] Southern states in addition to certain midwestern and western states tended to have a lower number of medical geneticists and genetic counselors per 500,000 people. For example, three states, West Virginia, Mississippi, and Wyoming had less than one genetic counselor per 500,000 people. Furthermore, the severe shortage of clinical genetic providers has led to long wait times for patients.[3] These obstacles have delayed or limited access to clinical genetic services for many communities long before the additional access barriers created by the COVID-19 pandemic.

The onset of the public health emergency disrupted all aspects of our daily lives, including the provision of healthcare services. The lack of genetic workforce is shocking especially for states with high prevalence rates of cancer experiencing dire need of support and delayed cancer screenings and care during the pandemic. The Research and Development Survey (RANDS), an ongoing series of surveys conducted by the National Center for Health Statistics, has shown that of the over 6,000 Americans surveyed in June/July of 2020, almost 50% answered that they were unable to receive one or more types of care in the last two months.[4] This can be attributed to numerous factors as a result of the pandemic, including cutbacks in transportation options, canceled medical appointments, healthcare costs, and fear of exposure to COVID-19. In order to address these barriers and ensure that Americans' healthcare needs, such as clinical genetics care, are being met, hospitals, laboratories, and healthcare providers needed to leverage innovative approaches to providing clinical services to patients instead of the traditional, in-person clinical visit.

Leveraging Digital Tools to Improve Access and Address Disparities:

Traditional methods of care may not be able to reach all communities equally; however, innovative digital tools like telehealth and artificial intelligence (AI) have the potential to overcome obstacles that traditional, in-person clinical visits cannot circumvent. In fact, we have

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[1]Hoskovec JM, Bennett RL, Carey ME, DaVanzo JE, Dougherty M, Hahn SE, LeRoy BS, O'Neal S, Richardson JG, Wicklund CA. Projecting the Supply and Demand for Certified Genetic Counselors: a Workforce Study. J Genet Couns. 2018 Feb;27(1):16-20. doi: 10.1007/s10897-017-0158-8. Epub 2017 Oct 20. PMID: 29052810.

[2] https://www.gao.gov/products/gao-20-593#summary

[3] Raspa M, Moultrie R, Toth D, Haque SN. Barriers and Facilitators to Genetic Service Delivery Models: Scoping Review. Interact J Med Res. 2021;10(1):e23523. Published 2021 Feb 25. doi:10.2196/23523

[4] https://www.cdc.gov/nchs/covid19/rands/reduced-access-to-care.htm

witnessed the capabilities and success of this within our own genetic testing services and we hope that sharing our experience in response to this RFI will help inform your work.

Telehealth:

At Invitae, telehealth is a cornerstone of our clinical services and our efforts to ensure all patients have access to genetic testing and counseling regardless of where they live. During the pandemic, many Americans used telehealth for the first time and overall, reported positive experiences. Specific to telehealth for genetics services, researchers in Nebraska found that many patients, up to 96%, felt as though they received quality care.[5] Invitae's genetic counseling program uses both audio-only and video telehealth services, and we have seen that our genetic counselors and the patients we serve have positive experiences with telehealth. For instance, 92% of our patients have reported high satisfaction with their care using our multilingual chatbot.[6] To continue this success, Invitae strongly supports extending the telehealth flexibilities implemented during the pandemic to beyond the public health emergency, such as allowing audio-only visits and removing requirements for there to be a preexisting relationship between the patient and provider.

Our genetic counselors comply with licensure requirements in all of the states they practice in and see patients via telehealth. In fact, in 2021, each of our genetic counselors held an average of 12 state licensures, which together cost an average of $3,000 and require 52 hours of administrative work per genetic counselor to establish. For our 121 genetic counselor workforce, it totals over three hundred thousand dollars and amounts to a total of nearly 6,300 administrative work hours that could have been used for patient care. These calculations do not factor in the additional time and resources needed for license renewals. This year, we are requesting that our genetic counselors that provide genetic counseling services be licensed in all 31 states that have licensure, and hence, we anticipate this resource intensive expense to increase significantly. As you can see, providing access to genetic counseling via telehealth across the country can be cumbersome for genetic counselors due to the financial cost and time needed to hold and maintain multiple state licenses. Yet, the actual requirements associated with licensing do not differ materially among the states. For example, all states with genetic counseling licensure require an American Board of Genetic Counseling certification or to meet examination requirements for certification, the gold standard to ensure genetic counselors have the knowledge, skills, and expertise to provide professional genetic counseling services within the United States. Allowing licensed healthcare providers to practice across state lines in the appropriate instances would help to address the shortage of genetics specialists, especially in certain states and rural areas. We encourage you to consider policy enabling licensing reciprocity agreements and allowing healthcare providers to practice across state lines via telehealth regardless of the licensure state of origin.

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[5] https://onlinelibrary.wiley.com/doi/10.1002/jgc4.1507
[6] https://www.invitae.com/en/providers/gia-chatbot

Additionally, we believe allowing audio-only telehealth services will remove technology barriers to access such as needing a smartphone or similar device and reliable broadband to support video telehealth appointments. A recent study found approximately 40% of Medicare beneficiaries lacked access to a desktop or laptop computer with a high-speed internet connection at home and/or a smartphone with a wireless data plan.[7] Furthermore, researchers focusing on social determinants of health among patients at a Michigan academic medical found that those who were older, identified as being black or African American, required an interpreter, use Medicaid, or live in low-broadband areas were more likely to use audio-only telehealth than video telehealth.[8] Telehealth, and in particular audio-only options, are proven and successful tools to enable access to healthcare, and hopefully, to address disparities and improve patient outcomes.

Artificial Intelligence and Chatbots:

Advancements in artificial intelligence (AI) such as chatbots provide opportunities to streamline visits, optimize providers' time, and offer educational opportunities for patients. Invitae's Genetic Information Assistant (Gia), a HIPAA-compliant clinical chatbot, gathers patients' personal and family history information, provides pre-genetic testing education, sends alerts to healthcare providers, and can deliver test results. Altogether, this service makes the visit more productive for healthcare providers and more useful for patients.[9] Gia is designed to fit into a healthcare provider's existing workflow without sacrificing quality interactions. We found that 92 percent of patients report positive experiences with Gia.[8] Notably, chatbots may also help with addressing inequities. For example, Gia can be designed to chat in any number of languages and tailor content based on a patient's education level. Chatbots may bridge gaps in care for individuals who are not native-English speakers or have low health literacy.

We believe using chatbots like Gia is a critical tool to scaling genetic expertise in the face of current workforce shortages among genetics professionals, however, the public perception of AI in healthcare remains an obstacle. One meta-analysis identified the public's perception of patient safety concerns – 81% of the studies analyzed showed that there was a lack of trust in having AI perform clinical-related tasks, especially when it relates to providing information about rare conditions.[10] Yet, with Gia, we have found that about 89.4% of patients completed the cancer risk

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[7] Roberts ET, Mehrotra A. Assessment of Disparities in Digital Access Among Medicare Beneficiaries and Implications for Telemedicine. JAMA Intern Med. 2020;180(10):1386–1389. doi:10.1001/jamainternmed.2020.2666

[8] Chen J, Li KY, Andino J, Hill CE, Ng S, Steppe E, Ellimoottil C. Predictors of Audio-Only Versus Video Telehealth Visits During the COVID-19 Pandemic. J Gen Intern Med. 2021 Nov 17:1–7. doi: 10.1007/s11606-021-07172-y. Epub ahead of print. PMID: 34791589; PMCID: PMC8597874.

[9] https://www.invitae.com/en/providers/gia-chatbot

[10] Chew HSJ, Achananuparp P. Perceptions and Needs of Artificial Intelligence in Health Care to Increase Adoption: Scoping Review. *J Med Internet Res*. 2022;24(1):e32939. Published 2022 Jan 14. doi:10.2196/32939

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assessment, indicating high acceptability when patients engage with the chatbot.[11] Furthermore, for patients who completed this assessment through Gia prior to a routine clinical visit, we found that 25% of them met the National Comprehensive Cancer Network's criteria for genetic testing, and of that number, 5.6% ended up having a disease-causing variant for a hereditary cancer condition.[10] This scalable method of identifying patients at high risk for hereditary cancer is extremely useful for delivering genetic care to a broader population and meeting the clinical demand for genetic counseling. However, the full benefits of chatbots won't be realized until the public perception of its safety and utility improves. We encourage the Biden Administration to conduct educational campaigns for the general public and healthcare providers on the use and quality of evidence-based clinical chatbots in genetic care to help drive its adoption.

Clinical Decision Support Tools for Medication Management

Pharmacogenomics is the science of how an individual's genes impact their response to, and metabolism of, many commonly prescribed medications. Based on a study with the Veterans Affairs Health System, it is estimated that 99% of people have at least one clinically actionable genetic variant impacting their medications[12]. Certain medications may be effective for some people and harmful for others, leading to an adverse drug event. Due to the ways drugs are assessed in clinical trials, different populations may be more harmed by a medication than other populations. In fact, women and people of color suffer adverse drug events at higher rates compared to white men, making this issue not only one of clinical effectiveness and safety, but also one of health equity. Understanding an individual's pharmacogenomic profile and potential drug-gene or drug-drug-gene interactions helps inform the optimal type and dosage of medication that a patient should receive. It can also reduce hospitalizations, emergency department visits, and healthcare costs. One study confirmed that pharmacogenomic testing and pharmacist-guided medication management reduced emergency department visits by 42%, hospitalizations by 52% saving over $4300 per Medicare patient[13].

Clinical decision support tools like Invitae's YouScript can support community clinicians and pharmacists in using pharmacogenomic test results prior to administering new medications and managing the patient's current medication regimen by quickly identifying medications and doses that are both safe and effective for the patient based on their genetic makeup. These clinical decision support tools are especially important for community-based pharmacies and healthcare clinics as genetic expertise is often concentrated in urban, academic settings. Community pharmacists are trusted members of patients' care teams, serve as experts in medication management, and often see patients more often than any other healthcare provider. The ability of

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[11] Nazareth S, Hayward L, Simmons E, Snir M, Hatchell KE, Rojahn S, Slotnick RN, Nussbaum RL. Hereditary Cancer Risk Using a Genetic Chatbot Before Routine Care Visits. Obstet Gynecol. 2021 Dec 1;138(6):860-870. doi: 10.1097/AOG.0000000000004596. PMID: 34735417; PMCID: PMC8594498.

[12] https://pubmed.ncbi.nlm.nih.gov/26947514/

[13] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0170905

community-based pharmacists to improve clinical care and reduce adverse drug events is remarkable as ninety-one percent of Americans live within 5 miles of a community pharmacy.[14] However, the use of pharmacogenomics and the associated clinical decision support tools for improved medication selection and management require broader awareness and education for successful adoption and integration into care environments. We encourage the Biden Administration to support the passage of the Right Drug Dose Now Act (H.R. 6875) which would support awareness and education of pharmacogenomics to the general public, healthcare providers and healthcare leaders.

Equitable Access to Clinical Trials

Diversity within clinical trials is important for adequately and equitably assessing responses to medications and medical devices. Despite the benefits of enrolling people from diverse backgrounds in clinical trials, there continues to be underrepresentation of people from racial or ethnic minority groups.[15] Some of the barriers contributing to this phenomenon are a lack of accurate information regarding clinical trials and myths about participation, increased mistrust, and a lack of comfort with the process of enrolling and clinical trials.[16] Although addressing these barriers will take coordination and time, providing information surrounding availability of clinical trials and enabling enrollment in appropriate clinical trials are foundational steps to increasing diversity.

Invitae's Ciitizen platform aims to tackle this issue by enabling patients to leverage their health information in order to find clinical trials for which they meet the eligibility criteria but may not be known to their treating community oncologist. This platform gathers consent from patients to request their health records from various sources. Upon receipt of these records, Ciitizen compiles the information into an easy-to-use patient account on the Ciitizen website. For patients who express interest in hearing about clinical trials, Ciitizen provides them with a list of trials within their geographic preferences for which they may be eligible based on the content of their health records.

Ciitizen has partnered collaboratively with patient advocacy groups like Touch, The Black Breast Cancer Alliance to co-lead quantitative and qualitative research to understand barriers to clinical trial access then launch education campaigns (https://www.whenwetrial.org) that look to create awareness and provide education around the value and importance of clinical trials and research (publication of the results of this research is pending).

In addition, by making Ciitizen's technology platform accessible to institutions like the Morehouse School of Medicine and Grady Health System, a safety net hospital system, and

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[14] https://www.nacds.org/pdfs/about/rximpact-leavebehind.pdf
[15] https://www.fda.gov/consumers/minority-health-and-health-equity/clinical-trial-diversity
[16] https://www.sciencedirect.com/science/article/pii/S0146280618301889

HBCU Medical Schools, we are democratizing access to precision medicine and clinical trials. Ciitizen supports the Total Cancer Care program at Morehouse which provides no cost access to genetic/genomic testing so patients and their clinicians can better understand their treatment options, including clinical trial eligibility.

By combining Ciitizen's technology platform that creates direct access with a community-first partnership strategy, Ciitizen has been successful in connecting patients with cancer (including those traditionally underrepresented in research) to researchers investigating those conditions. By offering accessible digital solutions that address clinical trial enrollment barriers and understanding, researchers can more effectively source populations to increase diversity and produce results that are more generalizable to the population of the U.S. and the world.

Recommendations

We have found great success in integrating digital tools such as telehealth and chatbots into our clinical services while documenting their ability to expand access to care despite workforce shortages, closures due to the public health emergency, and other barriers to access. As such, we encourage the Biden Administration to consider policy that not only facilitates technology development but also invests in evidence development needed to support widespread use in clinical care. To best leverage these tools, we provide the following recommendations for your consideration.

Telehealth:

- Extending the telehealth flexibilities adopted during the pandemic beyond the public health emergency is important to ensure that patients can access care regardless of where they reside.
- Encouraging states to arrange licensure reciprocity agreements during non-emergency periods that allow genetic counselors to practice across state lines to increase the reach of clinical genetic expertise in underserved communities.
- Maintaining regulatory flexibilities that allow audio-only telehealth for communities lacking access to broadband, smartphones, and other technology needed to support video conferencing.

Artificial Intelligence and Chatbots:

- Conducting educational campaigns for both the general public and healthcare providers on the utility of evidence-based clinical chatbots to improve public perception and increase the adoption of AI in the clinic.

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Clinical Decision Support Tools for Medication Management:

○ Supporting awareness and educational campaigns on pharmacogenomics to the general public, healthcare providers and healthcare leaders through passage of the Right Drug Dose Now (Right) Act.

Equitable Access to Clinical Trials:

○ Increasing diversity within clinical trials by enabling accessible digital health solutions that match patients directly with potential clinical trial opportunities.

Overall, we strongly believe that digital health tools such as telehealth and AI tools like chatbots can strengthen community health. Based on our experiences, both have been immensely successful for patients and healthcare providers, including in removing barriers to access, and we encourage you to support policies that promote their use.

Again, we greatly appreciate the opportunity to comment on this Request for Information and appreciate your attention to these issues. If you have any questions, please contact me at ███████████████████████ .

Sincerely,

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Ioannis Ch. Paschalidis

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February 24, 2022

White House Office of Science and Technology
Policy

Re: Connected Health RFI,

We are delighted with your decision to highlight Digital Health Technologies (DHT) and request comments from the scientific community. We believe DHT can be transformational in health and healthcare.

We very recently published a perspective on the role of DHT in brain aging,[i] suggesting that they can become the avenue to better and more broadly accessible screening for Alzheimer's and other dementias (we attach a copy for your reference). In this perspective, we include recommendations on the role federal agencies, such as the FDA, can play to introduce pathways for approved screening using DHT. While drug and medical device approval pathways are well-established and effective, this is not currently the case with DHT.

We view DHT as an enabler to:

- Broader access to medical screening and diagnosis that would help address disparities between urban and rural, richer and poor, and improve access to underrepresented minorities.
- Remote access to health screening, which can be an important element to broader access that can reach less well-resourced settings. A more comprehensive review of current screening practices and the emerging DHT future in the context of Alzheimer's disease is at our upcoming book chapter.[ii]
- A way to bring Social Determinants of Health (SDoH) into health assessment and decision making. Being affiliated with the Boston Medical Center (BMC, the largest safety-net hospital in New England), we would like to see programs now in place at BMC, that collect SDoH information on all patients, expanded throughout the country. We believe that such information can be leveraged in predictive models for disease and targeted for community-driven interventions that seek to address SDoH as a way of improving health.

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In addition to specific pathways for DHT (e.g., through FDA) we referenced above, we believe that increased and sustained research funding through NSF, NIH, and other federal agencies is critical to supporting new research into DHT. This funding would also be instrumental in bringing closer together scientists in digital technologies and algorithms (e.g., Artificial Intelligence, Machine Learning, Computational Modeling) with those who work in biology, health, and health care.

Sincerely,

Ioannis Ch. Paschalidis, PhD,
Professor,
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Founding Professor of Computing & Data Sciences,
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[i] Au, R., Kolachalama, V. B., & Paschalidis, I. C. (2021). Redefining and Validating Digital Biomarkers as Fluid, Dynamic Multi-Dimensional Digital Signal Patterns. *Frontiers in Digital Health*, *3*. doi: doi.org/10.3389/fdgth.2021.751629

[ii] Cummings, J., Kinney, J., & Fillit, H. (Eds.). (2022). Alzheimer's Disease Drug Development: Research and Development Ecosystem. Cambridge: Cambridge University Press. Book chapter: Tele-Trials, Remote Monitoring, and Trial Technology for Alzheimer's Disease Clinical Trials; Authors: Au R, Lin H, Kolachalama VB.

Redefining and Validating Digital Biomarkers as Fluid, Dynamic Multi-Dimensional Digital Signal Patterns

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"Digital biomarker" is a term broadly and indiscriminately applied and often limited in its conceptualization to mimic well-established biomarkers as defined and approved by regulatory agencies such as the United States Food and Drug Administration (FDA). There is a practical urgency to revisit the definition of a digital biomarker and expand it beyond current methods of identification and validation. Restricting the promise of digital technologies within the realm of currently defined biomarkers creates a missed opportunity. A whole new field of prognostic and early diagnostic digital biomarkers driven by data science and artificial intelligence can break the current cycle of high healthcare costs and low health quality that is being driven by today's chronic disease detection and treatment approaches. This new class of digital biomarkers will be dynamic and require developing new FDA approval pathways and next-generation gold standards.

Keywords: digital, technology, biomarkers, digital biomarkers, fluidic dynamic digital patterns, new regulatory standards

The term "digital" is associated with a task that typically uses sensors and computational tools, generally across multiple layers of hardware and software. The plethora of physiological and behavioral data acquired via various digital streams allows for the pursuit of "digital biomarkers." Most common forms of collecting digital data continuously include web-based applications, smartphones, wearables, and even via implantable or digestible devices. Increasing interest in digital data collection is a reflection of the latest technological advances, and this has raised the hope of creating frameworks for better and healthy living, as well as improved outcomes. More often than not, any characterization of health-related behaviors or disease-related symptoms that is digitally collected is indiscriminately being labeled as a "digital biomarker." As such, there is a common misconception about the definition of a digital biomarker as an online extension of a traditional biomarker. This problem is further exacerbated by the conflating of the "digital biomarkers" to the same identification and validation pathways of well-established and United States Food and Drug Administration (FDA) approved preclinical and diagnostic biomarkers [e.g., pre-cancerous cells, amyloid-ß in the blood, cerebrospinal fluid (CSF) or through Positron Emission Tomography (PET), cardiac enzymes of heart failure, etc.] (1). We need to recognize the differences between amyloid-ß measured from a PET scan at a single timepoint compared to physical activity or

sleep data that is collected continuously and passively using a mobile device for a period of weeks, months, or even years. While the former (i.e., PET-based amyloid-ß) is an illustration of a traditional FDA-approved biomarker (2), the dynamic measure of physical activity and sleep health obtained from a time series analysis of yearlong data may not necessarily fit within the framework of a traditional biomarker. Further, even standard characterization of physical activity and sleep differentiate the two rather than combining them into a metric that more accurately detects both movement and sleep behaviors across a 24-h cycle. Sleep disordered behaviors can lead to greater physical activity at night and less during the day, or sleep can also occur both regularly or sporadically during conventional wakefulness day time hours.

The FDA follows the Biomarkers, EndpointS, and other Tools (BEST) glossary to define a biomarker (3). It is measured as an indicator of normal biological or pathogenic process, or a response to an exposure or intervention. The FDA notes that any molecular, histologic, radiographic, or physiologic characteristics are types of biomarkers, whereas an assessment of how an individual feels, functions, or survives is not considered as a biomarker. If we stay true to this definition, then it is not trivial to identify and validate a 24-h continuous measure of physical activity and sleep that can serve as a biomarker. The primary reason is because passively and digitally collected data streams are not necessarily static stamps of health but a conglomeration of sensor-derived numerics that span across the daily living of individuals in various environments in a 24-h wake-sleep cycle. If we simplify all the variability from this complex physical activity-sleep calculus into a single measure to fit the classic definition of a biomarker, then we are doubtlessly diminishing the overall value that can be derived from the stream of information that is collected from various sensors. One might argue that such simplification of complex activities to a scalar metric can produce actionable insights but the richness of information is effectively lost in that process. Thus, there is an urgent need to work with the FDA to revisit the term "digital biomarker" insomuch to create a unique pathway toward a safe and sustained development of novel biomarkers for health and disease using digital data streams. Fortunately, the FDA does not have to work on the development of these definitions in isolation. Some steps toward making a distinction between approval processes for traditional vs. digital biomarkers have been taken by the European Union (EU) medicines agency (4).

RECOMMENDATIONS

There are several recommended steps in how to do so:

1. Review current definitions of biomarkers and clearly define where the term "digital biomarker" applies and does not.

   • For example, a static blood-based measurement of C-reactive protein is a traditional biomarker to detect inflammation in the body. On the other hand, a voice recording of an individual collected continuously or intermittently over various conversations and even during a medical visit can be processed to derive a dynamic, quantitative signal of their speech pattern, which in turn can serve as a marker of the individual's cognitive status (5). Similaly, the digital image of a drawing may be used for cognitive assessment (6). This measure can fall within the category of a digital biomarker.

   • In essence, while static measures of patient-level characteristics fall into the realm of traditional biomarkers, information that is multidimensional, temporally varying, and multimodal can be synthesized in the form of digital biomarkers. Note that this definition is not encompassing all forms of dynamic measures but only providing a baseline definition to what can be perceived as novel digital biomarkers.

2. Refine existing categories of digital biomarkers that includes distinguishing classes of digital biomarkers. A surrogate digital biomarker would correlate highly with a traditional biological biomarker, while a more novel type of digital biomarker would increasingly be less correlated directly to the biological one (e.g., proximal digital biomarker).

   • For example, a new method for measuring a biological biomarker through a wearable device (e.g., a wearabale glucose monitor) can be considered as being in the first class because it reliably correlates with the biological one, whereas recording of behavioral or activity-based data that can reliably detect disease independent of the biological indicator belongs to the second class of "novel" digital biomarkers. This distinction does not necessarily imply that a new method for measuring a biological biomarker has no added value; for instance, it may enable continuous measurements. Still, the measurements are of an "established" biological biomarker. It is necessary to provide expanded clarity on what types of digital characterization of symptom/disease would fall under the definition of a digital biomarker and which would not.

3. Map out the FDA approval process one would have to follow based on the current regulatory pathways for each digital biomarker category and identify critical gaps that are barriers to approval for different conceptualization of digital biomarkers, particularly those that will not rely on validation through biological biomarkers, such as is described in point #2 above.

4. Characterize the current digital biomarker pathway to pre-market submissions that are made to the FDA and delineate recommended additions that would create new pre-market submission pathways for the new conceptualizations of digital biomarkers beyond those that exist today.

5. Identify FDA-approved and FDA-cleared digital devices that are currently covered by Medicare and Medicaid and those that overlap or are independently covered by private insurance to help accelerate the push of available digital tools into the clinical care setting. The path to widespread acceptance of digital biomarkers is necessarily dependent on much greater adoption rates of digital technology and more generally as a matter of clinical practice. Thus, identifying and promoting use of existing technologies, whose costs are

reimbursed through public or private health insurance, will help bring about market readiness for more novel technology-driven applications.

In considering how to unleash the full potential of technology generally, and digital biomarkers in particular, it is important to embrace the complexity of chronic diseases (7). Chronic diseases comprise 86% of healthcare services and costs in the U.S. and they are one of the primary reasons why high healthcare costs persist (8). Medical practice is still largely centered on waiting till disease symptom severity triggers a treatment intervention and because most conditions are chronic, that means continuous treatment till end of life. Increased lifespans are further driving up costs of chronic disease care (9). Technology provides an opportunity to break this cycle of high healthcare costs and low health quality. Since most chronic diseases are insidious in onset, there is an opportunity to develop a whole new field of prognostic digital biomarkers that are identified so early that current measurement standards would deem them within normal levels. This will enable early interventions and will usher a new class of therapeutics that have the potential to go beyond managing a chronic disease, including preventing it or delaying its onset.

This conceptualization of a new class of digital biomarkers will necessarily involve developing a new FDA approval pathway and the establishment of next generation gold standards that are untethered to current biomarker validation precedent. Methods to identify, validate, and eventually approve these digital biomarkers will be centrally driven by data science and artificial intelligence approaches, a field that is rapidly evolving and has demonstrated important successes, particularly in image classification, natural language processing, and speech recognition (10). Key to facilitating application of advanced analytics will be robust data accessibility to data scientists worldwide and equitable credit to those who make their data available. In this forward-thinking vision, digital data streams will generate dynamic signal patterns. Each pattern will be distinct at any one point in time, but aggregated together across time will consist of a sequence of unique multi-dimensional digital profiles. Together they will comprise a "digital biomarker trajectory" one that is never replicated in its exact composition, but nonetheless is highly predictive of the target assessment (11).

As an example, take the challenge of early detection of memory impairment that may signal the beginning of the long neurodegenerative process of Alzheimer's disease (AD). Now understood as a life course disease, AD risk is imparted through a mix of factors; some of which are modifiable and represent AD prevention opportunity (12). A digital memory biomarker in 1 month could consist of a different digital signal mix such as increased repetitive steps to a single location, a decrease in the diversity of locations visited, and digital voice patterns that indicate significant word finding problems in a social setting. The second month may include many steps throughout the house (e.g., indicator of searching for a misplaced item), digital voice patterns of narrower range of word choice in the home environment, and an instance of fast paced steps to the kitchen near the area of the stove. Each month's mix of signals will be varied and in combination unique, but together present a dynamically evolving pattern of behaviors that are reliably representative of a memory impairment (13). This is an oversimplified example of what a new world of digital biomarkers might look like. The call to action is to urge the science and technology community in lock step with the FDA, to begin the work of carving this digital biomarker pathway today.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

RA conceptualized and wrote the initial draft. VK and IP provided critical review and edits. All authors contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Response to the White House Office of Science and Technology Policy RFI
Strengthening Community Health Through Technology - March 2022

The Iowa Primary Care Association (Iowa PCA) is a non-profit membership association comprised of 13 community health centers (CHCs) and one migrant health program. These CHCs collectively serve more than 216,000 Iowans each year with 780,000 patient visits.

From July-September 2020, the Iowa PCA participated in the PYXERA Global "Reimagining Community Health Systems Challenge" which brought together community health stakeholders across the state of Iowa. Representative stakeholders included patients, providers, community health centers leadership, Medicaid Managed Care Organizations, and public health!

Our objective was to identify telehealth needs across the state of Iowa. Based on these needs, we developed a model/framework which can act as a step-by-step guide for integrating telehealth across the Iowa PCA network, ensuring effective resource use, and access to common and effective technology applicable to the unique needs in our state. By creating a mechanism to help roll out telehealth strategies across the Iowa PCA network, access to health care and clinical outcomes among under-resourced populations will be improved.

Context and Assumptions Going into the PYXERA Global Exercise
- The statewide community health system of care in Iowa is comprised of integrated, primary care clinics in various stages of readiness to implement a telehealth strategy.
- Use of telehealth as a mode of care is new and it is not embedded in current CHC models of care.
- Some patient populations do not have access to the internet at home, and digital literacy, including smart phones knowledge, may be limited.

Key Requirements
- Telehealth integration should ultimately lower the cost of care.
- High-quality care should be maintained in a digital context.
- Ensure that the patient and workforce experience is high quality and satisfying.
- Telehealth should advance health equity across under-resourced populations.

Key Findings From This Exercise
- Broadband, Wi-Fi, and device access are challenges to address for patients and staff.
- Patients and providers want an integrated, seamless experience with e-Health
- Telehealth is not an initiative in and of itself; it is another tool to enhance CHC care models, patient engagement, and access strategies.
- Using telehealth effectively requires change management, IT support, training, and education to be available to patients and providers.

Identified eHealth Implementation Challenges

1. Reimbursement - Getting reimbursed for telemedicine services can prove problematic for physicians and other healthcare providers. Both state and federal policy action is needed to ensure these services (telehealth and audio) are reimbursable into the future.

2. Lack of Integration – Many eHealth platforms do not integrate with EHR schedule and documentation systems. By using a platform that integrates with your EHR, you can record your established workflow and ensure your patients' e-visits are properly documented and updated for future visits.

3. Lack of Sufficient Data for Care Continuity - A lack of platform integration can also interrupt continuity of care. If a patient receives telemedicine from one service provider but chooses another provider for their next e-visit, then the second physician may not have all the information they need to diagnose the patient's problem. The best solution is to inquire where your patient previously received telemedicine services, including those created at hospitals and providers with other medical facilities.

4. Service Awareness - If patients aren't aware of telemedicine services, then services won't get used. It's important to plan a telehealth launch via content marketing and social media marketing to get the word out through websites, digital newsletters, and social media.

5. Patient Technical Skills & Knowledge - When patients don't understand how to use telemedicine services, it can reduce utilization and hamper accessibility. Survey patients before launching telemedicine services and ask which devices they would be most comfortable using when accessing telemedicine services. It's equally important to train staff on using the telemedicine equipment, so they also can help patients who require assistance. Ensure that socialization is accounted for in plans to support patients, including elderly populations.

6. Expensive Technology - Cost of equipment and cost of services to provide care can add up. Look for integrated or bundled solutions. Pursue group purchasing and look for efficiencies.

7. Privacy Concerns - Telemedicine services can be convenient, but they can also provide a gateway to security and privacy issues. Need compliant systems and patient consents!

8. Language or Cultural Needs – Many eHealth services are limited with their non-English language support. Consider listening sessions with patient advisory groups to develop strategies to overcome language and cultural concerns surrounding eHealth and virtual visits.

Proposed Tactics to Address Key Findings
- Get the eHealth basics right! Start with pilots and build off of those successes!
- Follow the recommendations from WHO and American Telemedicine Association on policy, legislation, workflow, and inclusion.

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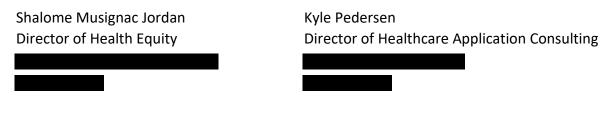
- Each CHC should establish an eHealth team that consists of Executive leadership, Clinical Champions, eHealth Coordinator, and technical resources who can help with hardware, connectivity and video application support.
- Designing and refining eHealth workflows and developing eHealth policies & procedures are key for successful implementation of telehealth. It is important to define and train staff on the workflows, including workflows that help with transitions of care to community partners. Include workflows that allow for variances in community needs based on the sub-populations represented in your service area
- Meet with current HIT vendors and identify integrated solutions. If integrated solutions are not available, consider the ROI of moving to a partner who is able to provide integration and options for web-accessibility to account for different ability levels.
- Consider how to overcome device or broadband access challenges for patients. This could be device or hotspot checkout, or working with community partners such as libraries to extend wi-fi access into parking lots so allow for after hours access.
- Introduce and implement an organizational culture enhancement program that embraces change and performs continuous improvement events on eHealth workflows. This should also include a focus on helping providers embrace new models of care.

Request to the OSTP

- Support telehealth and audio-only reimbursement policies across all payers such that the healthcare delivery system and those we serve can use these tools to expand access, support patient choice, and bring care to individuals who face structural barriers to accessing care such as transportation, employment that does not allow people to meet their health care needs, etc.
- In programs, funding, and guidance made available by the federal government, ensure that it accounts for supports needed for both patients and care team to continue to evolve and use technology in healthcare effectively.
- Most importantly, in programs, funding, and guidance, prioritize supports for individuals and providers in under-resourced communities. Lack of access to technology and broadband services are critical health equity issues and essential to ensuring we do not leave communities behind.

For more information, please contact:

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IPRD

Response to RFI: 2021-28193 – Strengthening Community Health Through Technology

IPRD Group is responding primarily as a <u>technology developer</u>, working with a deeply integrated <u>CHW organization</u> to meet critical needs in underserved communities. We and our partners work closely with <u>maternal health workers</u>, <u>community-based organizations</u>, <u>community health centers</u>, and <u>State Governments in Nigeria</u>.

Introduction and Summary

IPRD has spent the last 5 years working in South Africa, including KwaZulu-Natal (KZN), and 2 years in Nigeria, developing a strategy and software solutions for community health for all geographies of interest of the Bill and Melinda Gates Foundation. Oyo State in Nigeria has a population of approximately 10m people, and a short video presentation to the Ministry of Health describes some of our community outreach work there [https://www.youtube.com/watch?v=ASka0JaWz_U]. In addition to our own software teams, we have created strong working partnerships with groups such as Google, Mayo Clinic (including Dr. John Halamka, President of Mayo Clinic Platform who is on our advisory board), the CARIN Alliance, and Wits University in South Africa.

IPRD's pioneering use of the FHIR protocol in lower-to-middle-income (LMIC) countries (for example, see https://www.iprdsolutionsig.com) perhaps for the first time enables software solutions such as IPRD's ImpactHealth, which was designed, optimized, tested and proven for years in community outreach settings in LMICs, to be effectively integrated with US-based systems where FHIR is already widely used. Such an approach could also serve as an effective building block in the White House's cancer moonshot initiative. Screening for colon cancer, for example, could be greatly improved in underserved communities using our approach combined with low-cost capabilities such as Cologuard (https://www.mayoclinic.org/medical-professionals/digestive-diseases/news/cologuard-primed-to-change-landscape-of-crc-screening/mac-20429632) which was developed by our partners at Mayo Clinic.

Crucially, our experience in LMICs suggests campaigns such as nutritional education and cancer or diabetes screening are dependent on each other. At a minimum, the campaigns require baseline coordination to leverage each other to create impact for the patient while minimizing the cost of community outreach. IPRD has determined that community outreach campaigns of any type typically comprise common elements including *campaign microplanning*, *geo-registries, geo-tagging* (assigning GPS locations to community outreach encounters, for example), *health worker training*, *supply chain management*, *campaign delivery*, *payment of workers*, and *monitoring and evaluation*. IPRD has developed a creative model that takes advantage of the elements that are common across community outreach campaigns and is developing a set of core open-source foundational software capabilities called the Global Delivery Stack that can be used by any campaign regardless of its vertical. This approach exponentially reduces the complexity and number of software modules required to simultaneously address multiple community outreach campaigns, which has a profound positive impact on the ability and cost of

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local technology teams to integrate, deploy, and support complete community outreach solutions. It also profoundly impacts ease of use, adoption, and training since the user experience (UX) of common modules is the same across campaigns.

Information from community-based health settings abroad with populations traditionally underserved by healthcare: Oyo State, Nigeria

IPRD designed and developed the ImpactHealth Platform that is being used in the state of Oyo in Nigeria. ImpactHealth is a mobile and web-based application that functions as a job aid at various levels from the community to state-level administrators for improving coverage and quality of health services. The use of ImpactHealth has enabled real-time data entry of the beneficiaries and service delivery, as well as the tracking of users and real-time monitoring and evaluation. ImpactHealth includes technology built by a partner, Argusoft. The underlying technology, TeCHO+, has been rolled out to perform community outreach over the entire population of 65 million people in Gujarat state, India.

In one example of community outreach using ImpactHealth in Oyo State, IPRD performed 3 coordinated campaigns at the same time: a malaria net distribution campaign, a family survey campaign, and an MNCH (maternal) campaign. The 3 community outreach campaigns were:

Malaria Net Distribution: A "Mobilization" phase was conducted where volunteers/field workers canvassed every household in the state to determine the number of occupants and number of nets that should be allocated. Each household was issued a digital QR code (discussed later) and provided with paper coupons that were used as tokens to pick up nets later. The total number of households visited was ~136,000. The total number of mobilizers using this configuration of the ImpactHealth app was ~2,600. The total number of net distributions recorded was ~316,000.

Family Survey: After the Malaria Net Distribution campaign, field workers visited houses to check what malaria nets were received, and whether there were pregnant women in a household, as well as other survey information. 850 mobilizers used this configuration of ImpactHealth.

MNCH (maternal): A total of 102 Primary Health Care (PHC) centers were equipped with a configuration of ImpactHealth to perform a WHO-backed MNCH workflow to perform ANC, RDT testing, and IPTp (malaria prevention) administration. The workflow involved two roles: a Records Officer role responsible for registering new patients or checking-in repeat visitors, and an ANC Nurse role that performed the visit and recorded all relevant health details of the pregnant woman in the system building on the data from the Family Survey campaign. Offline capability with later synchronization was an important feature. A web portal was also provided to administrators that allows report generation. Any woman could visit any of the PHCs and her record was available for use when she visited.

To eliminate barriers to uptake, our experience is that every stakeholder from mobilizer to the minister of health needs to see a benefit in using the software. Cost is also a barrier hence the development of open-source capabilities. Also, capabilities need to adapt to community needs and regulations. To support scale-up, it is beneficial to use open-source tools and geographically local software integrators on the ground to provide continual low-level support, and one or more organizations such as IPRD to maintain and improve the open-source codebase. In an example of positive user experience, we found that the issuance of personalized and partially self-readable digital QR codes (see www.opencampaignlink.org) issued by SMS or WhatsApp as a means to assist both patients and health workers to link disparate campaigns was widely accepted, with over 50% of the participants using their optional digital QR code to receive their malaria nets.

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Adaptation and integration into the US context in similar underserved populations.

The similarities between an LMIC such as Nigeria and the US include underserved populations, people unaware or unable to access healthcare, and potentially low education levels of front-line community workers and patients. Differences include disease types, for example, malaria versus diabetes. However, regardless of the disease, as discussed in the introduction, the elements of a campaign from campaign microplanning to campaign delivery to monitoring and evaluation, are the same. We propose following the same adaptation approach for the US that IPRD followed as it performed technology transfer from Gujarat in India to Oyo State in Nigeria. In the US, we have noted that the US Dept of HSS on February 14th, 2022 awarded nearly $55m to 29 specified health centers (see https://bphc.hrsa.gov/program-opportunities/optimizing-virtual-care/fy22-awards) to develop, implement, and evaluate innovative, evidence-based strategies that optimize the use of virtual care (as identified and scaled during the COVID-19 pandemic) to increase access and improve clinical quality for underserved communities and vulnerable populations. These health centers are the US counterparts to the health centers we have worked with in Oyo State and could be part of an adaptation and integration strategy. As we did in Nigeria, we propose that all stakeholders are engaged to specify all existing processes as well as the diseases and conditions that are prevalent in the community, to optimally define use cases for community outreach. Software tools can then be configured to meet the use cases.

Our central idea for potential government action is that one or more groups are funded to contribute to and maintain a core set of open-source foundational software capabilities that can be used by any community outreach campaign regardless of its vertical. These foundational capabilities can address the elements that are common in most campaigns including *campaign microplanning*, *geo-registries, geo-tagging*, *health worker training*, *supply chain management*, *campaign delivery*, *payment of workers*, and *monitoring and evaluation*. Groups should have a strong background in innovating and using FHIR-based protocols in underserved communities to facilitate data flow and integration with existing FHIR-based US healthcare software systems. We have developed a draft FHIR implementation guide to help groups do this (see www.iprdsolutionsig.com). We also recommend that the selected groups have a strong background in patient matching, including the optional use of biometrics together with privacy-preserving, patient-centric technologies (e.g. see www.iprdsolutions.com/identity) since we have found that the integrity of the longitudinal health record becomes less robust due to uncertainties in patient identity as care is moved into communities where there is less oversight on processes and documentation. We also recommend that the selected groups have a strong background in the development of Artificial Intelligence (AI) algorithms so that the foundational components are designed to enable advanced machine learning approaches to be built on top of them to further improve care (see for example IPRD's work on improving the diagnosis of malaria by 20%: ref: www.iprdsolutions.com/malaria), as well as to predict clinical outcomes and reduce costs, as has been demonstrated in the US healthcare system by IPRD's partners at Google [ref: https://www.nature.com/articles/s41746-018-0029-1]. IPRD estimates that baseline community outreach capabilities can be delivered in the near-term (0-2 years) with more advanced AI-empowered capabilities within 5 years.

IPRD believes that these foundational, community outreach software capabilities will have a profoundly positive effect on health equity. We believe they will provide a pathway for underserved populations to take advantage of the processes, software systems, and levels of healthcare that other populations in the US currently enjoy.

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March 29, 2022

Submitted Electronically

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

IQVIA thanks you for the opportunity to provide our comments in response to the Strengthening Community Health Through Technology RFI. As the leading global provider of advanced analytics, technology solutions and clinical research services to the life sciences industry, IQVIA has derived extensive insight from working on clinical programs across a full range of companies, therapeutic areas, geographies and product types. IQVIA creates intelligent connections across all aspects of healthcare through analytics, transformative technology, big data resources and extensive domain expertise. IQVIA Connected Intelligence™ delivers powerful insights with speed and agility — enabling customers to accelerate the clinical development and commercialization of innovative medical treatments that improve healthcare outcomes for patients. With approximately 80,000 employees, IQVIA conducts operations in more than 100 countries.

IQVIA is well positioned to address trends from the pandemic as our global tech solutions reach more than 45 countries and our data assets are comprised of over 1 billion de-identified patient records world-wide. IQVIA's extensive catalog of data assets includes EMR data for more than 20 million active patients in the US. This includes 94% of all retail pharmacy claims covering 78% of the national population and medical claims for more than 50% of the US population, encompassing 76% of all AMA healthcare professionals. This is but a snapshot of our data catalog – IQVIA boasts dozens of additional national and global data capabilities that can be used to measure the impact of the COVID-19 pandemic on healthcare delivery and utilization among individuals and communities.

Corporate Initiatives During and After Pandemic
COVID-19 placed significant pressure on the entire U.S. healthcare ecosystem and the magnitude of the impact varied by geography. IQVIA proactively released monthly updates of nationally representative weekly prescribing trends by geographic location, therapeutic/drug class, and provider specialty throughout the COVID-19 pandemic. Responsive to the needs of the healthcare system during unprecedented times, IQVIA enhanced many existing efforts while also launching new initiatives. To convey trends in digital health-related access to care, IQVIA launched ongoing national pulse surveys. These were critical to our work supporting and informing our customers and partners and leveraged our vast network to provide a holistic picture of how the health system was adapting to a new reality.

We also pivoted toward increased remote and decentralized clinical trial delivery to relieve investigator and site burden during peak hospitalizations and cases. This was a critical step to keep the pharmaceutical development pipeline running, even with the uncertainty of a global pandemic. To support this effort, IQVIA also enhanced e-connectivity to clinical sites via apps and other FHIR-based solutions. One of IQVIA's goals is to increase participation in clinical trials, especially for underrepresented populations. Increasing ease of access to clinical trials through the use of digital connectivity is one approach that we continue to accelerate. Enabling more representative sample populations in clinical trials is a crucial element in the push for health equity.

Overall, we expanded our digital footprint to enable the continuity of care for patients and their providers throughout the pandemic. We anticipate continuing to conduct national pulse surveys, increase access to remote

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and decentralized trials, and advance our technical capabilities toward interoperability and FHIR-based applications as the pandemic enters an endemic phase.

Corporate Capability
IQVIA's vast network of offerings spans a variety of digital and e-health platforms with the capability of directly providing longitudinal data capture of pandemic trends. For example, IQVIA's cutting-edge National Medical and Treatment Audit (NMTA) data delivers 1.5 billion medical claims, including telehealth visits, reason for visit, and patterns of disease, over time. Our AppScript App Database represents the most widely used Digital Health platform of apps by consumers. AppScript's capabilities allow for trending health app downloads, including telemedicine apps and apps by therapeutic area and disease state, both before and during the COVID-19 pandemic. IQVIA's Digital Patient Suite provides a scalable solution comprised of multiple technology offerings, notably, virtual clinical trials, eConsent, patient portals, and connected devices. Together, our extensive real world data catalog, digital capabilities, and scientific thought leadership on the progression of the COVID-19 pandemic exhibited resilience, scalability, and flexibility throughout the pandemic to inform public health officials, policymakers, patients, payers and providers in supporting the overall healthcare infrastructure toward its return to a new normal. We also have developed AppNucleus, an application development platform recently put into use by the Department of Defense for Periodic Health Assessment completion.

In addition, IQVIA has determined that evidence now supports the inclusion of digital health tools in treatment guidelines for an expanded set of indications. These include cardiovascular applications (e.g., screening for atrial fibrillation and cardiac dysrhythmias, CHF management, cardiac rehabilitation, and hypertension), use tied to behavioral modification (e.g., medication management, exercise, healthy eating and weight management, and smoking cessation), and management of some chronic conditions (e.g., pain and infectious and parasitic diseases, including HIV/AIDS). The use of digital health technologies is an important part of the effort towards greater health equity – they make management of individual wellness or chronic disease much more accessible to all. Communities of color face a higher incidence of chronic disease[1], a phenomenon caused in part by inequities in access to care. Increasing access to easily accessible digital tools is a crucial component of the push toward health equity.

IQVIA is eager to partner with the Office of Science and Technology Policy to help provide data and analysis of the latest trends in digital health. Thank you for the opportunity to provide comment on these important issues. We look forward to working with OSTP and the administration to deliver on the promise of digital solutions that increase access to and improve health care for all Americans.

Sincerely,

Andrew Barnhill
Head of Policy
Global Legal

Washington, DC

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[1] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0218462

From: Evatt, Ivy ████████████████████████

Sent: Friday, February 18, 2022 11:26 PM

To: MBX OSTP Connected Health

Subject: [EXTERNAL] Connected Health RFI

Follow Up Flag: Follow up

Flag Status: Flagged

Categories: Blue Category, Orange Category

Dear OSTP,

Thank you for taking time out of your busy schedule to read my input about how technology can be used to transform community health. The COVID-19 pandemic has fundamentally shaken how healthcare can be delivered in the United States. The use and increased proficiency of telehealth has been an unexpected benefit of the pandemic. Telehealth has addressed several barriers for some underserved Americans, such as access to healthcare. A profession that utilizes telehealth is occupational therapy (OT) (Hoel, von Zweck & Ledgerd, 2021). Research has shown that OTs are effective in using telehealth as "telehealth yields comparable outcomes to rehabilitation services provided with in-person contact" (Hoel, von Zweck & Ledgerd, 2021).

OTs work in a wide variety of settings, some of which include school systems, inpatient/outpatient facilities, adult day services as well as, but not limited to mental health organizations (American Occupational Therapy Association, 2017). This allows OTs to reach diverse groups. OTs also have a background in community work (American Occupational Therapy Association, 2017) and are prepared in using telehealth to address underserved Americans in communities. OTs are trained to work with a wide variety of clients and populations (e.g. children, elderly, and individuals with disabilities) and are able to handle a wide variety of diagnoses (American Occupational Therapy Association, 2017). OTs are educated on improving client health and well-being as well as daily performance through a wide variety of techniques and training given to a client. This profession also promotes a holistic approach as they take into all components of a client to promote client-centered care and success through meaningful activities done with a client (American Occupational Therapy Association, 2017).

OTs using telehealth are able to reach more clients that previously were unable to come to therapy (Hoel, von Zweck & Ledgerd, 2021). This accessibility is just a small part of creating a more equitable healthcare system. While there are some barriers to telehealth, such as remote access for individuals who do not have internet, the benefits can be seen as more Americans have access to OT and healthcare that was not available before (Hoel, von Zweck & Ledgerd, 2021). Advocating for policy changes in telehealth to continue and improve, is needed in order to ensure that these Americans continue to get access. OTs are an essential part of the healthcare system and should be included in any community health technology initiative to further help Americans.

Thank you for your time,
Ivy Evatt, OTS

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References:

American Occupational Therapy Association. (2017). *Occupational Therapy Fact Sheet.*
   >https://www.aota.org/-/media/Corporate/Files/Advocacy/Federal/Tips-and-Tools/OT-<   Fact-Sheet-2017.pdf

Hoel, V., von Zweck, C., & Ledgerd, R. (2021). Was a global pandemic needed to adopt the use of telehealth in occupational therapy? *Work*, *68*(1), 13–20.   >https://doi.org/10.3233/WOR-205268<

Ivy Evatt, OTS
Indiana Wesleyan University

ixlayer is grateful for the opportunity to respond to the **Request for Information (RFI) on Strengthening Community Health Through Technology.** ixlayer is a technology developer/ digital health technology stakeholder that enables lab testing to be done remotely. Our response addresses questions 1-4, 6, and 7. We look forward to the opportunity to discuss these comments further if desired.

(Q1) Successful models within the U.S.: Enabling care providers to offer telemedicine and remote lab testing through CPT codes and adequate reimbursement rates is one of America's most promising solutions for increasing access to quality healthcare. The pandemic has necessitated an increase in telehealth services, which many providers have successfully provided. However, access to remote lab testing has not increased at the same pace as telemedicine. Without remote lab testing, which enables patients to complete lab orders from their home or workplace, the efficacy of telemedicine can only go so far. The same access challenges that keep patients from seeing a doctor, also impact a patient's ability to physically travel to a lab. For digital technologies to continue to support community health, investment in telehealth services must go together with increased access to remote lab testing.

For virtual services to successfully improve access to care, both telemedicine and remote lab testing services need to be adequately billable, with appropriate CPT codes, so providers are motivated to invest in digital health technology, system infrastructure, and staff training. Diagnostic laboratory testing coding should be expanded to include at-home collection of all tests that can reasonably be collected off-site. This means that all the components required for remote lab testing should be covered by Medicare, Medicaid, and private insurers. Without proper reimbursement that is on par with in-person services, the remote testing patient experience breaks down.

While coverage of telemedicine was a great start for at-home care, it falls short of mirroring a basic in-person visit. Telemedicine without remote diagnostic testing is like an in-clinic appointment without the option of lab tests. The technology exists to deliver many types of clinical laboratory testing directly to patients by shipping collection kits to their home. Patients can self-collect a urine sample, cheek swab, or small finger stick blood sample and ship it back to the lab for analysis. For tests that require a larger sample of blood, a mobile phlebotomist can be sent to the home for those that need it. Any increase in reimbursement for telehealth services should be mirrored for remote lab testing, to cover technology and fees associated with kit delivery and logistics.

Seventy percent of today's medical decisions rely on lab test results.[1] Yet, around 40 percent of Americans report skipping a recommended medical test.[2] Scheduling issues, inability to miss work time, childcare difficulties, and transportation challenges are common barriers for

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[1] Editors, bioM. C. (2020, February 25). _70% of today's medical decisions depend on laboratory results- lab professionals save lives_. bioMérieux Connection. Retrieved March 15, 2022, from https://tinyurl.com/mry3nvjx.
[2] Young, E. (2018, March 26). _New Survey Finds Large Number of People Skipping Necessary Medical Care Because of Cost_. NORC. Retrieved March 15, 2022 from https://tinyurl.com/2p9x4sc6.

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patients who choose to skip testing.[3] At-home testing removes those barriers, resulting in more completed lab tests, more informed decision-making by physicians, and better health outcomes. The option of remote lab testing must go hand in hand with telemedicine access. Similar to telehealth services, A CPT code is needed that covers shipping kits to patients, as well as a code for a mobile phlebotomist, when one is truly needed.

Americans have been successfully taking at home health tests (pregnancy, blood glucose, STIs) for decades. And due to COVID-19, people are increasingly familiar with self-administered test kits. With clear instruction manuals and user-friendly test kits, patients can easily be taught how to successfully administer at-home tests. Making both telehealth and at-home testing services more widely accepted and available also keeps sick people at home, rather than in the waiting room at the lab or clinic - thus decreasing the risk of spreading infection. It also supports people who work multiple jobs or don't have access to childcare or reliable transportation. It is especially relevant to those who have a chronic disease or autoimmune condition, who require consistent testing as part of disease management, and may have mobility impairments.

(Q2) Barriers: The greatest barrier preventing healthcare providers from using digital health technologies for virtual health services, is the lack of adequate reimbursement for these services. Without appropriate CPT codes for telehealth and remote lab testing, it is challenging for providers to invest in the infrastructure, technology, and staff training required to create robust and effective programs. As it stands currently, health systems lose valuable revenue when virtual services are provided in lieu of in-person ones, which dissuades providers from offering these vital services. The solution is for reimbursement rates and policies to change so that providers do not take stark financial losses for increasing virtual care access to the community they serve. Examples of changes include: 1) Making appropriate CPT codes for telemedicine services and remote lab tests (mobile phlebotomist, shipping kits to patients), and 2) Letting providers charge a telemedicine technology fee to cover incremental technology costs associated with providing access to remote testing.

(Q3 & Q4) T_rends from the pandemic & User Experience:_ Easing rules during COVID-19 made it easier for providers to deliver and bill for telemedicine. The pandemic also familiarized patients with the benefits of telehealth services, as well as the use of at-home test kits. In a post-pandemic world, patients value convenience,[4] and still want access to virtual care. A 2021 Mckinsey report[5] states that telehealth utilization _stabilized_ at levels 38X higher than before the pandemic, suggesting that telemedicine programs will persist. The pandemic has also made us more aware of how viruses spread. As a result, patients are less likely to go somewhere where they could be exposed (e.g., a doctor's office or lab), and are more hesitant to leave the house

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[3] Syed, S.T. et al. Traveling Towards Disease: Transportation Barriers to Health Care Access. _J Community Health_. 2013; 38(5): 976–993.

[4] Masterson, L. (2019, January 7). _Convenience more important to patients than quality of care, survey finds._ Retrieved March 15, 2022, from https://tinyurl.com/3ch44uvb.

[5] Bestsennyy, O. et al. (2021, July 9). _Telehealth: A quarter-trillion-dollar post-COVID-19 reality?_ Retrieved march 15, 2022, from https://tinyurl.com/2p8uwkjx.

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when sick. Overall, the pandemic has shown us that there is an increased appetite for remotely accessing healthcare services, primarily in the form of telemedicine and at-home tests.

(Q6) *Proposed government actions:* Unless proper CPT codes are made available for reimbursement to invest in both telehealth and remote testing technology, the expanded access to services afforded by virtual care will unfortunately diminish. This is a disservice to patients, providers, and payers. Offering virtual care appointments can increase physician utilization, enabling doctors to see more patients in less time, and allow patients (especially when sick) to stay in the safety of their home. In addition, making it easier for patients to complete labs via remote testing will increase the lab tests completed, providing physicians with more information to make critical care decisions. Creating appropriate CPT codes to support virtual care services is a government action that can be implemented in the immediate future (0-2 years). Creating these CPT codes will enable providers and payers to invest in telemedicine and remote testing technology, thus expanding access to care to patients on a national scale.

(Q7) *Health Equity*: A major issue in the U.S. is patient adherence to care plans. A 2017 study stated between 23 and 34 percent of outpatient appointments are missed annually,[6] mainly due to transportation issues (28%) and forgetfulness (26%). Both telehealth services and at-home testing eliminate the need of transportation to receive care. Also, automated testing services (e.g., a pre-scheduled test kit sent on a recurring basis) eliminates the need of the patient to remember. Again, appropriate CPT codes that enable providers to bill for telehealth and at-home test kits would enable providers to invest in and expand these virtual care services.

Summary: The pandemic has demonstrated that technology solutions are needed that enable people to remotely connect with healthcare services. The demand for virtual care has remained, even in a post-pandemic world. Increased access to telemedicine, and at-home testing services, will improve and strengthen community health, individual wellness, and health equity across America.

ixlayer provides the technology and infrastructure that connects clinical laboratories, kitting companies, at-home delivery of pharmaceuticals, and physician services that enable remote lab testing. Companies like ixlayer need the medical community and federal government to create billing codes that will cover the incremental technology costs required to provide virtual healthcare, so we can deliver equitable, affordable, and accessible care to communities in all corners of America.

Sincerely,
Dr. Marci L. Hardy, PhD
Public Health Communications at ixlayer

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[6] Crutchfield, T. and Kistler, C.E. Getting patients in the door: medical appointment reminder preferences. *Patient Prefer Adherence* 2017; 11: 141–150.

From:	Ward, Jackie M. EOP/OSTP
Sent:	Tuesday, March 29, 2022 10:06 AM
To:	'Jeff Taylor'
Cc:	MBX OSTP Connected Health
Subject:	RE: Connecting from White House Office of Sci & Tech Policy

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Blue Category, Orange Category

Hi Jeff,

Thank you so much for the response. I'm copying here our 'official' inbox so that I can track it along with other RFI responses. You bring up an incredibly valuable point that we have heard several times just in the past week – and I fear may be overlooked. Please don't hesitate to send any further thoughts and I will thank Sandi for the connection the next time I see her!

Jackie

From: Jeff Taylor ████████████████████████
Sent: Tuesday, March 29, 2022 9:53 AM
To: Ward, Jackie M. EOP/OSTP ████████████████████████████████
Subject: [EXTERNAL] Re: Connecting from White House Office of Sci & Tech Policy

Hi Dr. Ward,

Thank you for the opportunity to discuss this very important topic. Among the options to respond, I am choosing to respond directly to you via email!

I believe the most critical component to providing healthcare to our community is the ability to stay connected to our patients. This connectivity is disrupted when:

- A patient buys a new phone and/or changes their phone number;
- A patient changes their email address, or just start using a different one;
- A patient moves to a new physical address

When these things happen, it can make it nearly impossible to make contact with the patient.

Perhaps we need to continually communicate to patients through public medium or public service announcements how important it is that they have a consistent phone number or email address where they can be reached. We could remind them that when they change email addresses, change phone number, or when they change their phone, to be sure that their healthcare provider has their updated information. Also, we could express that consistency with the same provider is imperative to getting consistent care.

This is a small thing, but if we can have updated information on our patients, we can deliver better care.

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By the way, I reached out to our team here at MedCura and we sending out blast emails and text messages with this communication to our patients this week!

Thanks,
Jeff

Jeff Taylor | Chief Executive Officer
770 Village Square Drive, Stone Mountain, GA 30083
█████████████ **| >www.medcura.org<**
██████████████████████

On Mar 23, 2022, at 4:25 PM, Ward, Jackie M. EOP/OSTP ████████████████████████ wrote:

Dear Mr. Taylor,

I am reaching out to you from the White House Office of Science & Technology Policy at the recommendation of my White House colleague, Sandi Ford.

OSTP has recently launched an effort we are calling **Community Connected Health**, where the term "Connected" refers to both the virtual/technological tools to connect individuals to health care but also the connections to the community (whether that is geographic, linguistic, or cultural). We recently published a blog post that briefly describes this effort that I encourage you to read.

We are in the midst of conducting some stakeholder engagement both through a formal Request for Information (RFI) on Strengthening Community Health Through Technology and through informal thought-gathering and given Sandi's recommendation, thought you might have some valuable input.

I would welcome your thoughts either through the pathway described in the RFI (even if it is beyond the deadline), directly by email, or happy to set up a short conversation in the coming weeks.

I look forward to hearing from you!

Jackie

Jacqueline M. Ward, PhD
Assistant Director for Community Connected Health
Office of Science and Technology Policy
Executive Office of the President
██████████████████████

From: ▮▮▮▮▮▮▮▮▮▮▮▮

To:

Subject: [EXTERNAL] Connected Health RFI

Date: Saturday, January 8, 2022 3:54:53 PM

In response to the RFI, I have the following comments:

Item 2 (Barriers): Many patients do not have broadband access or appropriate hardware due to lack of availability or cost, or lack of familiarity with the use of these technologies. In addition, certain populations (in my case, the orthodox Jewish community, but I am sure there are others) CHOOSE not to use internet-based services, thus limiting their access (many do not sign up or use the patient portals in the EHR, for example.) Access needs to be assured for all Americans, and the use of these technologies needs to be incentivized, both for the resistant communities and for resistant HCPs.

Item 3 (Trends from the pandemic): At the start in March 2020, we shifted up to 20% of our visits to remote/virtual visits. However, this number has declined steadily, to less than 5% at this point. Neither patients/families nor providers seem to prefer remote visits to in-person ones. They actually take more time for providers, given the additional documentation requirements, and can disrupt the office flow and function, Many pediatric services cannot be performed remotely without an extra in=person visit (measurements, labs, immunizations) leading to duplication of effort on the part of the provider of care. I expect little utilization going forward, except for a narrow range of conditions where an in-person visit is not required for medication monitoring.

Jesse Hackell MD FAAP
Vice President and COO
Pomona Pediatrics PC
A Division of Boston Children's Health Physicians
4 Medical Park Drive
Suite C
Pomona, New York 10970

Chair, Committee on Practice and Ambulatory Medicine, American Academy of Pediatrics
President, New York AAP Chapter 3
Co-chair Pediatric Council NYS AAP Chapters 2 & 3

From:	Jim Skeel ████████████████████████████
Sent:	Thursday, February 24, 2022 12:13 PM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Blue Category, Orange Category |

To the White House Office of Science and Technology Policy,

Thank you for your request for information on strengthening community health through technology. I am aware that you receiving input from organizations I am connected to such as the National Association of Community Health Centers and I fully support their observations and feedback.

I'm responding to this RFI with my individual observations from serving as the Chief Information Officer for Aspire Indiana Health. Aspire is certified as a Community Mental Health Center (CMHC) by Indiana's Division of Mental Health and Addiction; designated as a Federally Qualified Health Center (FQHC) Look-a-like by the Health Resources Services Administration; and is operating as a Certified Community Behavioral Health Center (CCBHC within the demonstration grant of the Substance Abuse Mental Health Services Administration.

I have worked within our company at the forefront of technology development since 2000. Before me, our company embraced technological advances in the healthcare industry beginning in the late 1980's and early 1990's and we were among the first CMHC's in the country to implement an electronic medical record. We have operated as a beta testing site for many EHR developments and Technology developments.

Aspire has been working over the last decade to transform to a holistic, integrated care system with the assistance of technology implementation. Digital tools that can be added onto a complex electronic health record such as population health tools, remote patient monitoring, telemedicine platforms, patient engagement and patient visit tools as well as linked tech resources such as health information exchange, vaccination registry, and prescription drug monitoring programs are a huge asset to improving the care for people in our communities. They provide a wealth of clinical information from a variety of sources at the patient and provider level to allow each service to become more targeted to the individual's need and unique history. Additionally, the organization and population level information and analysis can direct acute resources to the most at risk while also assisting us in the efficient and comprehensive delivery of preventive care, thereby improving the wellness of the population.

As I see Aspire (and our peer organizations) embracing this opportunity to expand the use of these technologies one difficulty or limitation is the amount of complex engineering for set up, and intersystem mapping that has to occur and be _maintained_ in order for these systems to operate effectively. Essentially, any adjustment or change in a single system often requires a "tune up" of almost all the connected systems. This requires a great deal of human capital and time diverted from patient care which results in added financial expense. Some of these adjustments are complex enough that they require "special projects" at an added expense from our technology vendors. Internally, things as simple as a provider's name change can take hours for our IT team to update across these systems.

Disparities in the reimbursement methodologies for telemedicine within our FQHC program do not support the cost of this care. Telemedicine services should be included in our Prospective Payment System reimbursement through Medicare. This service delivery platform requires the same investment (cost) as in person services. Through Covid I saw

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a great proliferation in telemedicine services here and with our peer agencies across the country. This technology has the power to engage people and provide care in a much less intrusive and resource heavy manner for the people we serve. Transportation barriers, child care needs, safety concerns can be eliminated by serving people in their homes with a video connection. Unfortunately, many of our least resourced patients do not have access to the internet at all or if they do, cannot afford a data plan that would allow this connection. Any policy to address the disparity of connectivity is essential, currently it's like living in the 1960's and not having electricity available to your house. As a result, I believe this will drive further health inequity rather assisting in their elimination. Disparity in connectivity equals disparity in health... education, employment, and other important areas of wellness.

Additionally, from my perspective, a needless barrier to this interoperability and the information exchange inherent in the "plug and play" tech environment are discrepancies in privacy rules for HIPAA (for general medical care), 42 cfr part 2 (for substance use disorder records), and state mental health record laws (for mental health service patients).   As a CMHC, CCBHC and FQHC who provide substance use and medication assisted treatment services, the discrepancy in the rules of information release to the patients we serve are an incredible burden to the engineering of this technology set up and its use in the provision of holistic and integrated care. I have been a proponent and have responded to many RFI's on the subject of 42 cfr part 2 substance use disorder privacy rules. Frankly, it is antiquated and should be revoked entirely to allow HIPAA as a single source for privacy requirements. I advocate the same for our state mental health records laws.

Thank you again for seeking this information,

Jim Skeel, LMHC

Chief Information Officer

Aspire Indiana Health

From:	Joan Goodman <████████████>
Sent:	Monday, March 7, 2022 3:34 AM
To:	MBX OSTP Connected Health
Cc:	████████████
Subject:	[EXTERNAL] Connected Health RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Orange Category, Blue Category, Brown Category

Page 1:**Adolescent Self Injury Foundation (ASIF) >www.adolescentselfinjuryfoundation.com<**

Adolescent Self Injury Foundation (ASIF), Inc is a registered 501(c)(3) non-profit organization EIN #36-4670855.

Hello, My name if Joan Goodman LCSW-C, BCD. I am a Licensed Certified Clinical Social Worker in Montgomery County, Maryland. I am an adolescent and young adult specialist in private practice treating depressed, self-injurious, and suicidal youth and young adults in the metropolitan district of Washington DC.

I am the Founder and President of Adolescent Self-Injury Foundation (ASIF).

.**Self-injury** is the act of deliberately harming the surface of your own body, such as scratching, cutting, hitting, or burning yourself. While some people perceive youth self-injury as "just an adolescent phase," studies show that self-injury should be treated as a potentially lethal illness requiring intensive intervention. (For the use of this RFI, using the term "youth" self-injury will cover their years of adolescence (starting at age13) into their years as a young adult.)

The Birth of ASIF: "They say we must understand the past to fully understand the present."   A quick review of my clinical past will highlight the specific reasons, goals, and purposes served by the creation of the non-profit Adolescent Self Injury Foundation (ASIF). The creation of ASIF was an outgrowth of my 30-40 decades of my clinical practice and knowledge learned along the way.As a licensed clinical social worker and adolescent specialist, I provided treatment to youth and young adults who struggled with very serious mental health issues (such as depression and suicide) in an out-patient treatment practice in the Rockville area of Montgomery County Maryland

It was in 1996 that I first encountered the behavior of youth self-injury. I was initially stunned, then felt extremely overwhelmed, confused, and ill-prepared to understand it, let alone knowing where or how to start.I had never heard of self-injury before that encounter. They certainly did not mention it in graduate school. How do you help someone other than to tell that person to "STOP!" What did it mean? How could hurting yourself on purpose be helpful to anyone? Are they doing this just to get attention? Is their self-injury an attempt of suicide? Over the years, through trial and error and listening with a "third ear" I created an effective treatment protocol. Their treatment usually involved working with their parents as well. After treating hundreds of self-injuring adolescents and young adults, specific dynamics surfaced as common denominators in their treatment.

It should be noted that the population of self-injuring youth is a highly underserved population. Self-injuring youth has historically received little attention from the medical community and therefore remains very under-treated. This is due to many factors. Self-injury is a very complex behavior, and most medical and mental health professionals do not understand it, or want to treat it. This is because it continues to be one of the very most challenging, hard to reach, treatment-resistant populations. And, due to the stigma and the resulting feelings of shame and guilt that accompany it, self-injurious teens will go to great lengths to keep this behavior a "secret" from everyone, especially the adults in their life.   This can result with the self-injury to remain hidden and undetected for years. Upon discovery, it is not uncommon for these teens to give flimsy excuses to explain away their scars. (My cat scratched me, I fell off a mountain, I was making jello." Once their self-injury has been detected, many will say to their parents and teachers: "I am fine. It's no big deal. I am not hurting anyone. You are just overreacting. I DO NOT need to talk to a therapist!" The continuous,

never-ending high level of denial of the seriousness nature of self-injury coupled with the fact that they tend to be highly treatment resistant makes this population one of the most difficult to effectively treat. How do you help someone that refuses any need to get help? Additionally, self-injuring teens typically have great difficulty revealing to the outside world that they have been experiencing a tremendous amount of internal emotional pain. They strongly believe that it's "NOT OK to NOT BE OK." This results with a population that need to remain hidden, to "fly under the radar of detection," and causes them to suffer-in-silence. Psychological underpinnings reveal a strong tendency to be perfectionistic, high achievers who desire to be the "best" in everything they do.They tend to be the last person anyone would ever suspect that is in emotional pain. Self-injury is a highly addictive behavior since it releases endorphins in the body, creating a sense of "release" of overwhelming, difficult emotions, like popping a balloon. It will immediately changing one's mood while providing a form of "escape." It can therefore become the teen's form of self-medication. Those that self harm will say that experiencing "physical pain is better than emotional pain." Self-injury gives the teen a temporary feeling of "being in control of their pain" when they feel out of control in their life. Just like the addictions of alcohol/drugs, or eating disorders, their secret ritual of self-injury will then quickly take over their life. Since self-injury is ultimately a dysfunctional coping mechanism, the self-injure becomes their only way to cope with their difficult emotions. Because their self-harm is done when they are away from others, coupled with the need to hide their scars and the resulting feeling of shame and guilt that they feel after self-harming, these teens tend to move away from family and friends, causing the teen to feel very isolated, alienated, and totally alone. Yet, like all teens, they are hungry for connection.They want to find "others" that are like them. I observed over the years the regular pattern of how this population would turn to the internet seeking to find others like themselves. In doing so they reported how they received messages of "doom and gloom" and were encouraged to do it more.

It was very obvious to me that something very important was 'missing' from the internet. Rather than just being given messages of doom and gloom, and symptoms worsening, there were no platforms that gave the very clear message that hope exists and that recovery is possible.

 The few platforms attempting to help self-injury appeared to be putting all ages into just one grouping category; that the specific issues of 13-17 year old self-injuring teens were the same as 45 yr old self-injuring adults. There were no websites specifically designed that addressed the specific and unique needs and challenges that this population and their parents face. Websites did not exist that provided the necessary critical information that these parents required, resulting with parents feeling ill-equipped to know how to effectively help their child who was suffering in silence for way too long. Let's face it, kids don't come with instructions.

This "missing information" on the internet gave rise to the creation of ASIF.
ASIF is a small grassroots non-profit digital health information platform that focuses solely on the population of self-injuring adolescents and young adults and their parents and friends. ASIF's mission has been to raise awareness about youth self-injury to 'Mom, Pop, and Susie' of the world by offering hope and inspiration in the recovery process.

Through education and awareness efforts, ASIF strives to create positive outcomes for this very hard-to-reach, underserved population while offering support and guidance to their parents and friends. Now diagnosed in the DSM-5 as Non-Suicidal-Self-Injury (NSSI) self-injurious behaviors tend to be an attempt to STAY ALIVE and NOT DIE. It usually is a means to just "get through" a difficult emotional experience. Yet, new research now concludes that *repeated self-injury is the strongest risk factor for possible subsequent suicide.* In fact, many self-injuring youth might flirt with the idea of suicide, and a percentage have made a previous suicide attempt.

 ASIF is changing the narrative around youth and young adult self-injury.   Raising awareness of this very important issue worldwide promotes the message of hope and resilience, creating positive outcomes for this hard-to-reach, treatment-resistant, and underserved population. In the process of learning how to move away from self-injury, ASIF offers "tried and true" alternative behaviors, valuable resources, and "specific steps-to-follow" for self-injurious teens and their parents. ASIF helps navigate the journey from despair towards wellness and recovery.
Suicide is now the 2nd leading cause of death before age 25. Recent study data reports how repeated self-injury is the *strongest risk factor for possible subsequent suicide.*

Once self-injury stops, possible subsequent suicidal tendencies can then be overcome. ASIF's Ultimate Goal is <u>YOUTH SUICIDE PREVENTION.</u>

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Another not so obvious goal is to offer assistance to parents of teens who self injure. Enhancing parents knowledge base about the complicated behavior of youth self-injury is necessary for their child to begin their recovery process.

Teen Mental Health Before Covid-19:

For the years before the onset of Covid-19, rates of self-Injury and suicidal Ideation for teens had been escalating, as reported In the Washington Post 11/21/2017 article "More Middle-School Girls are Inflicting Self Pain" by Margwa Eltagouri. She reported on the conclusions of a 15 year national study run by the US Centers for Disease from 2001-2015 of emergency department visits for self-injury that showed an annual 8.4% rate increases for middle school girls ages 10-14. In an on-line article in CNN 5/20/2019; Suicide Rates in Girls are Rising, Study Finds, Especially in Those Age 10-14; by Dr Edith Bracho-Sanchez revealed how, after a downward trend in suicide rates in 2007, there were annual increases, specifically a 13% increase in younger female teens age 10-14."

PAGE #2
Joan Goodman LCSW-C, BCD
Adolescent Self Injury Foundation (ASIF)
>www.adolescentselfinjuryfoundation.com<
███████████████████████

My personal email ████████████
Cell ████████████

Does The Digital Health Information Platform ASIF Help? If So, HOW?;

"*It is late at night and Riley is sitting in his bedroom with the lights off. He feels alienated, alone, and desperate that his pain will never end. He has been cutting himself for over a year, but his parents and friends do not know. He knows he needs therapy, but his family cannot afford it. He doesn't want to be a burden to them. He wants to be strong, and handle this himself. He has been using the same blade to cut himself. He keeps it hidden in a book in his bedroom. He gets a strong urge to cut himself again. The dark thoughts are always there. He questions why he is still alive. No one would even miss him if he ended it. He can't take this nonstop pain too much longer. It never goes away.*

He reaches out his hand to pick up the blade again, but instead, he picks up his cell, goes online, and finds ASIF. With just one click he has instant access to resources.

He realizes that he is not alone and finally feels understood. Feeling empowered and hopeful, Riley decides that his journey to recover just began."

 The use of technology enables ASIF to remove all barriers of entry that allows easy access to available resources and valuable digital health information. Regardless of one's socio-economic standing, the use of technology democratizes the distribution of health and wellness resources available for all. With just one click o:nto the ASIF website, self-injuring teens receive the message of hope and inspiration to recover. ASIF gives guidance to struggling teens about "first steps to take" to begin their path to recovery. For those that want to learn how to move away from self-injury ASIF provides pages of effective coping strategies, alternative behaviors and creative ideas to use. ASIF has the dual purpose of helping parents. ASIF is a digital health information platform that provides parents and gatekeepers using easy to understand language information to enable an improved and thorough understanding of the complex behavior of self in teens and

young adults. In that effort ASIF has designed lists of what to do, and what NOT to do to improve their effectiveness to help.

Trends from Covid-19:
In the fall of 2021, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry and Children's Hospital Association declared a national emergency in child and adolescent mental health due to the accelerated mental health crises among youth due to the pandemic. On 12/7/2021 the US Surgeon General issued the Surgeon General's Advisory "call-to-action" for an all-of-society effort to address and prioritize the widespread profound youth mental health crises. This was due to the CDC announcing in 12/2021 how there was a 50.6% increase among girls aged 12-17 for Emergency Department visits for self-injury and attempted suicide.
A FAIR Health White Paper (3/2/2021)published "A Study of Private Healthcare Claims Studied the impact of Covid-19 on Pediatric Mental Health" where analyzed data from its database of over 32 billion private healthcare claim records of visits. Rates during Jan 2020-Nov 2020 were compared to rates during the same months in 2019. This study data showed how Intentional Self-Harm: medical claim services in the 13-18 age group increased 90.71% in March 2020 compared to March 2019. There was a larger increase of 99.83% when comparing April 2020-April 2019. In the Northeast US Comparing Aug 2019-Aug 2020= an increase of 333.93% for Intentional Self-Harm for ages 13-18.; higher than any other region and in any other month for this age group.

COVID-19 Trends seen in ASIF
ASIF measures success by focusing on the numbers of visitors to the ASIF platform documented on the ASIF tracker (located on bottom of home page).
ASIF's soaring numbers of visitors since the onset of Covid-19 matches the CDC finding of escalating rates of youth self-injury and suicide.
Here are the statistics from "before" and "after Covid-19":
12/2017=520,317
12/2018=583,671   -> (Increase: +63,354 visitors)
12/2019=630,271   -> (Increase: +46,600 visitors)
12/2020=759,589   -> (Increase: +129,318 visitors)
12/2021=906,868. -> (Increase: +147,279 visitors)
3/5/2022=931,109 -> (Increase.   +24,241 visitors) (a 3 month increase)

The number of visitors to ASIF more than doubled since the onset of COVID-19.
 I have always viewed ASIF is a **MICROCOSM OF THE WORLD.**   ASIF's soaring numbers of visitors validates the actual existence of self-injuring youth/young adults and people who care about them who are looking for help. These numbers are indicative of ASIF's ability to reach this hard-to-reach, and thus underserved population and provide valid, valuable information, effective scoping strategies, and inspiration for recovery for these youth and their parents. As a digital health information platform,
ASIF's analytics not only documented these sky-rocketing number of visitors, but that the ASIF has had a world-wide reach, since visitors have come from all over the world, making ASIF a successful international resource. (Analytics from Jan.2021-Dec.2021 showed visitors came from 187 countries. See attachment of world-map below)
When I created ASIF, it was my hope that (maybe) one day we would reach 100 visitors. (To me, that would have meant success.) Currently, ASIF is quickly approaching 1 million visitors! I believe that these facts show the success of ASIF nationally and internationally.
ASIF is filled with evidence based, clinically sound and effective information. As a clinician who specializes in the effective treatment of this population and has studied these issues for over 4 decades, and the only author of this website, the creation of ASIF was a way to share specific knowledge of this complex behavior in an attempt to help as many people as possible.
"Healthequitytracker.org defines that health equity exists when all people, regardless of race, sex, age, sexual orientation, disability, socio-economic status, geographic location, or other societal constructs have fair and just access opportunity and resources to achieve their highest potential for health." ASIF provides health equity by being a digital health information platform designed to help this hard to reach, treatment resistant population that flies under the radar to avoid detection.

Another way to measure success is to receive feedback from users. ASIF has received hundreds of email thanking us for creating this digital health information platform.

Here is a typical email ASIF has received:

A female 14 yr old teenager from a small town in Wisconsin wrote: *"Thanks to your website I am still here today, and my best friend (who just relapsed) is still here. If I would never stopped self-harm I could have taken it further to suicide. And if I wasn't here, she wouldn't be either because I have saved her life many times. So thank you for everything, and saving 2 lives today."*
From a School Counselor from Zambia, Africa: *"I am a school counselor in Zambia, looking for information about self-injury. I recently saw and read your website, and it has helped me thank you."*
From a high school female teenager from Quebec, Canada: *"I just wanted you to know that your website is amazing and it really helped me out. When I feel the need to cut myself again, I will remember to check your website for things to do instead of self-harm, since I kind of want help."*
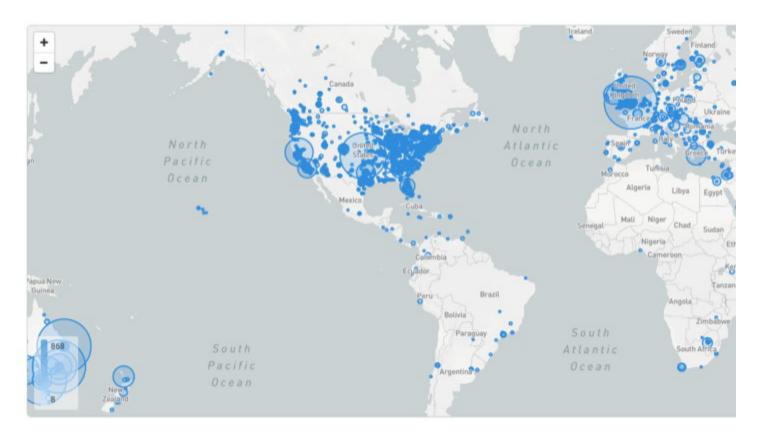
PAGE#3
Joan Goodman LCSW-C, BCD
Adolescent Self Injury Foundation (ASIF)
>www.adolescentselfinjuryfoundation.com<
adolescentselfinjuryfoundation.com

My personal email
Cell:

From a Mother in Penrith, New South Wales:*"I have just been told by a friend of my daughter she has been cutting herself. I am heartbroken for her and have no idea how we can help her. Your website gave us much needed help. Thank you!"*

Traffic by Location (City Map)

date is from 2021/01/01 until 2021/12/26   choose_measure is visitors

Generated by Looker on March 7, 2022 at 7:58 AM UTC

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March 30, 2022

Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Subject: White House Office of Science and Technology Policy (OSTP) RFI: Strengthening Community Health Through Technology

To Whom It May Concern:

Thank you for the opportunity to provide input to the White House Office of Science and Technology Policy (OSTP) request for information on "Strengthening Community Health Through Technology." This is a joint response from the State of Hawai'i State Public Library System, the State of Hawai'i Department of Health, and the University of Hawai'i Pacific Basin Telehealth Resource Center and Area Health Education Center (AHEC). We would like to share information about our ***Hawai'i Telehealth Access Points (Hawai'i TAPS) Library Project as a successful model for increasing health equity and literacy.***

The Hawai'i TAPS Library Project is an innovative pilot to address one of the most difficult challenges in delivering connected care for our most vulnerable populations. It seeks to address the patient "access" to broadband and "digital literacy" (or know-how) to effectively use the technologies for receiving quality health care. Further, this pilot brings together a "village" in a collaboration that could serve as a model for other communities, states, and territories. The project engages health care providers, payors, the department of health; educational systems; public libraries, and community and family advocacy organizations.

Through this program and partnerships, the Telehealth Access Points are being established at libraries throughout the State of Hawai'i. Participating libraries will provide private rooms for telehealth consults, and access to broadband connectivity and devices for teleconferencing. Through an FCC Connected Care grant, the libraries will also loan out MiFi devices that provide hot spots for patients to connect to their appointments at home. The participating libraries will also be able to loan out Chromebooks to go with the hot spots to patients through the FCC Emergency Connectivity Fund.

The Hawai'i State Department of Health, through a Centers for Disease Control and Prevention grant, will support the human resources required to successfully implement the project. There is a Project Director and Program Specialists who will manage the overall coordination of the Hawai'i TAPS sites, support services, and partnering agencies. There will be Digital Health Navigators at each participating library. These Digital Health Navigators will support patients and families at the libraries by teaching them how to use computers and the internet to access information about their health, find health services and support, and in connecting to telehealth appointments and navigating the health system.

The project is assisting with workforce development in our rural communities as we are recruiting program team members from local communities. We are developing the training curricula for the Digital Health Navigators. There will be an entry level position targeted for high school or undergraduate students. These navigators will be responsible for basic training on things such as setting up an email account, accessing information online and video teleconferencing. The second level of navigators will include basic telehealth presenter training including basic clinical support. Potentially this position may serve as a bridge to Community Health Worker degree programs that are available through the University of Hawai'i Community Colleges and supported by the University of Hawai'i AHEC projects. The project is working with the University of Hawai'i, Hawai'i State Department of Health and health care clinicians to develop the training materials for the Digital Health Navigators. In Hawai'i, the Hawai'i State Public Library System is one of the key entities that is organizing and driving digital literacy initiatives; thus, this project will build on the library system's resources and digital literacy training programs.

Further, the Hawai'i TAPS Library Project will establish a community partner Hui (group in Hawaiian) to work with community and family advocacy organizations, Medicaid managed care organizations and other stakeholders. The purpose is to get community input from the patients and families and the health care providers and service support programs. Each Hawai'i TAPS library site will be tailored to the unique needs of their local community, as such a venue for continuous input from the community is essential.

Finally, there is a community outreach and public health component to the project. The State of Hawai'i Department of Health will be supporting mobile clinic vans. These vans will be based at the library parking lots for public health promotion and events and will rotate among the libraries on each island. Clinic vans can also be deployed to community sites or even a patient's home when necessary to provide direct service in the community.

Although we are in the early stages of our pilot, this project has had statewide support and attention because the need for digital access and health literacy navigation is significant especially in our rural communities. The challenges of digital access and literacy are systemic and difficult to overcome by any one person or organization. The value of this project is the partnerships that have developed among organizations and communities to work together, talk with each other to learn about each other's needs and resources and to identify innovative solutions and a way forward.

Sincerely,

Stacey Aldrich	Sylvia Mann	Christina Higa
State Librarian	Supervisor, Genomics Section	Co-Director
State of Hawai'i Library Systems	State of Hawai'i Department of Health	PBTRC University of Hawai'i

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From:	Joseph Cautilli ████████████████████
Sent:	Thursday, May 5, 2022 4:16 PM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Comments on Behavioral Health and Technology
Attachments:	Printed version of DIY MH.pdf

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Blue Category |

Alondra Nelson, PhD
Deputy Assistant to the President for Science and Technology U.S. Office of Science and Technology
Executive Office of the President Eisenhower Executive Office Building
1650 Pennsylvania Avenue Washington, DC 20504

Dr. Nelson,

I am writing to comment on the Request for Information (RFI) on Strengthening Community Health Through Technology. As a practicing psychologist, professional counselor, and behavior analyst for over 20 years I am writing to address some of the needs in our current Behavior Health System and what can be done to improve the system. One in five Americans has a diagnosable mental illness. By 2020, the total number of US citizens had reached 52.9 million. Currently, the US has approximately 106,000 licensed psychologists, 28,000 psychiatrists, and roughly 116,248 licensed professional counselors. In short, the number is roughly a magnitude of one hundred off in scale for treatment needs. Thus the system is overwhelmed. Given these facts, interventions like telehealth can reduce travel time, but can not overcome the problem. In addition, as a person, who owns a company (Behavior Analysis and Therapy Partners) that has created an app for behavioral activation to treat depression for clients to use, I can attest that very few people download such apps, so apps by themselves are not the answer.

I published an article with Mike Weinberg for our local psychological newspaper (see attached starting on Page 17), which looks at the possibility of starting behavioral health television stations to provide self-help to those with behavioral health problems. Evidenced-based self-help has considerable support in the literature as to its effectiveness and can render critical aid to people in hard-to-reach areas. Many of these programs focus on building psychological skills for the family and the individual with behavioral health problems A state or federally sponsored station (television and streaming) broadcasting a multi-media approach can be the primary line of defense to ensuring that some level of treatment is rendered to those with critical difficulties. The goal would be to hire a psychological and or psychiatric board to review the evidence on self-help interventions in a behavioral health area and then create a stream or place on a local cable television channel designed to play the information for the public to see. Such skills as problem-solving for depression and behavioral activation are easy to teach and have a strong impact on consumer behavioral health. Please read my article and consider making Medicaid funds available for such services and helping the state government to set such channels up for people to access if they choose.

Thank you for reading,
Joseph Cautilli, Ph.D. MSCP, BCBA-D
Liensed Psychologist PA, NJ, DE
Licensed Professional Counselor, PA
Licensed Behavior Specialist, PA

Response to OSTP's Request for Information
STRENGTHENING COMMUNITY HEALTH THROUGH TECHNOLOGY
by juli, a technology developer

juli   Bettina Hein, CEO

██████████████   ██████████████

Introduction

Each year, millions of people are diagnosed with chronic health conditions. It can be overwhelming for these individuals to learn how to manage their health, and it is often unclear what can exacerbate or relieve symptoms. People want to gain mastery and agency over their health condition and address issues in a way that might help them feel better. They also want their care teams to be on that journey with them.

The four founders of juli come from different backgrounds, but share enthusiasm for using large amounts of data to improve health. Other industries have shown the enormous potential of improved methods of using data, often with personalized prediction and recommendations (think Netflix, Tinder or TikTok). We believe the time is ripe to introduce data-driven models into healthcare. At juli we use data-driven approaches to help people with chronic health conditions.

RFI TOPICS

1. Successful models within the US

Smartphone-delivered interventions are an approach that eliminates many of the barriers observed in people with chronic health conditions - especially those that are in underserved locations or populations. They provide an accessible, cost-effective alternative to solely in-person clinician-based care models. When combined with an analysis of the data that is passively-sensed by these devices, smartphone-delivered interventions are a powerful tool for management of chronic conditions.

Unfortunately, U.S. healthcare institutions have not yet harnessed the public's near ubiquitous familiarity with consumer apps for improving

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health. Why can't a hospital deliver a consumer experience like Uber or TikTok? Instead patients are sent to outdated user portals built on decades-old technology with ancient-looking user interfaces.

Newer digital health smartphone apps (e.g. consumer-first brands like Calm, Headspace and Withings or more patient-oriented health platforms like Lark and juli) are paving the way by combining data with a number of evidence-based approaches including:

- symptom tracking
- behavior tracking
- medication reminders
- journaling
- data visualization of biomarkers such as sleep, activity, exercise, peak flow, screen time, blood sugar, heart rate variability, and oxygen saturation
- external data such as weather, pollen, air quality
- heuristic behavioral change technique recommendations about how to improve these parameters, and
- linkage to the patient's electronic health record

Apps that are successful account for the fact that the patient's discipline in entering data is variable. Therefore, it is our experience that approaches that maximize passively-sensed data through mobile phones and wearable devices, combined with geolocated external data, offer the most user satisfaction. Microtime and geolocation monitoring provides an enormous amount of data which can then be used to identify patterns, triggers, and derive recommendations for patients and their care teams.

3. Trends from the pandemic

A significant result of the pandemic is the identification of a new chronic condition: Long COVID (currently predicted to affect between 10-30% of people infected with COVID). Symptom clusters, exacerbating and modifying factors, and clinical associations have yet to be extensively researched. There are few apps that collect data specifically on Long COVID, but gathering data from these patients (again passively-sensed through smartphones and other wearable devices as well as patient-reported) will enable scientific research into the condition and will provide cost-effective, long lasting support for these patients.

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4. User experience

Many interventions rely heavily on the knowledge and expertise of the healthcare provider. We recommend giving patients the opportunity to monitor anything *they* consider important for their health and to take ownership of their health. Patients are experts regarding their own health; many of them have had their condition for years and have developed a good sense of what factors may have an impact on their wellbeing. Clinicians should be able to see this data in an electronic health record along with traditional diagnostic data. Providing tools for self-monitoring and self-management is empowering for the individual, as well as being cost-effective for the healthcare provider. This approach leaves healthcare providers more able to respond to emergencies, those severely unwell, or more complex cases.

7. Health Equity

Almost 90% of the U.S. population owns a smartphone and over 40% have wearable devices such as fitness trackers, which are available at very low cost. Using these ubiquitous tools to track chronic conditions would lower the barrier to healthier lives for everybody. Based on the analysis of data from these devices, health-improving recommendations for behavioral change would be available for every member of a community, not just those with expensive commercial insurance.

8. International models

English is spoken by 1.3 billion people in the world. Chronic conditions as well as rare conditions have communities and influencers around the globe that communicate in English via the internet.

Although health care systems vary significantly from country to country, tracking health status with your own device is a very common practice, independently from any underlying health system. These systems are even better if they allow to feed the results (the data, as well as analysis outputs) into any FHIR health information system required by the user, insurer, employer or health system. Estonia is a good example for this practice, where the electronic health record is a nationwide system that integrates data from different sources and can be accessed online by the patient.

March 31, 2022

Submitted via email to: ████████████████████████
ATTN: Connected Health RFI

The White House Office of Science and Technology Policy (OSTP)

RE: *Request for Information on Strengthening Community Health through Technology*

Kaiser Permanente (KP) appreciates the opportunity to respond to the above-captioned request for information (RFI).[1] We applaud efforts by the White House OSTP to identify how digital health technologies can be used to transform community health, individual wellness and health equity, and how innovation in science and technology can lower the barriers to accessing quality healthcare and lead to healthier lives. We have appended a copy of our recently published *Digital Equity: Research and Insights Summary* on this critical and very timely topic. KP[2] comments reflect the expertise of providers, health plans technologists and informaticians; we have developed strong ties and collaborative relationships with community health services within our footprint.

Successful Models in the US: Many of the successful models for community health digital technologies, such as the Pathways Community Hub (https://pchi-hub.com/) follow specific guidance on data capture and process measures that enable tracking progress and payment for outcomes. The National Alliance to Impact Social Determinants of Health (NASDOH) concept paper on data interoperability covers many of these key features.[3]

Using the predictive modeling capabilities of Artificial Intelligence and Machine Learning (AI-ML) can help deliver the highest quality of healthcare and mitigate biases and health disparities by pinpointing areas of clinical and non-clinical improvement.

Barriers: Lack of digital access, usability, literacy, and comfort are among the most critical barriers impeding or preventing the benefits of technologies in community-based settings.

Technical:

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[1] 87 Fed.Reg.492

[2] The Kaiser Permanente Medical Care Program is the largest private integrated health care delivery system in the U.S., delivering health care to over 12 million members in eight states and the District of Columbia. KP comprises Kaiser Foundation Health Plan, Inc. and its health plan subsidiaries outside California and Hawaii; the not-for-profit Kaiser Foundation Hospitals, which operates 39 hospitals and over 720 other clinical facilities; and the Permanente Medical Groups, self-governed physician group practices that exclusively contract with Kaiser Foundation Health Plan and its health plan subsidiaries to meet the medical care needs of Kaiser Permanente's members.

[3] See https://www.nasdoh.org/wp-content/uploads/2020/08/NASDOH-Data-Interoperability_FINAL.pdf

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- o Few or no standards for categorizing community-based services and their relative intensity can limit meaningful analysis.
- o Limited community access to digital technologies, high-speed connections and up-to-date devices and operating systems
- o Limited alternative language availability in tools and platforms impeding participation of non-English (and non-Spanish) speaking users
- o Insufficient resources to ensure transparent and equitable end-to-end AI-ML model

Reimbursement/Policies:
- o Limited access to information that can aid family members and caretakers

User Education/Comfort:
- o Low digital literacy among certain populations, and skill development programs that are local and limited
- o Lack of communication and education about data privacy undermining trust in technology
- o Concerns about the ability of virtual care to effectively meet patients' needs

Trends from the Pandemic: Covid-19 led to a significant growth in telehealth services that had an impact on clinical services and helped address social health needs, facilitating interactions between providers and Community-Based Organizations (CBOs). These services are enhanced by building appropriate, basic technical capabilities at the CBO level; on the other hand, some of these services provided by CBOs typically still require direct in-person interaction with individuals from the community. Exploring alternative ways to provide these services through virtual interactions and contactless exchanges is an important opportunity for growth.

The use of AI-ML predictive modeling accelerated over the course of the pandemic to address both clinical (e.g., identifying high-risk patients who may require additional medical resources and care after hospital discharge) and non-clinical use cases (e.g., identifying facilities that are most likely to experience increased patient admissions in order to send supplies there).

User Experience: Innovative, secure, reliable technologies such as APIs, third party apps, and standards (e.g., HL7 FHIR) can enhance user experience with technology by improving effective, timely and efficient interactions among consumers, providers, payers, public health, technology vendors, and others, including CBOs. A key challenge will be to develop strategies that support participation across all CBOs of varying sizes, experience, resources, and focus. Ongoing support for those consumers just starting to use digital tools will be important to sustain the benefits of technology.

Tools and Training: In the community health sphere, a key component of technology adoption and use should be a focus on health equity. We recommend developing a governance framework for all community health driven technologies that can monitor both tools and modeling for biases.

Proposed Government Action: We recommend the Federal government:
- o Provide financial incentives and other resources to support technology, innovation, and operational transformation in CBOs to expand engagement with their provider partners (0-2 years)
- o Create a roadmap for advancing the technical capabilities of CBOs and incorporate it in applicable federal programs (0-2 years)

- o Examine and address regulatory requirements that have the effect of creating barriers, disincentives, or burdens that slow the adoption and use of digital health technologies in community health, and impede the ability for providers and payers to exchange data with CBOs
- o Require federal programs to promote the achievement of social health and health equity goals, create metrics, and reward successful performance using those metrics.

Health Equity: There are two dimensions of digital health and health equity to consider. The first is the role of digital health in advancing health equity, which a significant portion of this letter addresses. The second dimension is equitable access and use of digital health technologies (digital equity), which is the subject of the document we have attached to this letter.

While AI-ML predictive modeling has the potential to help reduce health disparities by addressing key health equity use cases (e.g., black maternal health, climate-driven health trends, health literacy and barriers to virtual health adoption), it can carry risk for bias and unfairness without strong governance. As we note above, to promote both effective and equitable modeling, CBOs and organizations should:

- o Develop a framework to govern each stage of the AI-ML model development lifecycle identified in the Cross Industry Standard Process for Data Mining, CRISP-DM.
- o Adopt and implement standards, best practices, and guidelines for how to identify, address, and correct biases and inequities at each lifecycle stage of CRISP-DM.

<div align="center">*   *   *</div>

Kaiser Permanente appreciates OSTP's consideration of our comments We would be pleased to provide additional information or answer any questions. Please contact Jamie Ferguson at ▆▆▆▆▆▆▆ Megan Lane at ▆▆▆▆▆▆▆

Sincerely,

▆▆▆▆▆▆▆

Jamie Ferguson
Vice President, Health IT Strategy and Policy
Kaiser Foundation Health Plan, Inc.

Attachment: KP Report on Digital Equity – Research-Insights Summary 02-28-2022.pdf

PROPOSAL FOR:

White House Office of Science & Technology Policy

PRESENTED BY:

Sandy Spence
IIM Sr. Account Manager
Konica Minolta Business Solutions U.S.A., Inc.

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February 28, 2022

White House Office of Science and Technology Policy (OSTP).

████████████████████████

Attn: Jacqueline Ward
RE: Request for Information (RFI) on Strengthening Community Health Through
Technology

Dear Ms. Ward;

Konica Minolta Intelligent Information Management (IIM) welcomes the opportunity to your Request for Information (RFI) on Strengthening Community Health Through Technology. We have carefully reviewed your project objectives and believe that Konica Minolta IIM is expertly qualified to implement a solution that will meet the stated current and future objectives by leveraging the healthcare offerings in the Konica Minolta portfolio which consistently offers the greatest functionality for the most reasonable investment (lowest Total Cost of Ownership).

Our proposal addresses all your key objectives and defines our solution and implementation methodology.   Our proposed offering will result in enhanced operational efficiencies, seamless and consistent support, and realized continuous improvement to reduce cost across your organization

We provide value to our clients through a regimented approach outlined below:

The Konica Minolta IIM Professional Services team is comprised of highly skilled and experienced engineers and technicians. These service professionals deliver on a broad range of IIM services including customized workflow design and implementation, technical service, support, and quality assurance.

Konica Minolta is committed to providing you with a state of the art Intelligent Information Management solution that will support you desire to continue to provide your internal business units easier access to pertinent information, while enhancing workflow collaboration and integration with other line of business applications within your organization.

623

We know that successful, strategic partnerships are built on a shared vision and the ability to execute. We are excited about the alignment of our two organizations, and believe that we are uniquely positioned to offer industry leading solutions and innovation.

Thank you in advance for your consideration. The Konica Minolta IIM team looks forward to the next phase of the RFI process and eagerly awaits the opportunity to demonstrate the value we will bring to your organization.

Sincerely,

Kenneth Hubbard
IIM National Director
Konica Minolta Business Solutions U.S.A., Inc.

Executive Summary

Konica Minolta is the provider of choice to healthcare facilities across the nation. As an industry leader we deliver value by improving workflow, enhancing security and compliance and reducing operational expenses to our healthcare providers across the continuum of care to effectively meet the diverse requirements driven by the convergence of healthcare reform, regulatory compliance, reimbursement reductions and technology transformation.

Our technology enables seamless integration with standard electronic health record, practice management and third party systems helping our healthcare clients overcome a myriad of clinical and administrative workflow and security obstacles by implementing our leading edge solutions to support your challenges created through HIPAA, HITECH, approaching MACRA and MIPS and other regulatory compliance requirements. Konica Minolta uses these digital health technologies to transform community health, individual wellness, and health equity now and for future generations.

Konica Minolta Healthcare Platform - One Konica Minolta

Successful models within the U.S
Process Collaboration & Management
Collaboration in health care has been shown to improve patient outcomes such as reducing preventable adverse drug reactions decreasing morbidity and mortality rates and optimizing medication dosages. Konica Minolta solutions have been shown to provide benefits to health care providers, including reducing extra work and increasing job satisfaction.

Content & Case Management
- *Complete view of business content, managed processes, and data typically scattered across physical and electronic locations*
- *Allows organizations to organize, manage and optimize critical content and processes*

625

Business Process Outsourcing
- *Backfile Scanning - Digitizing records for better access and security – benefits all employees.*
- *Day-Forward Strategy - Maintaining a digital environment with a Day-Forward Strategy ensures you can operate efficiently.*
- *Digital Mail as a Service - Redirecting critical mail for digitization so your organization exceeds processing – improves overall operations*

Intelligent Automation
- *Ingest documents*
- *Extract and understand information contained in documents*
- *Reduce manual data entry and errors while speeding up processes and decisions.*

Robotic Process Automation
- *Use of bots to quickly and cost-effectively automate routine tasks*
- *Eliminates risk of human errors*
- *Boost productivity through less wasted organizational time*
- *Unlock workforce potential through relieving employees*

Barriers
We offer a Collaboration module that provides a common workspace for people to share documents, ideas, and conversation. Built within the IIM system, the Collaboration module allows users to share selected documents and data and view multiple threaded conversation strings pertaining to those documents and objects. Collaboration was built to overcome geographical, timing, and workspace barriers to allow groups to work on projects, approve documents, and complete business deliverables.
Collaboration offers the following benefits:
- *Provides a standardized method to manage and store document-level and other discussions*
- *Increases speed and efficiency of communications required for group decision making*
- *Reduces dependency on individual communication tools (such as email, voicemail, fax, etc.) commonly used to manage group discussions and business issue resolutions*
- *Captures and archives a traceable history of group discussions and process issue resolutions*
- *Minimizes common barriers to communication, such as different geographical locations and time zones*

Trends from the pandemic:
The Impact of COVID-19
Konica Minolta Healthcare Americas is committed to providing exceptional healthcare solutions to our customers by deploying cutting edge software, systems, and services. We

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know that our customers depend on us, now more than ever as we face not only a pandemic but also persistent cybersecurity threats in healthcare.

User experience
Konica Minolta focuses on user adoption and user experience as core components of the services to be provided, and training is a large part of that process. Training starts at the onset of a project with collaborative sessions to help educate the client to possibilities of use and user experience while the requirements are being collected. As the implementation phase begins, Konica Minolta takes a "build a little, show a little" approach to the client's solution so that key users are reviewing the application, providing feedback, and gaining comfort in the design. These approaches is the onramp to formal training through the test and go live cycles, and in our experience, is a critical step to building excitement and adoption to the platform.

Tool and training needs
Typical training needs are determined during the workshops in the pilot stage. The training strategy will be part of the detailed Scope of Work in this stage while the training methods and schedules to deliver appropriate trainings are agreed upon within the pilot and rollout stages, depending on the target group.

We will properly manage the knowledge transfer and align the training to the respective target group to ensure a smooth transition. The end users will be provided with an overview pamphlet outlining device functionality, and the web-based video trainings will provide information about the key functions of our solutions. Additionally, help desk agents will be instructed by on-site personal trainings that will be supplemented with a troubleshooting guideline and FAQ list for recent service requests.

Proposed government actions:

Health Equity:
Our standard reporting tools give organizations like yours immediate visibility into their workflow processes as well as system and business health.
With Reporting Dashboards, users can create and share dashboards— highlighting business data most important to them—without the need to engage IT resources. Dashboards present data in a variety of graphical formats including charts, graphs, scorecards, maps and more. Interactive features then allow users to easily monitor performance and analyze trends in real-time. Dashboards can be accessed from the Desktop Client and Web Clients, in addition to standard web browsers, including mobile browsers, providing greater accessibility. Quickly view and interpret relevant data and make proactive business decisions with Reporting Dashboards.
Here are examples of the type of data that you can report on specific to the Workflow:
- *Workflow Activity: Retrieves data about how items moved through Workflow*
- *Workflow Approval Activity: Retrieves data about items that have been in approval processes.*
- *Workflow Approval Configuration: Retrieves data about the configuration of approval processes.*
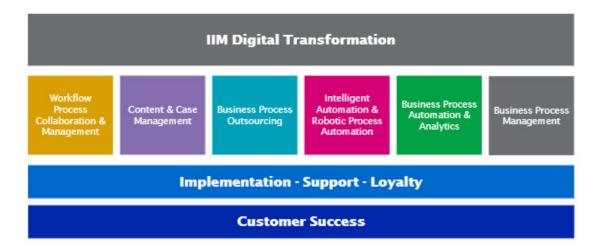
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- *Workflow Approval Delegation: Retrieves data about users that are delegating their approval.*
- *Workflow Approval Items: Retrieves data about the approval of items.*
- *Workflow Configuration: Retrieves data about queue configurations.*
- *Workflow Inbox: Retrieves data about the items currently in Workflow.*

International models:
The Konica Minolta IIM organization is uniquely positioned with offices throughout the world. Our teams apply standardized processes and a delivery model that is supported worldwide through a comprehensive global network of direct offices, subsidiaries and distributors. Our unified information platform and organizational structure across all of our subsidiaries lends to identical, high-quality programs and operational services in all countries and regions.

From business process outsourcing to content management, we guide our clients toward the best solution for their digital transformation. Through our consultative process, we mutually identify your challenges and needs; then co-author the plan for the platform and services that you will need to achieve your goals.

We look forward to having the opportunity to meet with you in person to further discuss your project requirements in order to provide a comprehensive Scope of Work and Project Plan to implement your solution On Time and On Budget.

Submission Details:

Responder: Kooth USA LLC

Stakeholder Type: Online mental health platform, Mental Health therapy service provider

Contact: ███████████████████

Kevin Winters
General Manager, Kooth US

in ▾ ◉

Introduction to Kooth

Kooth Plc (formally XenZone) was established in 2001 and is the UK's largest provider of digital mental health support for children and young people (CYP). We have worked in close partnership with the UK National Health Service (NHS) for the past two decades now delivering population wide services in over 90% of communities.

Kooth's digital platform is a universally accessible service available on any web-enabled, internet connected device (including laptop, smart phone, tablet) available 24/7, 365 days a year for children and young people. The service is designed to encourage young people to engage and seek support on their terms which is why anonymity remains a key feature of the service for our users.

The platform includes a wide range of features such as messaging, live and static forums, discussion boards, journaling and mood trackers, goal setting, interactive activities, and co-produced magazine articles and access to counselling from our highly trained professional workforce. All online content is pre-moderated by Kooth practitioners. This means that we can reach out to any CYP we are concerned about and intervene early and also maintain a safe and healthy online environment for our users.

Through our integration approach, Kooth improves partnership working across the whole CYP mental health system by working in collaboration with local services and support; building on, complementing and enhancing existing service provision.

Kooth has an acknowledged role in the mental health system to:

- improve the emotional well-being and mental health of CYPs by providing an early response to emotional well-being and/or emerging mental health needs.
- Increase early detection of mental health problems so they can be addressed promptly, thus preventing problems from getting worse and requiring a more specialist response.
- Increase access to professional therapeutic support without waiting lists.
- Support a reduction in the demand for specialist services.
- improve the knowledge and capacity of local stakeholders (Providers, Payors, Schools, Charities) to identify and address emotional wellbeing and mental health problems through good engagement and promoting a whole school approach.

Kooth has now officially launched in North America and is working with several State and local bodies across the US to build out a population wide approach to mental health. Our ambition is to bring international best practice Behavioral Health technology facilitated interventions to the US.

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Although Kooth would like to provide opinion and commentary on all eight topics, in the interest of brevity and to land within the three-page submission limitation, we have prioritized *Topic 6. Proposed government actions* and *Topic 8. International models.* Detail as follows:

Topic 6. Proposed government actions

While digital technologies and their use are not new, widespread adoption among providers and patients beyond basic uptake has been relatively slow. Although the emergency COVID-19 policy changes have undoubtedly facilitated the expansion of digital, (and every effort should be made to ensure these changes are permanent), Kooth ultimately believes supplementary policy and guidance is also required to deliver the full potential of a more complete and safer continuum of digital services to the US healthcare system.

Kooth views digital technology as an essential part of the healthcare delivery process and one of the most significant advancements in the industry since the widespread adoption of electronic health records (EHRs). Much like EHR's digital technology can improve communication, safety, efficiency, and patient care outcomes while reducing cost, when implemented in a "meaningful" way. As such formal Federal/State policy providing guidance and financial incentives to providers on the "meaningful use" of digital will ensure best practice deployment and the most successful outcomes. Kooth welcomes the opportunity in defining these guidelines, looking to the future but learning from the shortcoming of the "Health Information Technology for Economic and Clinical Health (HITECH) Act.

Namely, these guidelines should include recommendations/incentives not only for Telehealth but also for text based Synchronous and Asynchronous modalities such as the Kooth Behavioral Health platform. These technologies should be considered alongside telehealth in this task forces effort to ensure temporary measures are more durable, but also in any broader future digital policy recommendations. Kooth welcome the opportunity to share our 20 years of research in helping frame these conversations. Our initial thoughts are as follows:

- Change in reimbursement policy to increase adoption, rewarding early adopters where incentives are provided for implementation and "meaningful use" of **research-based** technology
- Active promotion of **research-based** digital as a tool to advance stakeholder goals regarding health status, equity of access, greater efficiency in care delivery, and health systems improvements across all parts of the healthcare delivery system including FQHC, community clinics, pharmacies and school-based centers
- Establishment of innovative **research partnerships** within digital
- Transparent Cost-Benefit Analysis studies across different health care settings with public and commercial payers covering:
    - Services capacity - labor cost compare of in-person vs remote care
    - Readmission Management
    - Employee Productivity: absenteeism and presenteeism
    - Emergency Department cost utilization
    - Pharmaceutical spend
    - Patient Throughput / Length of Stay
- Formation of communities of knowledge and practice
- Recommendations for optimal use of health care data between patient-generated data and the electronic health record
- Recommendations for secure interfacing requirements between patient-generated data and the electronic health record
- Development of new education standards for patients and providers
- Guidelines for new care and business models tailored to sustainability and scalability of digital initiatives

Kooth believes there should be payment parity for the asynchronous use of **research based** digital technology compared to in-person care. Policies should also be sufficiently flexible to create this parity and should in no way be constrained by

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artificial barriers such as geographic limitations. Technology-enabled health care should be considered a virtual modality, not a distinctly separate service requiring unique billing codes.

Topic 8. International models

The US health economy is flooded with hundreds and thousands of 'mental health apps', that are well funded, have glossy software, but with the vast majority lacking peer reviewed research and a robust clinical service delivery model.

Kooth is the UK's leading digital mental health provider with over 600,000 users and with 95% coverage across the NHS. Kooth are industry thought leaders, we are regularly referenced in government strategic white papers and there are four academic medical book chapters referencing Kooth as international best practice for digital mental health interventions. Kooth is also the only digital platform accredited by the BACP (British Association for Counselling and Psychotherapy).

Kooth is an international exemplar of innovation at the intersection of healthcare delivery and technology.In achieving this, we have established the 4 founding pillars of our service:

- **Safety:** Safety is foundational. We're often dealing with vulnerable people. You need to ensure that you keep them safe in an online space, and quickly identify people at risk. We do this through self-assessments, but also through what people post/share in our community. Everything is reviewed by our moderation and safety team to identify risk.
- **Accessibility:** Remove barriers to accessing support. No thresholds. No referrals required. Open-access.
- **Choices, not prescriptions:** Let people choose the support that they want on their own terms vs being prescriptive to. Service users can choose from self-help tools, therapeutic content, supportive communities, and 1:1 chat and messaging with one of our professional practitioners.
- **Anonymity-by-default:** By accessing a service without having to disclose your identity, we reduce stigma in seeking help. Plus, this creates the positive effect of benign disinhibition. In short, anonymity enables us to see the real person.

And we have built upon these foundations, a robust clinical service delivery model: I-REPSOND

I	R	E	S	P	O	N	D
Integrative	Responsive	Evidence based	Safe	Person centred	Outcomes focussed	Non-judgemental	Data informed

Purchasing digital support alone does not increase access. Significant effort needs to be made in embedding that service into the health, social and education ecosystem. In concert to the policy recommendations referenced above, there follows some Key Recommendations on how to integrate digital most effectively into the US healthcare ecosystem.

1. **Ensure a joined-up approach to mental health in schools.**
   a. Integrated digital services should be recommended as part of the whole school approach to mental health. Stakeholders within schools should be properly trained and provided with relevant materials to promote mental health.
2. **Enable digital platforms upstream with a view to create extra capacity downstream in the system**
   a. Prevention and 'turning off the taps'. Behavioral health conditions when treated early can have a significant impact in preventing escalation. Integrated data can inform an integrated approach for highly complex presentations. Promote as an early intervention and prevention mechanism
3. **Digital platforms can significantly scale access and equity**
   a. Roll out digital across a community area and not as a point solution. Full engage Primary Care

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MAYO
CLINIC

200 First Street SW
Rochester, Minnesota 55905

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mayoclinic.org

LaPrincess C. Brewer, M.D.
Cardiovascular Medicine

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██████████████████

February 28, 2022

Subject: White House Office of Science and Technology Policy (OSTP) Request for Information on Strengthening Community Health Through Technology

Stakeholder Type: Healthcare provider (cardiologist); Academic Researcher/Physician Scientist; Faith and Community-Based Organizations

Selected Topic: 1. Successful Models within the U.S.

To Whom It May Concern:

The U.S. continues to face significant disparities in the cardiovascular health (CVH) of African-Americans, as demonstrated by the American Heart Association Life's Simple 7 (LS7) framework.[1] This evidence-based metric is built on seven health-promoting behaviors and biological risk factors, including physical activity, diet, smoking status, blood pressure, body mass index, cholesterol, and glucose. The Jackson Heart Study revealed striking racial disparities using this measure, as African-Americans meet ideal levels in significantly fewer components of the LS7 as compared to non-Hispanic Whites.[2] Data showed that only 3.2% of African-Americans met ideal levels on five or more components, and none met ideal levels for all seven. A variety of barriers and social determinants of health impact the CVH of this community, such as systemic racism and lack of access to quality health care or culturally sensitive providers. To address these inequities, the FAITH! (Fostering African-American Improvement in Total Health) program was founded in 2008 as a community-based participatory research (CBPR) program to promote CVH in African-American faith communities through innovative, community-focused interventions. CBPR is a specialized type of community engagement in which community members and organizational leaders are a part of the entire research and scientific process. The central community-academic partnership has an overarching goal to improve health outcomes and enact policy or social change within the community.[3] As detailed in our recent January 2022 publication in the American Heart Journal[4], over a decade of collaboration between academic researchers and community members in Minnesota led to our ongoing project using a novel mobile health (mHealth) intervention to improve CVH in the African-American faith community.

To guide the community-centeredness of the project, we established the FAITH! Community Steering Committee (CSC) which is made up of a diverse group of stakeholders

throughout Rochester and Minneapolis-St. Paul (MSP), Minnesota. The CSC has a mission to "support actionable research to improve community health with an overall desired outcome to effectively address CVH disparities" in African-American communities and throughout the state of Minnesota[5]. This collaboration led to the successful co-design with community members of a digital application, referred to as the FAITH! App.[6] Focus groups with African-American leaders and community members provided valuable insights to guide the team in designing and refining the FAITH! App, which ultimately led to our current pilot randomized controlled trial. The trial included 85 participants from 16 churches, divided into immediate and delayed intervention groups. Successful recruitment for the study was undoubtedly aided by the strong working relationships and collaboration between the study team and community members via the CSC. Additionally, diverse and culturally-sensitive staff were brought onto the study team who were all comprehensively trained on CBPR and diversity, equity, and inclusion principles.

The FAITH! App included several features such as tailored messaging with topics relevant to health disparities and the social determinants of health, testimonials from peers and community leaders (e.g., Mayor of Rochester, Minnesota) and cookbooks with recipes for heart-healthy versions of traditional African-American meals. During the 10-week intervention, participants completed weekly multimedia education modules including videos from health care professionals, tracked their fruit/vegetable intake and steps with synchronized Fitbits and completed quizzes to assess their knowledge of CVH. The six-month maintenance period allowed participants to continue tracking their diet and physical activity and engage with the app on their own. After six months, participants in the intervention group had improved overall CVH and individual LS7 components (diet, physical activity) compared to the control group. Additionally, app engagement/usability scores were high per the Health Information Technology Usability Evaluation Scale (Health-ITUES), demonstrating the feasibility and efficacy of this intervention.

While performing a study during the COVID-19 pandemic introduced several new challenges, the study team effectively adapted, and participants were satisfied with virtual meetings and events. The strong academic-community partnerships created through the CSC allowed for the team to gain new insights into emergency preparedness in the African-American faith communities as well. A COVID-19 emergency preparedness initiative was launched to provide reliable information and resources while strengthening the study team's credibility within the population. Leveraging our strong academic-community partnership was an effective method to quickly disseminate culturally relevant resources, as detailed in a publication which *Preventing Chronic Disease* ranked as a top article of 2020.[7]

The use of the FAITH! App and its high acceptability in the African-American faith communities of Rochester and MSP indicate that this type of mHealth intervention is feasible and effective in promoting CVH and wellness in the African-American population.[8-10] Additionally, consideration of culturally-specific contextual factors that influence CVH is critical. We hope that the outcomes of our CVH mHealth intervention and the FAITH! Program can serve as models for clinicians, public health practitioners and legislators to explore and support digital health technologies to promote healthy living and address health disparities in marginalized communities throughout the U.S.

Sincerely,

█████████████████████

LaPrincess C. Brewer, MD, MPH, FACC, FASPC, FACP
Assistant Professor of Medicine
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Mayo Clinic College of Medicine

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From: Linda Jeanne Brookman ████████████████
Sent: Thursday, February 24, 2022 8:40 PM
To: MBX OSTP Connected Health
Subject: [EXTERNAL] Connected Health RFI

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Blue Category

To Whom It May Concern,

Dental Hygienists (DHs) in every state are being under-utilized in their scope of practice. Many states are creating mid-level oral health practitioners, which is great, but all states are not. Since this is the case, DHs are a great resource to reach the populations who are not receiving oral preventive care.

1. DHs could be utilized like primary care doctors. They can see patients for x-rays, cleanings, dental sealants in children, and fluoride treatments. If the patient has dental decay, then the patient would be referred to the dentist.
2. Teledentistry (TD): DHs can go into schools, take intraoral photos and x-rays. Upload this for remote treatment planning by the DDS, then provide all the services above, and refer to a dentist when restorative work is necessary.
3. DHs can use TD in nursing homes, just as in schools. Providing preventive care to older patients will have a positive impact on their overall health. Also, DHs can teach nursing aids how to properly care for the elderly's teeth on a day-to-day basis.
4. Just as certain chain drugstores, such as CVS, has a "Minute Clinic" for a person to be checked by a nurse practitioner for medical problems, inoculations, or testing, a DH could set up in a drug store to provide screenings, preventive services, etc.

A dental hygienist is qualified to do all this but, in most states, the dentists' organizations and state laws due to dentists lobbying against the DH profession, prevent us from doing any of the above, or make it very difficult with many laws and stipulations, effectively tying our hands behind our backs. The American Dental Hygiene Association on the national level is trying to change this but we need more help. Dental organizations have deeper pockets than DH organizations.

I am in academia but also run a granted program that provides preventive treatments, screenings, x-rays, cleanings, oral hygiene education, dental sealants, and fluoride for children in their schools. It is very doable and inexpensive in the long run.

Teledentistry is a way to connect patients, dentists, and dental hygienists in several settings as mentioned above, including those in rural areas.

Thank you

Linda Brookman, RDHAP, MS
████████████

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White House Office of Science and Technology Policy (OSTP) Response to Connected Health RFI (Document Number: 2021-28193)

Submitted by: Lirio, LLC, a health technology developer.
Contact: Patrick Hunt, Chief Evangelist █████████████████████

1. **Successful Models in the U.S.:** Personalization of messaging in general is a powerful tool for behavioral interventions. A personalized intervention is more likely to engage people by connecting with their intrinsic sources of motivation. The self-determination theory of motivation posits that experiences that support basic psychological needs of autonomy, competence, and relatedness are more compelling ([Vansteenkiste et al., 2020](#)); personalization can help support all three of these needs ([Peters et al., 2018; Ryan & Rigby, 2018](#)).

   Evidence supports that personalization enhances an intervention's outcomes. Personalized interventions are more effective at changing behavior than generic or targeted ones ([Revere & Dunbar, 2001](#)) and lead to more sustained behavior change ([Lustria et al., 2013](#)). More personalization seems better than less, with personalization based on multiple data elements (e.g. channel preference, personal characteristics, etc.) yielding greater behavioral outcomes ([Joyal-Desmarais et al., 2020](#); [Strecher et al., 2008](#)).

   More recently, two mega-studies showed that behavioral science-informed text messages can spur flu vaccination. In a 680,000 person mega-study [(Milkman et al., 2021)](#) found that nudges based on 22 behavioral science principles and delivered via text message increased flu vaccinations in providers' offices by 2.0 percentage points (6.8%) over business-as-usual control conditions. A second 680,000 person mega-study found a similar lift on flu vaccinations administered through Walmart's pharmacy (Milkman et al., 2022). Similarly, a randomized control trial in the U.K. concluded that behavioral nudges increased COVID-19 vaccinations by similar percentages ([Dai, et al., 2021](#)).

   Lirio crafts and delivers personalized behavioral interventions to move people to take action for better health. [Our own experience](#) is not only consistent with these studies, but suggests that even better outcomes are possible when behavioral interventions are paired with applied artificial intelligence. Whereas the Milkman study delivered one of 22 randomized text messages to recipients, Lirio's approach to scaled personalization leverages reinforcement learning to predict which of 51 behavioral interventions (including first dose regimens and

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boosters) is most likely to successfully move each individual to take the desired action. Both the Milkman studies on flu shots and Lirio's commercial application for COVID-19 vaccinations found that certain behavior change techniques (BCTs)–including endowment effect, commitment and consistency, prosocial orientation, and gain frame–performed well with the target population. Lirio also found that other BCTs–namely anticipated regret and future orientation–also performed at high levels, likely due to the additional personalization capabilities offered by Lirio's reinforcement learning solutions.

Lirio's experience in successfully using personalized behavioral interventions to move people to take action for better health extends beyond vaccinations. We have successfully used the approach to nudge women who are overdue for their clinically recommended mammograms to schedule and attend their appointments, moved patients with diabetes to engage with their primary care physicians on recommended intervals based on biometric data, and encouraged patients to schedule and attend colonoscopy appointments when needed based on historical and clinical data.

Our approach to personalized behavioral interventions at scale using AI has also proven to be cost efficient. In multiple instances, these behavioral intervention solutions have paid for themselves in under a year and as quickly as 3 months. The results are clear: personalized behavioral interventions achieves better health outcomes by closing gaps in care, fostering preventative care, and detecting diseases or complications earlier than otherwise possible, and is a cost-effective solution for large-scale populations.

2. **Barriers**: Potential barriers to the successful deployment of personalized behavioral interventions at scale include consumer privacy–specifically the Telephone Consumer Protection Act of 1996–which often prevents companies like Lirio and our clients from collaborating and improving health outcomes - while allowing a limited number of others to do so.

3. **Trends for the Pandemic**: Despite safety concerns among consumers for engaging with the health system during the pandemic, we have seen a very strong response to personalized behavioral interventions, specifically for screenings and other appointments that lapsed over the last two years.

4. **User Experience**: Personalized behavioral interventions meet people where they are by leveraging communications channels (email, SMS, apps) and devices

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(smartphones, tablets, computers) that they use in their daily lives.

5. **Tools and Training**: There is little to no training required for consumers, who use the tools they are already familiar with for engaging with the health system.

6. **What government actions are we proposing**? Lirio proposes that the Federal Government assess and amend the healthcare section of TCPA to allow behavioral health companies to digitally communicate with health consumers. This will ensure a level playing field among scientifically designed and vetted behavioral intervention solutions and other companies who already have communication exemptions. We also propose that the Center for Medicare and Medicaid Innovation (CMMI) establish models that incorporate behavioral health tools and allow companies capable of delivering personalized behavioral interventions to cost-effectively increase engagement and improve health outcomes. Further, we propose that CMS encourage–through reimbursement incentives or other means–private health systems and payors to similarly adopt personalized behavioral interventions to move people to better health.

7. **Health Equity**: The COVID-19 pandemic exacerbated pre-existing health disparities. People of historically underserved communities, including racial and ethnic minority groups and people with lower incomes and educational attainments, experienced disproportionate premature mortality, access to healthcare, and vaccination acceptance and adoption. At the same time, the pandemic increased reliance on digital devices, offering a unique opportunity to leverage digital communication channels to address health inequities, particularly related to COVID-19 vaccination. We offer a real-world, systematic approach to designing personalized behavior change email and text messaging interventions that address individual barriers with evidence-based behavioral science inclusive of underserved populations. Integrating design processes such as the Double Diamond model with evidence-based behavioral science intervention development offers a unique opportunity to create equitable interventions. Further, leveraging behavior change artificial intelligence (AI) capabilities allows for both personalizing and automating that personalization to address barriers to COVID-19 vaccination at scale. The result is an intervention whose broad component library meets the needs of a diverse population and whose technology can deliver the right components for each individual.

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Connecting the Disconnected: A Text-Based Digital Innovation to Support Kindergarten Readiness in a Community Health Setting

Lisa Chamberlain, MD, MPH – Physician and Academic Medical Researcher

Early Child Education and Health Across the Life Course

The relationship between education and health is clear:[1] educational success is associated with lower mortality rates,[2–7] better reported general health,[8,9] and decreased chronic disease and disability[10–13]. A child's first 5 years are critical for healthy development. During these formative years, a child's readiness to start school is a key indicator for later educational achievement: **being ready to start school improves health equity as better educational outcomes lead to improved health outcomes later in life**.[14,15] The areas where clear improvements are seen include higher graduation rates, lower-risk behaviors, lower teenage pregnancy and incarceration rates, and in adulthood lower rates cardiovascular and metabolic disease.[14,16–19]

Challenge: Vast Disparities in Early Childhood Education

The United States lacks a comprehensive early childhood education system to support young children's development. Health disparities are rooted in early childhood: **By kindergarten, nearly half of low-income children and children from racially minoritized backgrounds are far behind their peers**.[20–23] Moreover, children in rural areas enter kindergarten with far fewer advanced academic skills than their peers and do not have access to informal learning environments.[24] Despite awareness of these issues, gaps between low-income and minority students who are ready for school and their age-matched, upper-income peers is widening.[19,22,25–28] Disparities in early childhood education catalyze later achievement gaps experienced by minority, low-income individuals. Within a decade, these achievement gaps contribute to an estimated loss of $332 to $705 billion in lost economic potential to today's US GDP.[29] **Research shows that investing in early childhood education for disadvantaged children can provide a 13% annual return in investment through improved educational, social, employment, and health outcomes**.[30]

The COVID-19 pandemic has generated unprecedented learning loss for children, with those from low-income, Black, and Hispanic backgrounds experiencing the greatest losses. With the threat of increased educational disparities, now is the time to proactively address these gaps by introducing scalable, early education interventions to reach families most disconnected to early education resources and systems.

A Community-Based Solution Found in Pediatric Clinics

Pediatric clinics provide untapped opportunity to reduce health disparities by leveraging technology to enhance children's early learning engagement at scale.[31,32] **Access to health care for young children is near universal – making the health sector the only one that reaches all children, including those most difficult to reach.** The Early and Periodic Screening, Diagnostic and Treatment (EPSDT) Medicaid benefit ensures all children are entitled to routine preventive services

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and treatment. Families view their pediatricians as one of, if not the most, trusted source for information about child development.[31,33]

Leveraging children's doctor's offices as informal learning environment builds on an established strategy that is ready to go to the next level. Pediatric clinic-based programs currently support literacy development at scale, using relatively inexpensive interventions,[34] which are correlated with improvements in literacy practices among low-income, Black, and Hispanic parents.[35–38] Studies that concentrate on information asymmetries by providing parents with training on how to read with their children find positive treatment effects on children's writing, language, and print concepts skills.[39]

Today the ubiquity of the electronic health record and its ability to text patients offers a new, scalable way to reach under-resourced parents and children. Importantly, research has shown that texting empowers behavior change, from weight loss[40] to smoking cessation[41] to curbing "summer melt" among college bound, high school graduates.[42,43] **Nearly universal electronic health records enable texting patients for little to no cost which allows for scalable reach.**

Tips By Text: A Digital Innovation to Promote Equity for Disconnected Families

Tips by Text is a clinic-based text-messaging program for caregivers of young children shown to successfully promote early childhood literacy levels in the most disconnected families, strategically engaging the most disconnected families.[44] Leveraging the benefits of unparalleled connection to under-resourced families and access to the text-functions of an electronic health system, two large, county-clinics to deployed *TipsByText*. Through this intervention, caregivers received texts supporting literacy promotion 3 times a week for 7 months.[43] The texts were designed by educational professionals as a caregiver empowerment model drawing on family strengths. Texts were structured to build on one another and delivered in small bits, delivering a light cognitive load to the caregiver.

Research demonstrated that when using this text-based early education intervention in a pediatric care setting, literacy levels for a group of under-resourced children ages 3 and 4 by an average of 3 months. We envision a day when all pediatric clinics deploy a distinct suite of texts to address specific early childhood learning needs for each patient or community. **Leveraging pediatric clinics to use this digital intervention, we can improve the health and educational trajectory of under-resourced children at scale.**

Conclusion:

Disparities in children's readiness for kindergarten in the U.S have detrimental long-term consequences. More evidence-based, scalable programs are needed for children to narrow education inequities, especially for those most disconnected to early childhood education systems. TipsByText offers an easily implementable, clinic-based texting intervention, leveraging pediatric health facilities to provide ubiquitous access to early childhood resources.

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![LISC logo — LOCAL INITIATIVES SUPPORT CORPORATION]

February 28, 2022

Dr. Alondra Nelson
Science Advisor and Director
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, DC 20502

RE: Request for Information (RFI) on Strengthening Community Health Through Technology
        Docket No. 2021-28193, 87 FR 492

Dear Director Nelson:

Local Initiatives Support Corporation (LISC) appreciates the opportunity to provide feedback to the White House Office of Science and Technology Policy (OSTP) on Strengthening Community Health Through Technology and how digital health technologies support improvements in community health, individual wellness, and health equity. LISC comments focus on the current barriers faced by both individuals and organizations that prevent the adoption of digital health technologies in community-based settings. We offer these comments informed by our experience supporting rural partners as they work to implement digital inclusion strategies.

Background on LISC

LISC is a national nonprofit housing and community development organization dedicated to working with residents and partners to forge resilient and inclusive communities of opportunity across America–great places to live, work, visit, do business and raise families. LISC mobilizes corporate, government and philanthropic support to provide local community development organizations, nonprofits, and small businesses with loans, grants, and equity investments, as well as technical and management assistance. Our organization has a nationwide footprint with offices in 38 cities throughout the country and a rural network serving 45 states and Puerto Rico. Since 1979, LISC has invested more than $24 billion in grants, loans, and equity and leveraged an additional $69 billion with a clear focus on addressing socioeconomic and racial disparities in distressed communities throughout the United States.

LISC's work supports a wide range of activities, including affordable housing, digital inclusion, economic development, building family wealth and incomes, education, community safety, and community health. For more than 25 years, Rural LISC has provided dedicated support to rural communities and today partners with 140 rural community-based organizations in more than 2,200 rural counties. A key pillar of our rural community and economic development toolkit is the integration of digital supports, broadband, and other infrastructure needs into the community to increase equity and ensure that all individuals and communities can fully participate in our society and economy.

Specific Comments

We are pleased to offer comments to questions number two and seven, Barriers and Health Equity, within the Federal Register Notice. We offer these comments informed by our experience as an intermediary and support of community-based organizations working on expanding digital inclusion initiatives in both rural and urban communities. LISC greatly appreciates the OTSP's leadership and engagement of stakeholders as part of the Community Connected Health initiative. We applaud the ongoing efforts to explore how technological innovations can lower longstanding barriers to accessing high-quality healthcare and help more Americans lead healthier lives by providing care in their communities.

Digital Inclusion

LISC understands that there are strong linkages between health and digital equity efforts and outcomes and believes that fostering healthy, resilient communities requires resources and direction that better connect digital health technologies with communities in need. The OTSP can help to elevate this relationship by directing enhanced interagency coordination amongst federal agencies charged with health and digital inclusion programming, particularly given the robust digital equity investments afforded by the Infrastructure and Investment and Jobs Act intentional coordination.

Longstanding digital inequities impede advancements in health and digital equity. Up to 42 million Americans lack access to a reliable and affordable home broadband internet connection, an appropriate device, and the skills to use them. The digital divide disproportionally impacts rural and low-income areas, particularly communities of color, as broadband availability is significantly lower in majority-Black and majority-Native American counties. These same communities are associated with adverse health outcomes, indicating broadband access is an emergent social determinant of health.

Advancing digital inclusion is a critical strategy to advancing health equity. It requires the provision of affordable and robust broadband internet options, widely available internet-enabled devices and equipment that meet users' needs, and access to digital literacy training and technical support that provide foundational digital skills training. Investments in these activities stand to advance equity across a range of social determinants of health, including accessing digital healthcare services, applying for nutritional and other income supports, and accessing affordable housing supports. LISC encourages the OTSP to consider the critical role digital inclusion strategies and activities play in transforming community health, individual wellness, and health equity.

LISC believes that investments in digital inclusion strategies that advance digital equity offer an opportunity to close digital divides that have undermined access to quality telehealth services for too long. Robust investment in digital literacy can ensure widespread availability of education and training, providing participants with the range of digital skills needed to access essential health and health care services. Community-based digital education is a prerequisite for accessing digital health technologies and is critical to advancing health equity.

Digital Health Technologies

Digital health technologies present novel and unprecedented benefits to unserved and underserved patients, particularly in areas with low to no access to existing physical care infrastructure. While the

promise of these benefits is heartening, we understand that structural barriers require remedies to ensure that all individuals have equitable access to these resources. The COVID-19 pandemic exacerbated this disparity within low-income and rural communities, as a lack of access to digital health technologies and other health-related services curtailed their ability to obtain care.

Telemedicine stands to improve health outcomes by mitigating the rural physician workforce shortage and encouraging healthy behaviors by offering private, interactive care and treatment for physical and mental health, particularly lowering barriers to access for patients with stigmatized diseases, such as addiction, HIV, and AIDS. Advancing new health technologies can also be a tool for promoting inclusive economic growth, as recent research indicates that poor health depresses economic growth.

Digital health technologies also offer an ability to address obstacles to care in rural and urban communities directly. The utilization of these technologies offers an ability to close gaps in care access by reducing physical distance and travel requirements within rural communities to physical health centers. They also promise to afford benefits to urban communities with virtual care addressing childcare and temporal inequities, reducing the need to find childcare or take time off work to visit the doctor's office. LISC encourages the OTSP to coordinate efforts with Congress and the Centers for Medicare & Medicaid Services that build on these benefits by making permanent the changes afforded by the public health emergency allowing Medicare beneficiaries to utilize telehealth services.

In August 2020, in recognition of the potential benefits to expanded telehealth utilization, the Federal Communications Commission, U.S. Department of Health and Human Services, and U.S. Department of Agriculture signed a Memorandum of Understanding to work together on the **Rural Telehealth Initiative**, a joint effort to collaborate and share information to address health disparities, resolve service provider challenges, and promote broadband services and technology to rural areas in America. LISC encourages the OTSP to build on this initiative and strengthen ties between this initiative and Community Connected Health.

Adoption Barriers of Digital Health Technologies in Community-Based Settings

LISC recommends that the OTSP coordinate efforts to advance digital inclusion and a strategy for telehealth utilization that prioritizes health and sustains wellness alongside connectivity for disconnected communities. We understand telehealth's prevailing limitations to be threefold; adequate internet connection, a device to get online, as well as the digital skills to safely and confidently navigate the internet to receive healthcare. Addressing these barriers requires digital inclusion activities centered on broadening population access through partnerships that aim to increase understanding and expand the successful utilization of evolving tools and technology in historically underserved communities.

Rural LISC, in partnership with 34 community development organizations, operates a national Digital Navigator program in twenty states, including in the Appalachia region, the Deep South, the upper Midwest, and the Navajo Nation, and has trained over 115 Digital Navigators. Digital Navigators assist clients in accessing technology, obtaining baseline digital skills, and acquiring free or affordable home internet service options and sources of affordable computers or other internet-connected devices. We offer key insights below on how this work supported Palmetto Care Connections in Bamberg, South Carolina, to address specific barriers individuals and organizations face in using digital health technologies in community-based settings.

In addition, a qualitative study of telehealth opportunities in rural Appalachia commissioned by Rural LISC in Fall 2020 from a practicum at The Johns Hopkins Bloomberg School of Public Health found that healthcare institutions, health systems, community organizations advancing digital inclusion efforts, and telehealth advocates could increase coordination and investments in short and longer-term strategies to advance telehealth. We offer the following recommendations based on the insights gained:

Role of Health Care Institutions

1. Explore strategies and partnerships with smaller rural health services and clinics to provide a broader range of services to those facing geographical barriers to care;
2. Integrate ongoing remote patient monitoring and virtual chronic disease support into patient care plans for improved patient outcomes and reduced hospital utilization;
3. Buttress infrastructural investment in telehealth for specialties with severe workforce shortage;
4. Build the capabilities and incentives of the provider workforce to support virtual care through workflow design, continuing education, and physician practice economics;
5. Define value-based healthcare in the context of virtual care and prioritize interventions that will improve outcomes for populations with the most significant health needs in rural Appalachia; and
6. Invest in local broadband deployment that would, in turn, boost telehealth service adoption.

Role of Community Organizations and Advocates

1. Provide ongoing devices and digital literacy support to rural Appalachians, including early digital skill education via Area Health Education Centers' initiatives for school-aged children;
2. Investigate cost-benefit models of including broadband subscription as a social service that managed care organizations could fund;
3. Advocate for the permanent legislative changes supporting permanent increases to reimbursement, flexibility, and expanded scope of telehealth services; and
4. Advocate for affordable internet service provision to boost broadband competition in rural Appalachia.

Case Study: Palmetto Care Connections Telehealth Digital Navigator

Rural LISC trained Digital Navigators at [Palmetto Care Connections](#) (PCC) in March 2021 to further their mission of assisting health care providers in connecting to rural and underserved people in South Carolina through telehealth technology training and advocacy. PCC integrated the Digital Navigator model into their existing programs of promoting telehealth in Federally Qualified Health Centers (FHQCs) and rural-based clinics. PCC then received a $400,000 grant from the South Carolina Office of Rural Health to continue this scope of work in 2022.

PCC found that rural health care providers in their network are invested in telehealth, but patient adoption has been slow and incomplete. In many instances, telehealth visits are a phone call instead of a video experience. PCC estimates that 50% of telehealth calls at their affiliated Federally Qualified Health Center location are "audio-only" because patients have a poor broadband connection or lack the digital skills to complete their appointment over the internet successfully. Staff, who are untrained and uncompensated for digital technical assistance, spend a lot of time supporting and explaining to patients how to use their telehealth application and patient portal rather than facilitating care as intended.

PCC has tailored its telehealth promotion activities to respond to local needs. For example, the organization piloted telehealth virtual access locations in neighborhoods where last-mile broadband is unavailable or poorly adopted, including at a pharmacy in Ehrhardt, S.C. A Digital Navigator cohort supported training around knowledge of email and phone scams, conducting virtual visits with family and friends, accessing telehealth, and researching health information online. In one 65-participant cohort ranging in age from 60 to 80 years old, participants had low knowledge of telehealth services-- just 22%, and only 31% had experience researching health information before the digital navigator training. The cohort achieved 100% for both outcomes following the intervention.

Without this intervention, a provider may encourage telehealth participation by patients, but organizational cross-talk and lack of buy-in stymie adoption, PCC found. PCC has observed frontline receptionists (where employee turnover is frequently high) not to be aware of the telehealth preferences of the clinic, physician, and patient and miss opportunities to schedule follow-up visits as telehealth appointments. Further, as a patient is scheduling their next appointment, a receptionist could ask about at-home internet connectivity, affordability, and device access and make appropriate recommendations for improved connectivity and enhanced telehealth utilization.

Finally, while temporary Medicare, Medicaid, and private insurance parity for telemedicine services have been available for the duration of the public health emergency, compliance at the local office level has been uneven, PCC found. Moreover, as one of seven states nationally that has not adopted a telehealth parity legislation, rural providers in South Carolina are reluctant to expand telehealth strategies, PCC notes.

As a community-rooted organization, PCC believes all frontline healthcare workers would benefit from telehealth-contextualized digital navigator training to ensure organizational buy-in, as well as patient compliance and equitable healthcare provision. Rural LISC will continue to seek opportunities to help smaller rural health services and clinics and their intermediaries, like PCC, provide a broader range of services to those facing geographical barriers to care.

Conclusion

LISC appreciates the opportunity to provide these comments to the OTSP and looks forward to serving as a resource on this issue. Please contact Michelle Harati ████████████, LISC Senior Policy Officer, if you need additional clarification on the letter's recommendations.

Sincerely,

██████████████████

Matt Josephs

Senior Vice President for Policy

P.O. Box 3416
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**Louisiana Association of United Ways Response to
White House Office of Science and Technology Policy (OSTP)
Strengthening Community Health through Technology**

Submitted to ████████████████████████████ **by Sarah H. Berthelot, President and CEO of the
Louisiana Association of United Ways**
Contact info: ████████████████████ ████████████ **www.launitedway.org**

Thank you for the opportunity for our organization to participate in this important dialogue.

The Louisiana Association of United Ways serves as a statewide backbone support, developer and coordinator of the Louisiana 211 Statewide Network, composed of eight nonprofit organizations in Louisiana.   More information about the Louisiana 211 Statewide Network can be found at www.Louisiana211.org .

Forward progress on community health outcomes and improving health equity demands community-oriented solutions. Technology is a vehicle to achieve this, but it is not the sole solution. The future of this work should be a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange.

211 Strengths and Assets to Support Health Outcomes and Health Equity

211 currently provides four unique assets which can't be replicated at scale across the country by any individual technology vendor:

1) 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. This is essential to individuals who can't self-serve information due to access, ability or preference. It's also essential that a human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2) 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3) 211 collectively can provide the closest thing the United States has to a real-time barometer of human need.

4) The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

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The past two years represent a historically high demand for 211 as our country navigated the COVID−19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations through the Ride United Partnership with Lyft.

In Louisiana, 211 was activated by the Louisiana Department of Health, Bureau of Community Preparedness on March 11, 2020 with a set of 10 curated questions and answers about COVID-19. Since that time, the Louisiana 211 Statewide Network has worked with more than 400 curated questions and answers produced for the adaptive needs of 211 help seekers. More than 190,000 Louisianans have been helped with COVID-19 needs during this time. The aggregate data held by 211 systems paints a sharp picture of the changing needs as the pandemic event evolved and mitigation strategies were charted throughout our country.

You can find a activity data dashboard for COVID related contacts by Louisiana 211 at LA 211 COVID-19 Data | Louisiana 211 Statewide Network

In states impacted by natural disasters such as hurricanes, wildfires, or tornadoes, state and local leaders have come to rely on 211 as an important partner in emergency preparedness and response planning. Many statewide 211 systems in areas prone to natural disasters maintain Memorandum's of Agreement with 211 partners in other parts of the country to ensure readiness and plans for support when disasters occur.

It is common for 211 to provide guidance to citizens seeking pre-event shelter refuge, aid help seekers during the actual storm event (211 coordinate accordingly with local 911 officials) and to provide navigating support to impacted individuals and families suffering losses as a result of a disaster event. In fact, in Louisiana, 211 VoIP systems worked during the hurricane impact when 911 systems were taken out of commission. Often times, 211 provides critical information to FEMA teams as they seek to understand the needs facing specific communities post disaster.

Louisiana 211 was activated in 2021 for Louisiana Hurricane Ida (DR-4611-LA) and provided disaster navigation support telephonically to 37,249 survivors as part of the activation.   Additionally, Louisiana 211 provided instant information by text to another 102,238 text subscribers. You can find an activity data dashboard for Hurricane Ida related contacts at LA 211 2021 Hurricane Data | Louisiana 211 Statewide Network.

In 2020, Louisiana 211 was activated for Tropical Storm Zeta, Hurricane Delta, Hurricane Sally, and Hurricane Laura (DR- 4559-LA). During this activation, 52,863 survivors were provided disaster navigation support. You can find an activity data dashboard for these federally declared disasters at LA 211 2020 Hurricane Data | Louisiana 211 Statewide Network.

Important Considerations for Success

When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward, and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and child care deserts.
To facilitate successful data-sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to[651]

addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors.

211 Background

In 1996, the FCC designated 2-1-1 as a simple 3-digit dialing code for the public to access health and human services resources. Today, 211 information and referral systems maintain a community-based presence in 96% of the United States. The majority of 211's provide 24/7/365 accessibility to information and resources available through a free and confidential contact from an individual to a 211 Community Resource Specialist. Nationally, 211 systems provide the service in more than 150 languages and meet the needs of deaf and hard of hearing individuals. Leadership and staff of 211 systems are members of the communities they serve.

Each hour of the day, Americans turn to 211 to locate available help in their local communities to meet critical needs, including social determinate related to health needs, pandemic economic recovery needs and recovery solutions after a natural disaster impact. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. The promise is to answer the call for help and to provide equitable access to all. The 211 backstage preparations to deliver on this promise are largely rooted in systematic technology tools and grassroots community collaborations.

The US 211 Network reports that more than 41,425,273 Americans leveraged 211 to secure help and information in 2020 and 2021. The top five nationwide needs presented to 211 over the last two years were consistently related to Housing, Food, Health Care, Utilities, and COVID-19. As a result of these personal interactions with help seekers, it is estimated that 51,000,000 connections were made to needed help and information during this time period.

Since the start of the COVID pandemic in 2020, Lowell Community Health Center (Lowell CHC) has employed a wide range of digital health technologies to meet the needs of our 31,000 patients. Lowell Massachusetts is a diverse community; 46% of Lowell CHC patients prefer to be served in a language other than English, 19% of Lowell residents live in poverty (more than double the statewide poverty rate), and 28% of Lowell inhabitants were born outside the US. Of particular interest to the topic of digital engagement, 16% of Lowell households are without a computer, and 25% of households don't have broadband internet.[1] These characteristics create unique challenges and opportunities when it comes to digital health engagement. Our efforts over the past two years have highlighted best practices and areas for opportunity to consider as we expand our digital health strategies.

Our primary digital health technologies include;

-   Telehealth platform
-   EHR patient portal & messaging system
-   Interactive Interoperable Multilingual patient outreach software
-   Smartphone loaner program to connect patients to care
-   Remote patient monitoring and applications to support chronic conditions

The lessons learned and best practices we identified over the past two years can be categorized into the following;

-   Need for dedicated staff, including a payment model that supports this staffing model
-   Extensive need for patient education on using technology to engage with healthcare
-   Technology & Infrastructure create barriers for diverse populations

Dedicated Staff

As part of the health centers participation with the Community Care Cooperative Telehealth Transformation Initiative grant (C3 TTI), it was established that the dedication of a Project Manager is a best practice for implementing health technologies. The Project Manager helps facilitate training across the health center, communicate about the digital engagement efforts, identify gaps and areas for opportunity, and drive strategy to address these gaps. Without having a dedicated resource to oversee digital engagement efforts, these programs get lost among various other health center priorities, especially during times of limited resourcing.

Similarly, having dedicated support staff to provide patient education and preparation on technology is a key driver to the success of a digital health program. Prior to enlisting additional supports for virtual appointments, providers were doing the heavy lifting on patient training for telehealth visits. Providers were frustrated that they spent their appointment time providing tech support which caused a low adoption of video appointments. In response, we engaged interns to do a practice run with patients before their appointment, this has removed the burden of training from providers and improved our adoption of video appointments. Dedicated staff to provide patient training proved a successful model across other digital health

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programs as well. We have two Remote Patient Monitoring Programs, Continuous Glucose Monitors and a remote blood pressure cuffs. These programs have been successful because our Clinical Pharmacy staff provides education to the patients and has an established cadence of checking in with patients to answer questions and provide support. As we engage the care teams and patients in new innovative programs, patients need handholding to feel comfortable with these new technologies, and we need staff to support that.

Despite the success of leveraging dedicated staff to roll out digital engagement strategies, the current payment model creates barriers to fully leveraging a care team & support staff approach. With the current fee-for-service reimbursement model, there is little financial incentive or financial resourcing to staff positions that could bolster efforts such as a telehealth/digital health navigator or patient educators.

Education & Access

Tech literacy is a major challenge faced by our community. Members, especially our immigrant and refugee patients, are often unsure how to navigate smartphones, text messages, how to access virtual appointments, or how to interact with the portal and other patient engagement tools. These members require extra support and training to access these digital engagement tools. As outlined above, direct training with our patients has increased digital health adoption. The time spent training patients has a long-term payoff – most patients only need one training session which empowers them to engage moving forward.

We leverage many approaches to education; informative flyers, text messages, website updates, and tutorial videos, but have found person to person training to be the most effective, especially among our patients with the highest need.

There is a concern around privacy and trust of the links we send. Given the high volume of phishing, smishing, scam calls and texts people receive. Patients are hesitant to interact with us digitally because they are unsure what texts are trustworthy. Education and assurance are needed to assure patients with these concerns.

While our health center provides some tech education, there is an opportunity for larger community and federal investment in tech training. Training people to navigate technology is a transferable skill that provides access beyond healthcare. Access and education around technology enables patients to engage with the economy and address other social determinants of health. In our smartphone loaner program we see benefits beyond simply access to healthcare; these patients secure jobs, housing, childcare, education, etc through the use of a smartphone. Education empowers patients to access resources that they may not otherwise be able to take advantage of.

Technology, Infrastructure, & Health Equity

Patients and community members often do not have access to technology that is standard in todays world. Patients sometimes do not have a smartphone, have limited data or minutes

reducing their access to care and the health system, do not have wifi at their house or have a strong enough connection to guarantee a successful virtual encounter. Lack of access to these basic technologies excludes high risk populations from engagement in health care. None of the technologies listed on page 1 are offered to or accessible to patients who do not have phones or do not have access to internet or data, thus creating equity care gaps. Major renovations to the broadband network are necessary for successful adoption of digital health technologies. Patients are unwilling to engage digitally if their connection is poor, if their speeds are slow, or if they get frequently disconnected. This additional hurdle serves as a breaking point for people who are already tech hesitant. This applies to staff as well as our patients – as a community health center, our staff represent the communities we serve. With the switch to remote work in the pandemic, some staff were strained to afford higher quality internet speeds and data access. Highspeed internet should be considered a basic utility for all Americans to enable access for employment, healthcare, education, housing, and all social needs.

While the use of technology in healthcare addresses care and equity gaps, it also presents limitations in equity; software is not supportive of non-English speakers, and the release of app updates often leave out older models of phones, thereby excluding low-income populations from a smooth technology experience. To address health equity issues in technology, software should translate to the phones native language (ie if a smartphone is set up in Spanish, all applications should convert to Spanish). It has been challenging to talk patients through digital engagement tools that are in a foreign language to them. We have had more success with technology tools that provide multilingual support. Our interactive, interoperable multilingual patient engagement tool helped us bring covid vaccinations to our non-English speaking patients. We used an AI software to message populations in their native language that were left behind covid vaccination efforts, and as a direct result were able close these care gaps for our patients. Integrating interpreters to our telehealth platform with a one-click workflow was instrumental for us being able to provide care to our non-English speaking patients. Language access and support must be built into all technology given that 10% of American residents speak English "less than very well."[2]

Our experience implementing digital health strategies over the past two years has highlighted the need for dedicated staff and support, patient education and access improvement efforts, and the large scale technological and structural factors that impact adoption of digital health programs. As an FQHC, health equity and access gaps are woven into all efforts, including digital health programs. We discovered that if we are not analyzing adoption from a health equity perceptive, we are leaving out important populations and creating barriers to equitable access. For more information on our approach to health equity in virtual care, watch our webinar here.

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Citations

1. Data Sources: US Census Bureau QuickFacts Lowell and Massachusetts (population estimates by July 1, 2019).
2. US census https://www.census.gov/library/visualizations/interactive/people-that-speak-english-less-than-very-well.html

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From:	Cody Lewton ██████████████████████
Sent:	Friday, February 18, 2022 11:04 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Blue Category

Provider Agency : Lutheran Services in Iowa
Submitting Party: Cody Lewton, Director of HCBS Services

Current needs for the community LSI is experiencing is the inability to serve people with disabilities and mental health diagnosis in settings less than 24hr level of care in addition to the struggles of staffing those levels of care themselves. With the distribution of technology to individuals served, families, staff, and provider agencies the supervision needs could be met for many individuals and direct care time with staff and families could be more independent living goal focused vs. ensuring basic needs are met during face to face visits. Those needs could be evaluated via Facetime, Zoom, or other virtual platforms.

> Technology Assistance Ideas (Dependent of Member Need)
> 1. Tablets or Phones capable of virtual platforms for members to connect with staff and natural supports.
>   a. Capable of connecting to transportation options.
> 2. Desktop Video in Home – Individuals could allow staff/family to virtually assist with medication administration
> 3. Medication Distribution System - Auto Dispensing at Appropriate Times
> 4. Door Sensors Connected to Support Staff Phones/Tablets for Elopement Monitoring
> 5. Call Center Capability for Providers – Members initiate their support and time by calling in to Provider when needed. One call center can support more individuals with less staff. When in need, staff are dispatched instead of first responders if not an emergency.
> 6. Smart Homes – Sensors, monitors, and safety technology in homes. (Door Alarms, Stove Sensors, Water Heater, etc)
> 7. Software programs to assist members with tasks at work.   Checklists and video training to ensure members know their responsibilities (AVAIL)
> 8. Telehealth.
> 9. Pharmacy Delivery Applications Connected to supports for approval after client initiates depending on need.

Thank you for your request and if there any clarifying questions please let me know.

Best Regards,
Cody Lewton | Director of Services for People with Disabilities
Services for People with Disabilities
LSI: People Focused • Results Driven
3116 University Avenue | Des Moines, Iowa 50311
████████████████████████
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RFI from: **Lyn Health** - Telehealth Navigator and Healthcare Provider
Submitted by: Amy Shetler - Head of Brand, Lyn Health
Contact info: ███████████████████

Lyn Health is human-centric healthcare created for people with multiple chronic conditions, delivering clinical, advocacy and care coordination services via a single point of contact, 24/7. Leveraging virtual capabilities and in-person resources, Lyn improves quality of care and lowers cost for the polychronic population. The unique business model collaborates with employers, health plans and providers to augment the current healthcare system, not replace it. Lyn is customized, holistic care designed with love, empathy and compassion.

Lyn serves populations traditionally underserved by healthcare — people with multiple chronic conditions. Currently there are 34 million Americans that live with multiple chronic conditions. Clinically defined as polychronic, this population is unmanaged, overwhelmed and growing — to approximately 83 million by 2030. That's a staggering number of people that aren't fully supported by the healthcare ecosystem, and it's precisely the group that needs it the most.

Lyn Health is poised to solve this problem with a combination of digital health technology, human care, and a frictionless business model that collaborates with the current healthcare system.

1. Successful models in the US

In the commercial space, there are currently are no true competitors executing what Lyn Health is specifically for polychronic individuals. Launching a Pilot Program in December of 2021, Lyn treated 100 patients with multiple chronic conditions. In just over one month, our Care Circle has completed an average of two telemedicine visits and exchanged an average of 15 text messages per Member. With a reported customer satisfaction rating of 95, and a 97% rating on the quality of communications between provider and Member, the receptivity to these services has been significant. From our pilot members: "I felt comfortable, relaxed and confident based on [Care Partners] calm and caring demeanor;" "My Care Partner gave me a lot of momentum to stay accountable regarding my goals!" and "...I wish I could have you for life." We believe our model is successful as it bridges both digital capabilities and a human touch, while treating each member holistically — medical conditions, behavioral health conditions and social determinants of health.

2. Barriers

People with multiple chronic conditions face many barriers that currently aren't supported by the healthcare system. The current ecosystem of health plans, employers and providers was not designed to fully or holistically support people with multiple, ongoing conditions. Polychronic individuals are also often disengaged with their

healthcare. This is the symptom, not the problem. Managing multiple conditions, fragmented care, decision fatigue and the daily burdens of everyday life overwhelm people and cause them to disengage.

For example, more than 80 distinct behaviors are required to manage a single chronic condition. These behaviors are complex, require sustained motivation and have to be carried out in addition to all the other challenges and distractions of everyday life. Because of this, people often behave in ways that are counterintuitive or not in their best interests (e.g. 1 in 3 diabetics fail to take their medication).

Additionally, social needs serve as barriers to health across the population. A third of all Americans experience stress related to social needs, including food insecurity, lack of transportation and lack of housing.

We understand these unique burdens, and Lyn can improve care for our Members in both the short and long term.

Health plans, employers and providers also face barriers preventing them from delivering excellent, holistic care. For health plans already providing limited assistance to polychronic individuals, traditional brick-and-mortar providers are not integrated with advanced data-driven virtual solutions to support members and employers. Employers feel current point-solution fatigue, and healthcare inflation and polychronic volume creates long-term P/L issues. Provider burnout is real - time available for patient care is low and administrative tasks are high. There is inconsistent access to integrated services and resources, both clinical and non-clinical.

4. User Experience

Designing a user experience from a human-centered approach is the foundation Lyn Health. Beginning with Data Science, we leverage advanced analytics to target and customize our outreach - meeting Members where they are by utilizing multi-channel communication and the mode of their choice. Personal and meaningful communication reaching the right people at the right time. We then apply Behavioral Science to drive health actions and Member behavior change. Our Care Circle engages in shared decision-making with our Members, and understands their current mental models. Designing for behavior change, we apply existing research and evidence alongside insights from our Members for they way they actually behave - not the way we think they should behave. We use this to provide immediate relief of daily stressors, as well as build long term care plans to improve Members' lives and reduce treatment burden. This holistic approach in terms of strategy and care is also available 24/7/365.

Digitally, we are building an innovative member portal allowing for secure and seamless communication between our Care Circle and our Members. While the technology enables and improves virtual care and convenience, we retain the human touch of care by bringing the digital and physical models together and integrating the.

Finally, we partner with our customers. They know their population best, and we collaborate on upfront discovery and solutions we know will drive results. Lyn can fit within an employers' or health plans' current programs and point solutions, enhancing and augmenting - not disrupting - the ecosystem and how it functions.

Thank you for the opportunity to participate in this RFI. For any questions or further discussion, please respond to this email or reach out to ███████████ or at ████████. Please visit lynhealth.io for more.

February 21, 2022

Via Electronic Submission: ██████████████████████████

Alondra Nelson, Acting Director
White House Office of Science and Technology Policy
725 17th Street NW
Washington, D.C. 20006

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson:

Masimo believes that innovative medical technology can be used to provide increased access to quality healthcare for underserved populations and has a critical role in the delivery of community-based health services.

Masimo has devoted over 30 years to improving the quality of healthcare and saving lives. We are very proud that our breakthrough technology is now used on more than 200 million patients in leading hospitals and other healthcare settings around the world, and is the primary pulse oximetry at 9 of the top 10 hospitals in the United States. Technology available today can *bring the care to the patient*, eliminating many of the barriers standing between individuals and their healthcare providers.

Trends from the pandemic. During the COVID-19 pandemic, as hospitals were overwhelmed with the surge in infected patients, the value of remote physiologic monitoring became more apparent as facilities were faced with a limited number of hospital beds and a finite supply of personal protective equipment (PPE). Monitoring technology provided clinicians with enhanced capabilities to treat and observe a wide array of patient populations, either in hospitals or at home.

The innovative ways that remote physiologic monitoring technology can be used are endless. For example, Masimo's remote physiologic monitoring technology uses a tetherless, wearable sensor to monitor a patient's blood oxygen saturation and respiration rate, as well as pulse rate, and perfusion index with a cloud-based remote data capture and surveillance platform accessible from a patient's smartphone or smart device. Monitoring key physiological data can help provide clinicians with an accurate trending analysis of a patient's respiratory status, delivering key insights into the need for possible intervention.

This technology is currently being used throughout the country to keep patients and healthcare workers safe. Many of our devices can be used without costly new investments in IT infrastructure because they are connected by Wi-Fi or Bluetooth. This provides rapid and easy deployment to temporary care settings (i.e., field hospitals, motels) or underserved population areas that may have aging or limited technological infrastructure.

This same technology can monitor individuals taking opioids to keep them safe at home. The need to address the opioid crisis is even more urgent today because the COVID-19 pandemic exacerbated the

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accidental overdose rate. Social distancing has increased the likelihood of using opioids alone, a well-documented overdose risk factor. There is an urgent need to remotely monitor these individuals for opioid-induced respiratory depression.

Health Equity. Not only are the most vulnerable individuals largely the ones impacted by the opioid overdose epidemic, but they are also the most underserved populations with regard to resources and healthcare. The use of remote physiologic monitoring technology could dramatically improve outcomes to numerous underserved populations:

> **Underserved and Rural Areas**: The Centers for Disease Control has confirmed that people with a low income who live in rural areas are particularly vulnerable to prescription opioid overdose. Because rural residents often live a great distance from healthcare resources, they have insurmountable barriers to treatment, including a lack of transportation options.

> **Pregnant Women and Newborn Children**: Opioid use during pregnancy has increased substantially over the past decade and increasing rates of substance use disorders contribute to rising rates of severe maternal morbidity and mortality in the United States. There has been extensive research and literature concluding that the impact of neonatal morbidity associated with opioid use in pregnancy is substantial and neonatal abstinence syndrome accounted for $3 billion in hospital costs between 2004 and 2014. Sadly, in rural areas, access to treatment for pregnant women with addiction is often inadequate.

> **The Elderly**: While progress has been made to address a rising death toll caused by opioids, major gaps in protection against opioid risks for older adults remain. The Department of Health and Human Services Office of Inspector General recently reported that approximately 1 million Medicare beneficiaries were diagnosed with opioid use disorder in 2020 and recognized that "*Medicare plays an important role in ensuring that beneficiaries with opioid use disorder have access to treatment*." Further, 27% of adults ages 60 and older live alone, increasing the risk of accidental overdose if these patients take opioids.

> **Incarcerated Individuals**: Multiple experts have concluded that incarceration and opioid overdose are interrelated. It has been estimated that up to 20% of individuals housed within prison in the United States have opioid use disorder. Further, post-release opioid-related overdose mortality is the leading cause of death among people released from jails or prisons.

Barriers to the use of digital health technologies in community-based settings. Healthcare providers, patients, hospitals, and rural healthcare programs have consistently said that lack of payment and coverage are major barriers to implementing remote patient monitoring programs for patients. Federal programs must recognize how innovative technologies play a critical role in harm reduction and positive outcomes. In order to achieve these goals, these technologies must be supported with improved regulatory pathways and adequate coverage and reimbursement so that they can truly be accessible options for individuals in all care settings.

Proposed government actions. In order to break down barriers and save lives, federal agencies must expand engagement and partner with state and local agencies, as well as the private sector. Such collaboration will enable us to reach our most vulnerable and underserved communities. Further, federal agencies should assist in matching academic, community, federal, state and local resources with private industry experts and partners to promote education, demonstrations and pilot programs that will improve the utilization and effectiveness of medical technology.

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Medical innovation is helping to improve access to quality healthcare, enabling people to live longer, with more independence, and with less pain and greater quality of life. Innovative technology can also save billions of dollars by keeping patients healthy and out of the hospital.

Thank you for your commitment to improve community-based healthcare. If you have any questions or would like to address any aspects of our comments, please feel free to contact Kaye Meier at

███████████████████

Sincerely,

██████████████

Paul M. Ordal
Vice President, Government Relations and Public Policy

Elsie Taveras, MD, MPH
Chief Community Health Equity Officer
Executive Director, Kraft Center for
Community Health at MGH
Conrad Taff Professor, Harvard Medical
School

Mass General Brigham

March 31, 2022
Submitted electronically via ████████████████

Jacqueline Ward
Office of Science Technology and Policy (OSTP)
Executive Office of the President
1650 Pennsylvania Ave., NW
Washington, DC 20504

RE: Strengthening Community Health Through Technology

Dear Ms. Ward:

Mass General Brigham appreciates the opportunity to respond to the OSTP's request for information (RFI) on Strengthening Community Health Through Technology.

Mass General Brigham is a not-for-profit healthcare system that is committed to patient care, research, teaching and service to both the local and global community. The Mass General Brigham network includes the Harvard affiliated teaching hospitals: Massachusetts General Hospital, Brigham and Women's Hospital, Mass Eye and Ear, Spaulding Rehabilitation Hospital and McLean Hospital along with multiple community health centers and hospitals, a physician network, home care and long-term care services and a health insurance plan. We are the largest private employer in Massachusetts, with approximately 80,000 employees, including physicians, nurses, scientists, and caregivers.

If you should have any questions, please do not hesitate to reach out to our colleague:

Maria Rios, MPH
Director of Equity and Community Health Policy, Office of Government Affairs
Mass General Brigham
████████████████████

Sincerely,

Elsie Taveras, MD, MPH
Chief Community Health Equity Officer
Executive Director, Kraft Center for Community Health at MGH
Conrad Taff Professor, Harvard Medical School

Mass General Brigham

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1. *Successful models in the U.S.* The COVID-19 pandemic placed unprecedented demands on virtual care to restore the delivery of healthcare interrupted by social distancing. From Mar 2020 - Nov 2020, Mass General Brigham (MGB) clinicians documented more than 1.3 million virtual visits, with ~100,000 of these visits accessed by patients with limited English proficiency (LEP). It is estimated that at least 1 in 4 Americans may not have digital literacy skills or access to Internet-enabled digital devices to engage in video visits.[1] MGB and its member institutions have implemented several initiatives to improve patients' ability to access virtual care and health outcomes.

Efforts to address language barriers:

Patient Portal Language Translation

MGB undertook a multi-departmental effort to translate Patient Gateway – our Epic-integrated patient portal – into the six most commonly used non-English languages our patients speak. No other Epic site across the nation has ever undertaken this scope of translation, which involved staff and support from several MGB teams including Digital Health eCare, Information Systems (IS) Development and Quality and Patient Experience (QPE) Digital Health, Equity, and Patient Reported Outcome Measures (PROMs).

Language Access Services

The Brigham Digital Innovation Hub (iHub) created a COVID-19 screening tool for patients and visitors across the organization with language support for English, Spanish, Portuguese, and Russian. The iHub is also supporting a pilot of a vendor tool enabling point of care clinical language translation services in the ER.

Currently, interpreter services for virtual care programs are provided by various, site-specific vendors leading to complex and differing workflows/processes for each site. The differences in technology vendors for interpreter services impedes equitable access for virtual visits for LEP, deaf and hard of hearing patients. We are in the process of offering streamlined interpreter services for virtual visits with one vendor, which would provide care teams a seamless connection to 40 languages for video and over 200 languages for audio-only visits.

Efforts to address digital literacy:

Digital Access Coordinator (DAC) Program

MGB has developed a DAC workforce to address gaps in digital literacy. Bilingual DACs are available to enroll and train patients to use Patient Gateway and other digital health tools. We are currently piloting three implementation models: 1) Embedded DACs: work full-time onsite at clinics and are embedded with clinical staff, space, and workflows; 2) Central DACs: work at a central MGB location and receive referrals from staff; 3) Hybrid DACs: serve part-time in Embedded and Central models. As of January 2022, there were 12 DACs that conducted 8,911 patient outreaches. The Embedded DAC model resulted in greater enrollment in Patient Gateway and fewer instances of not reaching patients.

Virtual Visit Accessibility

For patients who are unable or unwilling to access Patient Gateway for virtual visits, Doximity is available as a healthcare secure/HIPAA-compliant option for standalone visits. As we continuously strive to provide equitable virtual solutions, Doximity is a low-barrier tool for video visits. With one-click calling, Doximity is more accessible for less tech-savvy patients, working on any smartphone with no extra downloads or sign-in required. Patients can connect to a visit with a simple link via text that brings them to a web-based video visit.

Efforts to address device access:

Patient/Family Tablet Loaner Program

MGB acquired 2,000 iPads for distribution as part of a Tablet Loaner Program. The purpose of this program is to provide eligible patients with an iPad pre-loaded with the Patient Gateway app and other applications to support video visits (e.g. Zoom and Patient Connect). Eligible patients are primary care patients in clinics with an Embedded

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[1] Nouri S, Khoong EC, Lyles CR, and Karliner L. Addressing Equity in Telemedicine for Chronic Disease Management During the Covid-19 Pandemic. *NEJM Catalyst.* Epub on May 4, 2020.

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DAC model that have a clinical health need related to behavioral health OR remote patient monitoring that would be supported by improved digital health access. Participating patients would have access to DAC/helpdesk support, with internet browsing limited to selected website lists for patient education purposes. Once the patient's health goals are met, the iPad is returned as part of the loaner program.

Efforts to leverage technology to improve disease management:

Remote Cardiovascular Health Program

MGB's Remote Health team has implemented a virtual chronic disease and medication management service for high blood pressure and high cholesterol called Remote Heart Health (RHH). Patients enrolled due to poorly controlled hypertension (HTN) receive a home blood pressure cuff that is set up to electronically send blood pressure readings which are monitored by a team of patient navigators and pharmacists. In a visit-less paradigm, the team communicates with patients by phone, text, email and/or a patient portal and uses a customized CRM platform integrated with our EHR to help automate and manage workflow and tasks. This remotely delivered, navigator- and pharmacist-led program demonstrates that standardized algorithmic care of high-risk, but undertreated, patients can: 1) Effectively and efficiently optimize guideline-directed therapy for lipids and HTN; 2) Eliminate the need for in-person visits, without the need for physician treatment decisions at every step; 3) Achieve these goals through utilization of predominately generic medications. Having treated over 10,000 patients, the program outcomes and engagement metrics show innovative digital solutions can improve healthcare equity and care access. We also repurposed texting capabilities developed through this program to assist COVID testing and vaccination related activities.

2. *Barriers.* A common theme found across cases where care is compromised is miscommunication due to language barriers. The disproportionate impact of COVID on Hispanic communities has increased the number of patients with LEP needing virtual care who request instructions or materials in a language other than English. Lack of access to smartphones, broadband or unlimited data plans has been well recognized as a barrier to access to virtual care, as has the need for medical interpreters during actual virtual visits. However, the exponential growth in the need for access to virtual care has uncovered a facet of patient communication that represents an additional major obstacle to digital access: a need for wide-ranging instructions and support for accessing, downloading and utilizing electronic health record apps and virtual care software tools across multiple languages and the availability of live human support resources partnered with readily available integrated interpreter services. Without these supports, many patients with LEP or low digital literacy fall through the cracks and resort to phone-only encounters or defer care, both of which pose risks of poor patient outcomes or suboptimal provider performance on timely diagnosis or treatment.

   CRICO has awarded Mass General Brigham a 24-month grant (July 2021–June 2023) aimed at addressing the digital divide that creates barriers to providing equitable virtual care for patients across our Institutions. The focus of this work is on patients with LEP, low digital literacy, or other social determinants of health. Through this work we will address the digital divide that creates barriers to providing equitable virtual care for patients across our institutions by: 1) Discovering and capturing real-world barriers to virtual and digital care during live patient support; 2) Designing better digital tools to address observed barriers; 3) Measuring adoption of developed resources in our patient population; and 4) Validating the utility of comprehensive, multi-lingual educational resources.

   Federal reimbursement requirements can also create barriers to delivering innovative digital care. MGB's piloting of remote physiologic monitoring (RPM) billing, such as the RHH program described earlier, faces tradeoffs relative to RPM CPT requirements. While billing can be essential to offering services, we must first assess whether meeting the requirements is compatible with optimal clinical care and whether the additional complexity the RPM CPT requirements would create are feasible to absorb. CMS makes it complex for an organization like Mass General Brigham to easily bill for the services provided. There are restrictions on who can perform the billed service, RPM

services are limited to "established patients" of the billing physician/NPP, billable by established practitioner and 16 days of readings must be electronically transmitted within each 30-day period, RPM services can only be billed once per patient per month and staff managing the patient care must be within the same Tax ID.

3. *Trends from the pandemic.* A retrospective analysis of electronic health record data from all patients with ambulatory visits from 10/1/2019-9/30/2020 was conducted to describe patient characteristics associated with successful transition from in-person to virtual care, and video vs audio-only participation. In this analysis of over 6 m ambulatory visits conducted with 1.24 m patients in our healthcare system, we observed a dramatic drop in in-person and rise in virtual ambulatory care during the COVID-19 pandemic. Notably, during COVID the proportion of ambulatory visits conducted virtually was greater than those conducted in-person (during pre-COVID or COVID periods) for Hispanic and Black patients, and the odds of virtual care were increased for patients who were elderly, non-white and with LEP. Patients without Patient Gateway activation and from areas with lower Internet access were less likely to transition to virtual care during the pandemic, highlighting the continued need to address the digital divide. In our large regional healthcare system, COVID drastically reduced access to care in spring 2020, but the transition to virtual care during COVID enabled restoration of access to care for many patients, especially older and non-white patients. Audio-only visits played a critical role in maintaining this access to care, particularly for vulnerable patient groups. Anecdotally, providers stated that incorporating interpreters into video visits was challenging, and that lower rates of portal activation among more vulnerable patient groups led to increased use of audio-only visits. These findings underscore the value of both audio-only and video virtual care for maintaining healthcare access across demographic groups, during a public health crisis and beyond.[2]

6. *Proposed government actions.* We strongly recommend making the telehealth flexibilities and policies that were implemented during the public health emergency permanent, including removing patient location and rural site requirements to allow patients access to telehealth visits in any location; ensuring a fair and reasonable reimbursement amount for telehealth services; and allowing Medicare payment for audio-only services beyond mental health. Fair and appropriate reimbursement is critical among various forms of telehealth, including audio-only visits, to ensure patients have full digital access to remote care.[3] However, we also recommend that vendors be encouraged to consider the integration of a third party/interpreter into video visit platforms to prevent providers from resorting to audio-only calls for patients with language barriers.

We also request the federal government provide funding/support to scale innovative models, share best practices from across the nation, and further research in this area. For instance, NIH grants should offer explicit opportunities to advance digital health equity work. Additionally, the federal government should continue to make investments in enhanced broadband access at low or no cost in priority communities. In addition to funding, we request better reimbursement of digital and remote services that are shown to benefit health outcomes.

Federal government guidance on minimum equity and accessibility standards for healthcare applications is also requested to provide more consistent standards for all patient-facing technology.

7. *Health equity.* MGB's RHH program identifies and enrolls patients at a similar racial, ethnic, and language proportion to the overall population of patients not at their goal in MGB's quality registries. Once enrolled, the clinical benefits in blood pressure and LDL cholesterol reduction were consistent across different populations. This program demonstrates that it is possible to deliver population-level remote disease management programs without exacerbating existing health inequities and offers a potential method to improve access to care.

[2] Zachrison KS, Yan Z, Sequist T, Licurse A, Tan-McGrory A, Erskine A and Schwamm LH. Patient characteristics associated with the successful transition to virtual care: Lessons learned from the first million patients. *Journal of telemedicine and telecare.* June 13, 2021.

[3] Rodriguez JA, Shachar C, and Bates DW. Digital Inclusion as Health Care — Supporting Health Care Equity with Digital-Infrastructure Initiatives. *The New England Journal of Medicine.* March 24, 2022.

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Response to Request for Information (RFI) on Strengthening Community Health Through Technology

Respondent: The Maternal Mental Health Research Collaborative

The Maternal Mental Health Research Collaborative (MMHRC) is a peer-led, mother centered initiative that is designed to engage mothers with researchers related to perinatal mood and anxiety disorders (PMADs). Partnered with The Heller School for Social Policy and Management at Brandeis University, since 2017 we have received over $625,000 from the Patient Centered Outcomes Research Institute (PCORI) to explore the use of online technologies to engage mothers, researchers and other stakeholders in identifying gaps in services and research, and testing virtual engagement strategies to build community and partnerships.

The Virtual-Community Engagement Studio (V-CES) model brings together mothers, researchers and other stakeholders to explore prospective research projects and offer opportunities for mothers to provide input into the research process. Feedback from both mothers and researchers about the V-CES model has been very positive. Researchers report that engagement with mothers helps to refine their research ideas and procedures, while mothers feel empowered by the ability to use their lived experience with PMADs to help make research proposals stronger and take into consideration the challenges and barriers that may limit or hinder their participation.

In this response to the RFI we comment on the trends and barriers/health equity issues that we have observed since the start of the pandemic in March of 2020. Our work during the pandemic has seen the completion of two engagement projects during this time period and is continuing into a third. Our first project explored engagement with mothers with PMADs without any specific demographic, socioeconomic or other health related factors, while our second looked at the engagement of mothers with PMADs who were also using substances, with an emphasis on opioids. Our current project is looking at the experience of mothers with PMADs, and intellectual and developmental disabilities, neurodivergence and/or behavioral health issues. All projects have used technology to bring together diverse groups of stakeholders at the local and national level.

Trends

Throughout the course of the COVID-19 pandemic the use of online technologies to deliver healthcare became a necessity to minimize the spread of the virus and protect both individuals and the wider population. Prior to the pandemic, online approaches to

care delivery and program access were sometimes viewed as a less acceptable alternative to traditional in-person approaches. However, the pandemic forced a major shift that many stakeholders were not prepared for, and as a result created numerous challenges and exposed barriers to care and service delivery. Some of these were long standing issues, like adequate funding and the willingness of providers and insurers to offer accessible care and service provision assisted by technology.

The pandemic allowed for the uptake of existing technologies and platforms to be used by patients, caregivers, physicians, community support workers and others to strengthen approaches to both individual and community health. Without the ability to meet in person, technology enabled these groups to connect and in some cases create innovative new programs and improve access for previously marginalized groups/individuals.

For example, our Community Engagement Studio project was initially designed to be an in-person event that we had to transition to virtual using the Zoom online platform. In our work, the use of technology increased opportunities for mothers living across a wider geographic catchment area (including those in rural locations), and in diverse family circumstances (e.g., with children at home) to participate. In the past this may not have been an option due to transportation or childcare issues. Also, those with other limitations due to physical disabilities, chronic pain, health issues or parenting demands keeping them housebound could now fully participate.

For many mothers, no longer having to navigate through transportation issues, and the reduction in childcare concerns proved to be very appealing and resulted in an increased ability to participate in these meetings.

Barriers/Health Equity

While the use of technology to strengthen community health is an appealing and viable alternative for many, there are barriers that were identified as part of our work with mothers that are in part related to health equity issues. Through our work, it has been clearly identified that common barriers include:
- Lack of privacy or inability to find a quiet space to participate
- Getting time off from employment to participate (with the potential loss of earnings)
- Lack of access to technology typically based on affordability
- Lack of knowledge on how to use technology
- Concerns over confidentiality/privacy, and fear of involvement of Child Protective Services over disclosure of substance use

- Lack of ability to accommodate those with hearing, visual, learning or neurological disabilities
- Able-bodiedness (limited by health, pain or other physical issues)
- Racial/ethnic socioeconomic access issues (ie - Black mothers living in poverty)

While these barriers were identified specifically within the context of mothers engaging in research, they can also be applied to community health initiatives as they are generalizable in nature. For example, in any situation where a service is provided or a meeting is held over Zoom, mothers must have access to a computer or SmartPhone, the internet or a cellular provider that can support live meetings, and understand how to use the technology before they can participate. This assumes that they have the means to afford these technologies or can arrange access on their own, along with learning how to use the platform.

In situations where disabilities are a significant barrier, the underlying assumption is again that mothers are able to arrange for appropriate accommodation themselves without having support from the researcher/provider to fully participate. As the COVID pandemic has evolved, these issues have been identified and addressed through various means, however it is anticipated that these will be ongoing as they are systemic in nature.

The use of technology to strengthen community health is a viable solution to address issues of locational access, transportation, parenting and family responsibilities, disability and able-bodiedness, and should be part of any community health related strategy moving forward. Technology allows for greater participation, but is not without its challenges. These must be considered and addressed appropriately prior to widespread use. We anticipate that the trends observed during the COVID-19 pandemic will continue, and the use of technology to support community health will be the expectation.

Greetings. Staff Members of Connected. Health RFI

My Name is Matthew. Lawrence LeFluer. A. Rural Vermont

Community Town resident of Alburgh Vermont in grand isle county of Vermont. The. Islands of Vermont.

Feedback or. Comments. On. These. Issues and problems within the healthcare system of the United States of America including Rural And Urban. Town's. Within My. Statewide of Vermont

Question 1. What other actionable ideas can be mobilized to make Community Connected Health a reality?

The answer is. Making. Accessibility. For. Everyone. Who. Needs. These. Healthcare Services throughout the United States of America that includes. Rural. BIPOC Communities. With. Rural State's Like. Mine. Of. The green Mountain. State. Of. Vermont.

Question 2.   How are privacy-preserving digital health technologies used, or might they be used, to enhance community health, individual wellness, and health equity?

The answer is like question one all of above options. For. Rural America. State's And. Communities. . Like. Mine. In The. Green Mountain State of Vermont

That's. Including. BIPOC Communities. And. Disabilities Citizens. Of. All. Ages.

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701 Fifth Avenue
Suite 4900
Seattle, WA 98104
USA

mcg.com

February 25, 2022

RE: White House Office of Science and Technology Policy (OSTP) Request for Information (RFI) on Strengthening Community Health Through Technology

Submitted by: MCG Health, part of the Hearst Health network

Stakeholder Type: Technology developer (provider of evidence-based, clinical guidelines, analytics, and EHR-integrated healthcare technology)

About MCG

MCG was originally founded in 1988 as a wholly owned subsidiary of Milliman. Today, MCG is part of the Hearst Health network and remains the leading independent author of evidence-based clinical care guidelines for physical health, mental health, and substance abuse disorders. MCG helps health care organizations (including community health organizations) implement informed care strategies to move patients proactively and efficiently toward health. MCG's transparent assessment of the latest research and scholarly articles, along with independent data analysis, gives patients, providers, and payers the vetted information they need to feel confident in their care management decisions. As a subscription-based service, MCG has no financial stake in how care is delivered, and the company does not receive any financial support from industry stakeholders or payers. By providing a fully independent assessment of the latest evidence, MCG provides its customers with unbiased clinical care guidelines. MCG is used by nearly 2,600 hospitals, nine of the largest U.S. health plans, State Medicaid Agencies (California, Mississippi, Louisiana, Missouri, Indiana, Pennsylvania, Arizona, North Carolina, and Utah), regional and national MCOs (managed care organizations), the U.S. Department of Veteran Affairs (VA)'s Community Care, Referral, and Authorization Program, the ICE Health Service Corps (IHSC), and the U.S. Centers for Disease Control and Prevention (CDC) World Trade Center (WTC) Health Program.

MCG's response to the White House Office of Science and Technology Policy (OSTP) Request for Information (RFI) on Strengthening Community Health Through Technology focuses on four key areas of interest: (1) Successful Models within the U.S. (5) Tool and Training Needs, (6) Proposed Government Actions, and (7) Health Equity.

1. Successful Models within the U.S.

Sharp Rees-Stealy Medical Group's Cardiovascular Risk Reduction Program: Sharp used evidence-based guidelines as a foundation for a successful Cardiovascular Risk Reduction Program. Focusing on Medicare patients with high blood pressure, high cholesterol, diabetes, and other risk factors, the program brought patients together with health professionals to

create a multidisciplinary team and develop evidence-based care plans. The program lowered the rate of heart attacks by 31% and strokes by 15%, contributing to more than $7 million in avoided healthcare costs. Case study: https://www.mcg.com/wp-content/uploads/2019/04/MCG-Case-Study-Sharp-Rees-Stealy-Risk-Reduction-Program.pdf

Sharp also engaged a mobile health technology provider along with evidence-based guidelines to support a successful hospital readmission reduction program. By leveraging evidence-based, clinical decision support within a text messaging platform, Sharp Healthcare was able to reduce hospital readmissions by a significant margin as well as promote patient engagement and safety: https://youtu.be/YNtSxC1n9pk

CDPHP, a physician-founded, community-based health plan serving nearly 400,000 members in New York state, responded to the COVID-19 pandemic by developing an extensive outreach program to support its most vulnerable members. These efforts involved a unique software customization of clinical decision support software to build real-time reporting of COVID-19 diagnoses which allowed CDPHP to perform fast, proactive outreach to affected members and their families. As a result, the CDPHP program was able to waive cost-sharing for COVID-19 testing, implement parity payment for telehealth, contact over 10,000 at-risk individuals, and provide online educational services to help maintain the health and wellness of its members. You can learn more about the success of this program via this link: https://www.mcg.com/client-resources/news-item/doyle-award-2020-winners-anthem-cleveland-clinic-cdphp-effingham-health.

5. Tool and Training Needs:

For several years, MCG Health has been enhancing clinical decision support tools to help community health organizations by integrating social determinants of health assessments directly into the electronic health record workflow. We have incorporated these assessments into our Inpatient & Surgical Care, Behavioral Health Care, Chronic Care, and Transitions of Care guidelines. This allows community health workers to access and proactively identify any social factors which may be a barrier to care delivery. MCG Senior Nurse Editor, Carrie Brockman, BSN, RN, ACM, published a white paper on the importance of evidence-based interventions for social determinants of health which can be found here: https://info.mcg.com/rs/658-WJS-398/images/MCG%20White%20Paper%20-%20Social%20Determinants%20of%20Health.pdf

MCG also offers licensed users free online training and the option to become "MCG Certified." Certification helps staff who use nationally recognized, evidence-based care guidelines — trainers, managers, preceptors, and super-users — do their jobs better. Ultimately, certification can benefit community health organizations and their patient population, because accurate application of evidence-based practices helps drive effective care. MCG offers certification in Utilization Management or Case Management tracks. Amid the COVID-19 public health crisis, Anthem Blue Cross Blue Shield's leadership effectively pursued an online learning strategy to obtain MCG Utilization Management certification for 167 clinicians. These individuals then helped promote standardization across the organization by conducting educational sessions for other Anthem colleagues. The cascading effect of knowledge-sharing has since increased its staff's Degree of Healthcare Management

(DoHM). This noteworthy achievement enhanced the use of evidence-based practices and helped Anthem support its provider network to effectively manage COVID-19 patients.

6. Proposed Government Actions:

MCG believes that care needs to be equitable. MCG Health would recommend that the White House Office of Science and Technology Policy (OSTP) help promote greater health equity by supporting the incorporation of social determinants of health into clinical care guideline content. This is the approach we take. Beginning in 2018, MCG's Chronic Care and Transitions of Care guidelines were enhanced with specific assessments to help post-acute professionals identify potential social determinants that could impact a patient's health. These tools were designed to evaluate the interweaving social and economic factors, which may be especially important to recognize in the chronically ill and those transitioning between care settings. In 2021, MCG added a similar assessment to its Behavioral Health Care content to better support clinical professionals who often deal with complicated discharges from inpatient hospitals or psychiatric facilities. These social determinants of health assessments can be integrated into virtually any medical management software or electronic health record system to bring the tools directly into a clinician's existing workflow. This can help community healthcare providers focus on addressing patients' individual situations and support their specialized needs when planning or delivering patient care. Part of an effective care model and discharge assessment is to identify all of the patient's needs, not just their medical needs. This approach can help ensure patients are connected to any additional, non-clinical support services (e.g., social workers, nutritionists, etc.). This opportunity could take place in the immediate future (0-2 years) as current acquisitions within the healthcare industry could impact guideline development if any such guidelines were owned by an organization with financial incentives that are at odds with promoting community health.

7. Health Equity

Along with the aforementioned social determinants of health assessments, clinical guidance that adapts to support health equity should be considered for use by community health workers. As part of MCG's effort to influence health equity, we instituted a number of changes in our recently published 26th edition of the MCG care guidelines:

- A new adult estimated glomerular filtration rate (eGFR) calculator has been developed using an equation designed to reduce racial bias.
- Lower BMI thresholds in the clinical indications for metabolic (bariatric) surgery for Asian adults after epidemiologic studies showed a higher risk of type 2 diabetes and cardiovascular disease at lower BMIs in that patient population.
- Inclusion of evidence-based clinical indications for transgender patients in multiple clinical procedure guidelines (including bone density studies and mammography)

Thank you again for the opportunity to share our feedback. We look forward to any opportunities to collaborate with the OSTP as you identify strategies to support the transformation of community health settings through the uptake of innovative digital health technologies. Please consider MCG a resource as you embark on this important deliberative process.

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McKesson Corporation
6535 State Hwy 161
Irving, TX 75039

Pete Slone
Senior Vice President, Public Affairs

MCKESSON

www.mckesson.com

February 28, 2022

Dr. Alondra Nelson
Director
White House Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Submitted via email to ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Director Nelson,

On behalf of McKesson Corporation ("McKesson"), we appreciate the opportunity to provide feedback on the White House Office of Science and Technology Policy's Request for Information on "Strengthening Community Health Through Technology (federalregister.gov/d/2021-28193).

McKesson Services and Solutions

For over 180 years, McKesson has led the industry in the delivery of medicines and healthcare products. We deliver vital medicines, medical supplies, care management services and health information technology (IT) solutions that touch the lives of over 100 million patients in healthcare settings that include more than 50,000 retail pharmacies, 5,000 hospitals, 200,000 physician offices, nearly 12,000 long-term care facilities, and 2,400 home care agencies.

McKesson operates a variety of patient intervention and outcomes programs across its pharmacy and provider networks in partnership with our biomedical and life science partners. While we have seen clear improvements in patient outcomes across these programs, such as improving patient medication adherence by 30%, two distinct technology barriers to uptake and scalability have persisted: patient connectivity beyond the pharmacy or provider office, and manual methods of self-reporting by individual facilities. To address these challenges, McKesson is currently piloting a program to test use of a single platform to connect with patients in their home and to automate the analytics and insights needed to provide faster clinical decision support back to pharmacists and providers. This platform will also produce insights and evidence need to guide stakeholders on developing the right patient support programs, specific to patient needs to improve outcomes.

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As summarized in [CoverMyMeds 2022 Medication Access report,](#) patients continue to have access delays and it has worsened throughout the pandemic. More patients have used telehealth as well as relied on their pharmacy as a more prominent part of their care team. CoverMyMeds, Relay Health as well as Health Mart pharmacies all have different suites of solutions to improve the patient experience at the pharmacy and with their medications.

McKesson's Policy Recommendations

We propose continued engagement of leading entities such as McKesson– that have deep expertise and broad scale and exposure to clinicians – in the development of programs to support community health, as well as meaningful input from community providers, patients, and advocacy organizations (e.g., National Health Council). Additionally, standards, definitions, and incentive frameworks across agencies (FDA, CMS, NIH, ONC, etc.) must be aligned to promote and accelerate further documentation, quality measurement, and research into social determinants of health and health equity. These aligned standards must then be adopted broadly, including further adoption of Project Gravity outputs, adoption of standards developed by the Da Vinci Project and the National Council for Prescription Drug Programs (NCPDP). Only through such broad adoption can the exchange of information that supports: 1) prior-authorization; 2) care coordination with other providers and payers; and 3) improved methods of reporting quality measures and gaps in care then be fully leveraged to improve patient care and clinical outcomes.

With the welcome expansion of patient access to providers, so too must reimbursement for the care management of these patients be expanded. [NCBI literature](#) supports the idea that clinical pharmacists improve patient outcomes and expand access to care, yet the use of digital tools required to support patients is underfunded. Adequate funding to support the use of digital tools by patients for healthcare interactions should be prioritized. Expansion of the approved patient support programs, as well as government support, incentives, or manufacturer requirements to promote adoption of new technology solutions will reduce disparities in clinical trial enrollment, by increasing the diversity in such trials to reflect real-world patient populations.

About McKesson

McKesson is a mission-driven company, focused on working with our customers and partners to advance health outcomes for *all*. Together, we are charting a course to better health in every setting — one product, one partner, one patient at a time.

McKesson is a leader in advancing clinical cancer research and improving cancer care. We support **The US Oncology Network** (The Network), one of the nation's largest and most innovative networks of community-based oncology physicians. These practices serve more than 1.2 million patients, including 160,000 new cancer patients annually, across nearly 400 sites of care. We also support **US Oncology Research** (USOR), an industry-leading research organization that has been conducting Phase 1-IV clinical trials across many indications, including rare tumor types. **Ontada®** is our oncology clinical education and provider technology business dedicated to transforming the fight against cancer. Ontada's non-interventional research is designed to

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accelerate life science drug discovery, development, and commercialization. Ontada's value is strengthened by our proprietary provider technology solutions, including the oncology-specific iKnowMed^{sm} electronic health record (EHR), that are utilized at the point of care and support clinical and operational excellence, generating structured and unstructured oncology data across more than 2,700 oncology providers in 40 states. This enables Ontada to serve as a connecting point to pull in data from the largest community oncology network and utilize our unique access to claims, reimbursement, and labs data to reveal important insights for our life sciences and provider partners.

McKesson is also a leader in pharmacy solutions. Our **Health Mart** franchise is the fourth largest pharmacy network in the U.S. with more than 4,900 independent pharmacies. Our **RelayHealth Pharmacy Solutions** manages the nation's most reliable pharmacy connectivity network, executes more than 18 billion pharmacy transactions annually and connecting more than 50,000 retail pharmacies with key healthcare stakeholders. In addition, **CoverMyMeds** is a leader in electronic prior-authorization solutions that automate the prior-authorization process for more than 500 electronic health records systems, 49,000 pharmacies, 700,000 providers, and most health plans and pharmacy benefit managers (PBMs). Our RxBenefit Clarity solution provides patient-centric data that empowers providers and their patients with prescription price transparency data that goes above and beyond the patient's benefit, and leverages cash options as well as patient assistance programs. McKesson also develops and administers custom programs to help patients overcome barriers to medication initiation and adherence.

McKesson's unique 360-degree view of the healthcare system provides us with a distinctive vantage point. We monitor and engage in regulatory activities that present both opportunities and challenges for our company, our customers, and the patients they serve. Our company strives to ensure that our views on better healthcare prioritize what's best for the patient. Our public policy platform is driven by the core belief that the *Patient Comes First.*

Conclusion

We appreciate the opportunity to provide comments on this request for information and pledge to continue working with the Administration to promote a robust, patient-centered healthcare ecosystem that works for patients. If you have questions or need further information, please contact Fauzea Hussain, Vice President of Public Policy, at ██████████████████████

Sincerely,

██████████████

Pete Slone

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March 31, 2022

Dear Dr. Alondra Nelson,

On behalf of Medical Information Technology, Inc. (MEDITECH), I am pleased to offer comments on the *Strengthening Community Health Through Technology RFI*.

MEDITECH empowers healthcare organizations worldwide to expand their vision of what's possible with an intuitive EHR, setting new standards for usability, efficiency, and personalization. Our agile innovation is advancing the productivity of busy clinicians in 23 countries, driving positive clinical outcomes and patient experiences. MEDITECH solutions span every care setting, from acute centers and ambulatory practices, to home health and hospice, long-term care and behavioral health facilities, outpatient services, patients' homes, and beyond.

Successful Models within the U.S.

As an EHR vendor, we strongly support the adoption of industry standards and clear use cases to allow the industry to connect, communicate and collaborate more effectively. Standardization within collaborative governance models ensures that data capture and analysis are streamlined without duplication. We encourage the White House Office of Science and Technology Policy (OSTP) to consider using widespread mature standards when implementing any policy.

We have seen innovative dashboards deliver care providers real-time analysis of their patient populations. An example of this is Lawrence General Hospital in Lawrence, Massachusetts. In a busy ED, it is vital to run statistics to see where providers can improve and show how Social Determinants of Health (SDOH) impact their patient population. The dashboards assist in the quality of service the hospital provides. The dashboards at Lawrence go "well beyond tracking the average minutes a patient remains in each phase of their stay, enabling the ED to identify potential bottlenecks. It also provides targeted analysis on patients presenting with mental health symptoms and has been used to make a business case for offering addiction services."

Incorporating nursing procedures into digital health technology allows for improved nurse workflows, stratification, and better collaboration with their physician counterparts. Improvements to nursing workflows have been made over the decade; however, there is always a need to continue evaluating processes and software for ongoing advancement. We are committed to that and encourage the OSTP to audit processes and gather stakeholder feedback on new and old policies.

Collaboration is imperative to continue advancement. This is especially true when it comes to security. As the expansion of sharing patient data is needed and expected, we understand the need for securely viewing data. For the growth of interoperability of health data, OSTP must be mindful of what is available in this space and can be leveraged moving forward.

We would like to highlight additional successful models outside of the EHR: FindHelp.org and NowPow.

Barriers

In all cases, funding and lack of resources are the most significant barriers to any advancement, and that is also the case with digital health technologies. Therefore, there needs to be an emphasis on funding for technology connectivity. All over our country, people do not have access to reliable broadband; however, even if they do, some communities also do not have access to the tools to access the technology within the community or at home (i.e., computers, smartphones).

In terms of education and buy-in from the community, if people don't understand or see a benefit in using technology, they will be reluctant to participate. Case studies have identified a need for physicians treating

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patients in the Medicare demographic to consider age-related technology barriers[1]. The analysis also suggests that advanced preparation by the provider to ensure technological barriers are mitigated will enhance the interaction and increase patient satisfaction[2]. Now, we all know that physicians can not do everything. Advanced measures must include an outreach team that contacts the patient to confirm that hardware, software, internet, and other tools are functional before provider interactions. There need to be strategies to support patient advocacy within the community. Suppose there are language barriers, educational gaps, mental health, or just a lack of understanding clinical jargon. In that case, it is challenging to grasp what is required once the patient leaves a facility or appointment. Having advocates in the community that are well funded can assist in encouraging and educating patients on reliable online health information and the benefits of health technology. Bridging the Digital Divide to Avoid Leaving the Most Vulnerable Behind by Nicholas W. Eyrich, MS; Juan J. Andino, MD, MBA; David P. Fessell, MD, highlights the most prominent barriers and areas for improvement.

Trends from the Pandemic

The most significant trend of the pandemic is telehealth. As an EHR vendor, we had a telehealth solution before the pandemic, but there was minimal adoption. However, once the pandemic hit, the uptick was huge, and we were thankful to provide the services for our customers. It is necessary to be conscious of the legal and reimbursement hurdles that still affect the ability to leverage telehealth solutions fully. Differing state-by-state rules come into play, including physician licenses, pharmacists' scope of practice, and telehealth use across state lines. For example, some states allow pharmacists to renew specific prescriptions and administer COVID-19 tests while others do not. We believe that telehealth is here to stay, and we encourage OSTP to continue to push access and affordability of this service to all. Additionally, SDOH was not entered into the EHR before the pandemic; this should continue as we push for equity. We believe that more SDOH could still be collected for continued advocacy for the most vulnerable populations.

Tool and Training Needs

Funding, which could come through incentive programs, grants, and pilot programs, is essential to bring the community tools and training needed for IT support and infrastructure. Once that is set up, then data analytics can assist in better serving a patient population. We have also found that Community Health Organizations and Community Based Organizations (CBOs) that are part of a consortium are better equipped and have better access and success than those not. We also want to bring attention to the Community Health Workers (CHWs) playbook. "As advance teams in data tracking and solution delivery, CHWs can identify and address peripheral health needs if trained to recognize these needs and equipped with mobile tools for data recording and resource referral. During the pandemic, CHWs circulating through neighborhoods were able to recognize the need for additional housing referrals to eliminate overcrowding as a source of virus spread" (pg 13). Having the funding for these community organizations is essential for the continued health of our communities.

Proposed Government Actions

There are many opportunities for the Government to provide a positive change. First, there can be grants or pilot programs (0-2 years to produce) based on what technology is already available. Second, creating a resource landing page/centralized information for all government agencies so stakeholders have a one-stop-shop of information and education. Third, there should be a continued push and use of well-vetted standards when implementing programs, especially for community and rural health. We applaud the Gravity Project for the standards they are driving. We would also encourage the expansion of the Promoting Interoperability/Meaningful Use program to other care settings. This could include Skilled Nursing Facilities (SNF), Home Care, and Rehab. This program should be overarching and harmonized with standards. Money

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[1] Neville, Casey W. "Telehealth: a balanced look at incorporating this technology into practice." SAGE Open Nursing, vol. 4, 10 June 2018, p. 237796081878650., https://doi.org/10.1177/2377960818786504

[2] Scott Kruse, C., Karem, P., Shifflett, K., Vegi, L., Ravi, K., & Brooks, M. (2018). Evaluating barriers to adopting telemedicine worldwide: A systematic review. Journal of telemedicine and telecare, 24(1), 4–12. https://doi.org/10.1177/1357633X16674087

speaks, and incentives are meaningful, especially for CBOs and rural health. Finally, when starting any new data capture or reporting, the simpler the measure, the better.

Additionally, to continue supporting the industry's progress, there is a need for patient identification consistency. Understanding which patient goes with what data is imperative as we continue to drive interoperability forward. This is important for trust, privacy, security, and patient safety. There is a need for a federal privacy framework or Uniform Personal Data Protection Act (UPDPA) for consistency and which does not exist now.

Health Equity

We have addressed many topics impacting health equity; access to tools, care, the internet, education, and advocacy. However, we believe there are some additional topics to address in this section. First, there is a need for adaptive technologies, like COVID tests for the blind. Second, the understanding that there is a health belief model and having cultural sensitivity is imperative when discussing health technology. Third, there is a need for Behavioral Health and Addiction access and funding for those most vulnerable. Fourth, the focus on chronic conditions should be trying to stop the progression of a condition by tracking and analytics, perhaps even before the condition is considered chronic. Finally, we believe oral health education and services for all are substantially lacking. It is admirable that school systems provide services, but there is also a need for follow-up with guardians and the dentistry industry. We want to emphasize that **Oral Health is Health**!

International Models

As an EHR vendor who impacts and assists in healthcare worldwide, we also want to acknowledge how healthcare around the world impacts and changes us. We are proud to promote our colleagues' work in South Africa and the Middle East with an additional plug for the Promotion of Access to Information Act Manual, specific to South Africa. We encourage OSTP to listen to this podcast with two physician leaders at the Aga Khan University and Hospitals as they discuss equitable access to quality care.

This article by McKinsey & Company discusses how "the COVID-19 pandemic has highlighted—and exacerbated—the gaps in healthcare systems in lower- and middle-income countries (LMICs). However, a silver lining of the pandemic has been the growth in digital tools, with companies reporting an acceleration in the adoption of digital technology by several years."

Resource constrained innovation in a technology intensive sector: Frugal medical devices from manufacturing firms in South Africa. Science Direct highlights that "most medical devices are designed by western firms... a disproportionately high percentage of imported medical devices in low resource settings become non-functional. Despite interest from global health and innovation studies, little is known about firms in emerging markets appreciative of challenges in their home environments."

NIH's E-health in low- and middle-income countries: findings from the Center for Health Market Innovations states, "for successful implementation... more sustainable sources of funding, greater support for the adoption of new technologies and better ways of evaluating impact are required."

Finally, from our neighbors to the north, Canada understands that "health and education are closely connected, and research shows that healthy students are better learners." The Government of Canada has a whole section of its website dedicated to School Health, and Ontario has a Digital Health Playbook.

Please feel free to reach out with any questions. Thank you for your time and consideration.

March 30, 2022

ELECTRONIC SUBMISSION

Dr. Alondra Nelson
White House
Office of Science and Technology Policy (OSTP)
1600 Pennsylvania Avenue NW
Washington, DC 20500

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Nelson:

Medtronic is the world's leading medical technology company, specializing in implantable and interventional therapies that alleviate pain, restore health, and extend life. We are committed to the continual research and development necessary to produce high-quality products and innovative therapies that improve health outcomes for all patients. Medtronic's devices and therapies address over 70 chronic conditions and diseases, across four portfolios, including Cardiovascular, Medical Surgical, Neuroscience, and Diabetes.

As a technology developer, we applaud OSTP for issuing a request for information on strengthening community health through technology, and for the White House's broader interest in how innovation in science and technology can lower barriers for all Americans to accessing quality healthcare and leading healthier lives by meeting people where they are in their communities. We appreciate this opportunity to provide input, specifically with respect to what we have learned from the COVID-19 pandemic, the barriers that exist in community-based settings, and proposed actions the government may take to address those barriers.

Our experience during the last two years of the COVID-19 public health emergency (PHE) has taught us that it is vitally important for medical device manufacturers to develop and adapt technology to meet the needs of patients and providers across settings, from healthcare facilities to patients' homes. We have continuously innovated to serve patients more safely in hospital settings, for example, by developing remote management capabilities for our most advanced ventilator to help reduce worker exposure. Further, we continuously seek opportunities to meet patients' needs outside of traditional healthcare settings through advances in digital health – by using remote patient monitoring devices in new ways and by adapting other existing technologies to be used in home settings.

We also have learned that it is just as important for policymakers to modernize the mechanisms governing how healthcare is reimbursed and regulated in order to ensure patients and providers can access the technologies they need, when and where they need them. HHS has done a tremendous job through a variety of policy waivers tied to the PHE, particularly with respect to telehealth and other communication technology-enable services, to provide flexibilities needed for healthcare providers to adapt. However, significant reimbursement barriers remain in the long term after the PHE ends.

In particular, many digital health technologies that are available for use in home settings lack a clear reimbursement pathway under Medicare, as demonstrated by limitations facing remote ingestion of Medtronic's PillCam™ SB3 capsule endoscopy system. PillCam™ has been used for more than 20 years in healthcare settings as a minimally invasive, patient-friendly option for the detection and diagnosis of gastrointestinal diseases, has longstanding Medicare coverage, and has helped more than 4 million patients worldwide. On August 27, 2021, the PillCam™ SB3 capsule endoscopy system received full FDA 510(k) clearance for remote ingestion ("remote" meaning away from the provider's office or clinical setting – including the patient's home) following an Emergency Use Authorization (EUA) for remote ingestion earlier in the pandemic.

Home ingestion of PillCam™ SB3 could help to alleviate access to care problems, such as those created by physical/mobility limitations, geographic distance from the nearest provider, systemic access barriers due to health inequities, or reticence to leave home for fear of COVID-19 exposure. Home ingestion also assists in alleviating the backlog of unseen patients created by lagging in-clinic visits during the PHE, and may decrease the rate of

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subsequent diagnostic or therapeutic interventions along with future physician visits or hospitalizations by accelerating the pathway to effective treatment for individual patients.

Despite these potential advantages and the granting of permanent clearance by the FDA for home ingestion of PillCam™ SB3, patient access outside a physician office, hospital, or other traditional healthcare setting remains in doubt once the PHE is over. Although payment may be possible under the PHE policy waivers and other temporary policies CMS has put into place to combat the pandemic, Congressional action to permanently allow telehealth to originate in the home and without geographic restrictions is needed to ensure continued access to innovative technologies in community settings, along with additional legislative and regulatory actions to establish clear and predictable reimbursement pathways for PillCam™ SB3 and other digital health technologies after the PHE ends.

The COVID-19 PHE has demonstrated the need to provide non facility-based options for providing care in order to minimize exposure risks and free up facility resources to care for patients with no other options. We also have seen that even outside the context of a PHE, patients desire options that are convenient, and that individuals can be empowered to utilize healthcare technologies in their homes. Medtronic looks forward to partnering with policymakers, lawmakers, and regulators to help modernize statutory and regulatory frameworks to ensure access to digital health solutions that make it possible to serve the unique needs of patients in their communities.

If you have questions or need further information, please contact me at ███████████ or ██████████████████████████

Regards,

████████████████

Carrie Bullock
Senior Director, Health Policy & Reimbursement
Medtronic

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Subject: Request for Information (RFI) on Strengthening Community Health Through Technology

Respondent (Organization): Medtronic LABS: Medtronic's Global Health Entity

Medtronic LABS Background

Medtronic LABS is a health systems innovator that develops community-based, tech-enabled solutions for underserved patients, families, and communities across the world, currently operating in low-and middle-income countries[1]. By bridging hyper-local services with cutting-edge technology, we provide sustainable and localized healthcare solutions that produce measurable patient outcomes for all. Our team of 150 field operations experts, health coaches, clinicians, technologists, and designers support our growing portfolio of programs across 10 countries, and we have been able to improve the lives of over 35,000 patients, as defined by being in control of health outcomes.

Our focus is on non-communicable diseases (NCDs) such as diabetes, hypertension, and hearing loss. NCDs cause 71% of all deaths globally, and 85% of NCD deaths before age 70 occur in low or middle-income countries (LMICs).[2] Despite this, NCD initiatives only received 1.7% of global development funding in 2016.[3]

We believe this type of patient-centered model, particularly for chronic diseases which benefit from prolonged lifestyle and condition management, can be adapted into United States (US) settings and can help close the gap in health access and improve health equity through the convergence of technology and community care.

Medtronic LABS Model Overview

The LABS model leverages community health workers (CHWs) to expand access to care in underserved populations within resource constrained settings. Supporting CHWs is Medtronic LABS' proprietary technology to longitudinally screen, track, and manage patients while connecting them to providers and treatment. Specifically, LABS integrates partnerships and field operations along with digital technology to provide last-mile chronic disease care. This integration of field operations and partnerships allows the LABS technology to circumvent some potential barriers of low income, low education, geographic isolation, language, cultural relevance, difficulty in accessing care, and social determinants of health, essentially aiming towards closing the health equity gap. The program itself is comprised of the following activities:

1) Prevention (education modules): CHWs impart education and awareness of NCDs within the community. Education modules span topics such as diet, physical exercise, stress management, and social determinants of health, all with culturally appropriate curricula. The technology platform facilitates these activities by tracking engagement of patients and facilitating development of educational material.

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[1] https://www.medtroniclabs.org/
[2] https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases
[3] https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-021-00713-4

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2) Community screening: CHWs utilize point-of care testing (POCT) to screen community members for hypertension and/or diabetes in community spaces easily accessible by underserved populations. Equipped with POCT kits consisting of blood pressure monitors, glucometers/ test strips, scales, etc., CHWs can determine the eligibility of patients for the program and utilize the digital technology platform to capture data and make smart referrals to providers based on its advanced algorithms. These data are then accessed by clinicians remotely and asynchronously for review.

3) Personalized care plans and intervention: When patients are enrolled into the program, a more complete medical history and medical review is completed at a healthcare facility. Based on the metrics, the platform designates a personalized care plan which defines the frequency of follow-up visits and appropriate education referrals. This clinical decision support also serves as a tool for physicians to better manage and triage incoming patients.

4) Disease management: Once enrolled into the LABS' program, patients are actively managed over time. Community assessments are conducted by CHWs based on the platform's recommendations, and this allows patients to track their health metrics, remain adherent to any healthcare recommendations, and generally serve as a tool to support their post-diagnosis health maintenance journey. Tele-counselors are also employed to follow-up with any high-risk patients as an additional touch point. Patient engagement and support groups are created to disseminate tailored education material and create a further sense of community support and accountability.

Throughout all the community outreach and care, providers are also connected with the platform and able to access patient information via data, reports, or alerts and provide care as needed. The availability of data allows providers to move from reactive to proactive and then predictive care. Providers can also use the platform to write and manage prescriptions, streamlining the process of accessing medications for patients.

5) CHW capacity building: CHWs are provided with training opportunities such as disease specific education (hypertension, diabetes), country specific medical guidelines, usage of the technology platform, communication tactics, and general capacity building opportunities to further empowerment.

Combined, these elements are our infrastructure for end-to-end patient care from screening to follow-up. Bringing frequent touchpoints of care -- particularly for chronic diseases -- into communities with the involvement of providers and pharmacies addresses unequal access to health care. We point to our offering in an international setting as an example of comprehensive digital technology and last-mile, health care delivery that operates effectively in inequitable and low-resource environments.

Barriers as Medtronic LABS Looks to the US
Medtronic LABS has recently begun to apply this NCD care model in US contexts. Similar to international settings, digital health technologies are not always accessible for those most in need. These populations may lack access to smartphones or the internet,

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or there may be additional linguistic/cultural barriers or external variables (social determinants of health) which cannot be addressed by technology alone. Leveraging CHWs or other community workers is a necessary component in creating equitable access to digitally enabled care in the US.

Formalized community health worker programs, with volunteer or paid CHWs, have been in existence in the US in the 1950s and 60s, when programs were developed to support migrant workers, Native American communities, and other underserved communities through the support of the federal government and in collaboration with community-based organizations. Since then, supportive legislation in the Affordable Care Act (ACA) and the Center of Medicare and Medicaid Services (CMS) have provided additional opportunities for CHW programs to grow. [4] [5]

However, one major challenge in the US is securing sustainable funding for CHW programs. Historically, CHWs have been funded through grants. Although this gives numerous community-based organizations and clinics opportunities to employ CHW workforces, grants are issued on limited time scales (with set end dates) thus affecting long-term sustainability. Alternative payment models for CHW services include fee-for-service models, pay-for-performance (reimbursement for meeting set objectives), episode-based-payment models (reimbursement for addressing specific risk factors), per-member-per-month payments, or shared savings models taking on upside risk [6]

Another challenge is adapting international CHW models to US workforce standards. For example, countries like Kenya employ a CHW workforce through the Ministry of Health (MoH), and partnerships with the MoH can bring about opportunities to leverage existing trained, standardized workforces for novel projects and efficiently integrate into healthcare teams. This level of standardization does not currently exist in the US and leads to practices where a CHW's responsibilities range from translation services to care coordination and health coaching to medication management and remote primary care [7]. These inconsistencies in CHW programs can be confusing for traditional health care providers and result in under-utilization of CHWs.[8][9]

Conclusion
Digital health technology has the potential to improve care for all Americans. Community health workers could play a particularly crucial role in delivering access to that care among underserved populations. Programs such as Medtronic LABS' initiatives that are both community-based and tech-enabled are important models to consider when thinking about the future of health systems and care delivery in the United States.

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[4] Shah, M. K., Heisler, M., & Davis, M. M. (2014). Community health workers and the Patient Protection and Affordable Care Act: an opportunity for a research, advocacy, and policy agenda. Journal of health care for the poor and underserved, 25(1), 17–24. https://doi.org/10.1353/hpu.2014.0019
[5] https://nchh.org/resource-library/technical-brief_advancing-the-role-of-community-health-workers.pdf
[6] https://chrt.org/publication/advancing-profession-sustainability-community-health-workers/
[7] https://www.annfammed.org/content/annalsfm/16/3/240.full.pdf
[8] https://chrt.org/publication/advancing-profession-sustainability-community-health-workers/
[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5678391/

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MedVisor Mobile

Mohan Krishnan   **01/05/2022**
President / CEO
MedVisor Mobile Inc. (Minority Owned Disadvantaged Business)
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Cell: ████████████
Email ███████████████████

Request for Information (RFI) on Strengthening Community Health Through Technology

Subject: **Connected Health RFI**

From: MedVisor Mobile (Technology Developer and User of Technology)

My name is Mohan Krishnan and am the founder and CEO of Medvisor Mobile. We have BUILT the perfect solution using digital health technologies to improve community health, individual wellness, and health equity for all Americans, especially among minorities and low-income communities. We use latest technology in remote patient monitoring, health trackers, mobile devices and mobile health app.

Successful model within US and tools used

We have developed a Mobile App that works with all computers, laptops, tablets and iPhones. This involves using the state-of-the-art technology such as, application of Large Data Integration (structured & unstructured), Rules Algorithms, Anomaly Detection, Predictive Modeling, Social Network Analysis, Big Data Analytics, Machine Learning, Artificial Intelligence, Artificial Neural Networks, Deep Learning, etc. It uses SAS Fraud Framework & Predictive Analytics. Our technology is PATENTED in US and abroad!

Our Mobile App provides a SECOND set of eyes to keep you healthy. What we have is like your home alarm system but is much better, because it is interactive and IS your personal assistant! We have a **patented** mobile app that provides diagnostics and real-time alerts for mental illness and 10 other common diseases: sexual trauma, somatic (pain), dizziness, cardiovascular, gastrointestinal, fatigue / sleep, Tobacco / Alcohol, PTSD, Depression, Anxiety and Insomnia. Soon, it will be capable of providing screening for many of these additional diseases: Alzheimer's, Arthritis, Asthma, Cancer, Colitis, Coronavirus, Diabetes, Lymphoma, Melanoma, Meningitis, Parkinson's, Rheumatism and Schizophrenia.

User Experience

This mobile app is currently being used by millions of veterans with PTSD and other mental illness. Our team has top experts in healthcare analytics, and over $1.5 million was spent in developing this app.

Proposed Government Action

Government should provide this APP to people FREE of cost, and should pay a user fee to MedVisor Mobile like $5/month/user to download the App in their mobile device such as iPhone, Tablet, etc.

Health Equity

For me to bring this technology to the community is personal. Very personal! Recently, my wife's stage 4 breast cancer was discovered accidently, although mammograms were performed for many years before

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that. Also, she was not aware that her medications were not preventing the spread of the tumor to other parts of the body. This happened because she was kept out of the loop in seeing the test results in her medical file, and therefore was not provided with medical alerts when things were not going properly. Also, I know that if the App was available earlier, it could have helped me with my heart condition medication errors. So, if I can also help others get good diagnosis and medical alerts during the early stages in their sickness / disease, I would have contributed to humanity in a big way. That is why I want to bring the benefits of this technology for all Americans, especially the underserved population. This will provide health equity to large underserved populations because every low-income person has a mobile phone based on OBAMA PHONE program (https://www.obamaphone.com/).

In designing the mobile App platform, MedVisor has followed the recommendations of the American Medical Informatics Association (AMIA) and the guidelines from the Office of the National Coordinator for Health Information Technology (ONC) Health IT Certification Program. This voluntary certification Program was established by the ONC to provide for the certification of health IT. So, we will have the mobile App software certified by the ONC Heath IT office. Also, in line with the Health Insurance Portability and Accountability Act (HIPAA), accessing electronic health records will require inputting passwords, pin numbers and other forms of encryption to ensure patient privacy.

MedVisor's mobile App can be referred to as a trusted second set of eyes and ears running in the background. Our Mobile App will find critical moments before they happen, and helps physicians administer the right care, at the right time and to the right patient.

KEY PERSONNEL

Mohan Krishnan M.S., MBA (Founder & CEO)
Mohan has over 35 years of experience working in the Government and Private sectors. Mohan Krishnan has worked for several Defense contractors like General Atomics, B.F. Goodrich, Boeing and McDonnell-Douglas. His company 'SOFTCOMM', provides Engineering and Software Development services to government and commercial vendors. He has also served on the Management / Board of several San Diego non-profit organizations such as Armed Forces Communication and Electronics Association (AFCEA) and San Diego County Credit Union.

Ms. Jana Gunn M.S.
Jana, Director of Data Science at UnitedHealth Group. A graduate of University of Illinois at Urbana-Champaign (Master's degree in Predictive Analytics) and Northwestern University. Jana has over seventeen years of experience in the Healthcare Industry. Her expertise is in data science, social determinants of health, ethical AI, consumer analytics, clinical analytics, and financial risk assessment and mitigation. Jana is certified as Professional Ethical Emerging Technologist.
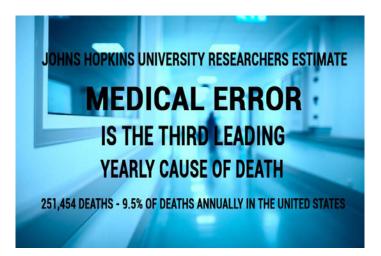
Also, MedVisor Medical has several local Medical Doctors who serve in the Board of Advisors.

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Attn: White House Office of Science and Technology Policy
February 24, 2022
RE: Connected Health RFI

For over a decade, MetaStar, Inc., a not-for-profit quality improvement organization, has supported advancement in health outcomes through the use of health information technology (IT). Providers in various settings, such as primary care, behavioral health, dental, and other specialties, have received individualized technical assistance from MetaStar through the Wisconsin Health Information Technology Extension Center (WHITEC) and the subsequent Wisconsin Medicaid Health Information Technology Extension Program.

Through WHITEC, MetaStar served as one of 62 Regional Extension Centers (RECs) funded through a cooperative agreement with the Office of the National Coordinator for Health Information Technology (ONC). The purpose of the RECs was to assist primary care providers in the adoption and meaningful use of electronic health records. Through the efforts of WHITEC, MetaStar assisted 2,078 Wisconsin providers to meet these goals.

In 2015, WHITEC transitioned to the Wisconsin Medicaid Health Information Technology Extension Program. The program provided support to Medicaid-enrolled providers and organizations with health IT-centric projects, including Promoting Interoperability (PI), and MetaStar assisted healthcare professionals and consumers of health care to use health IT to access the right health care information at the right time across the care continuum. MetaStar collaborated with the Wisconsin Department of Health Services' (DHS) eHealth Program to provide these services to 1,591 eligible providers across a wide range of specialties and care settings serving Wisconsin's most underserved populations, including tribal health centers, Federally Qualified Health Centers (FQHCs), county and county-contracted behavioral health clinics, and small, independent practices.

MetaStar submits the following comments on unaddressed barriers and proposed government actions related to the optimal use of digital health technologies, based on our longstanding relationships with providers in Wisconsin.

Barrier 1: Disparities in Electronic Health Data Literacy

The 2021 Wisconsin Governor's Task Force on Broadband Access[1] reported 42.2 percent of all low-income households did not have a subscription to broadband of any type. Additionally, only one in four Wisconsin Black Americans (24 percent) and one in five Native Americans (21 percent) did not have any type of broadband subscription at home as compared to one in eight whites (12 percent). Many patients in disadvantaged and rural communities not only lack access to broadband, but also have lower adoption to technology in general contributing to a lack of electronic health data literacy. Although many disadvantaged and rural communities are in the

process of gaining increased access to broadband through recent federal investments, such as the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) and American Rescue Plan Act (ARPA), this investment in infrastructure does not address the gaps in patient and provider digital health literacy that persist in these communities. To realize the benefits of electronic health information, patients and health care professionals need to feel comfortable with the use of technology. This includes rights and responsibilities to use, exchange, and safeguard personal health information.

The disparity in digital health literacy became particularly evident through our experience working with tribal health centers through the Wisconsin Health IT Extension Program. In spring 2021, MetaStar conducted interviews with nine tribal health centers to inform the State Health IT Plan. An assessment of these tribal health centers' health IT maturity showed a clear gap in patient use of health IT as compared to overall program participants (25 total practices were evaluated, including the nine tribal health centers). For example, only 10 percent of the tribal health centers assessed (i.e., one clinic) reported 50 percent or more of their patients used a patient portal, as compared to 28 percent of all practices assessed. Only 10 percent of tribal health centers assessed (i.e., one clinic) reported patients had the ability to access their information through an application program interface (API) as compared to 48 percent of all practices assessed. Like other health care organizations, tribal health centers dramatically increased telehealth visits during the pandemic, yet they reported to MetaStar they relied heavily on audio-only encounters; only recently have they transitioned to telehealth platforms, due to the lack of broadband, device availability, and staff resources.

Barrier 2: Lack of Interoperable Systems between Behavioral Health and Primary Care

Behavioral health providers are an integral part of whole-person care. As we seek to continue the integration of behavioral health care into primary care, the need for expedient exchange of patient health information between behavioral health practices and traditional medical clinics is imperative. The Medicaid and CHIP Payment and Access Commission (MACPAC) points out that, "In 2018, non-institutionalized adults with any mental illness who were enrolled in Medicaid reported having a co-occurring physical health condition over the course of their lifetime at higher rates than those with private coverage."[2] This highlights the need for a more interoperable system of care in which the exchange of patient information occurs reliably between behavioral health and medical providers, while managing health information with special protection, such as substance use disorder (SUD) information.

From March 2020 through September 2021, MetaStar worked with 29 Wisconsin county behavioral health clinics and county-contracted behavioral health organizations to broadly improve their health IT maturity. To assess IT maturity at these organizations, MetaStar developed a health IT assessment tool. The assessment tool revealed a wide disparity in the use of certified electronic health records (EHRs), patient electronic engagement, and telehealth, with

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little interoperable exchange of data, including low participation in the state's health information exchange. Most organizations recognized they were not able to function effectively in value-based care models, lacking the digital technology common in other areas of the healthcare system. Behavioral health practices, especially smaller independent practices, "were mostly left out of federal programs offering incentives to spur adoption of health information technology and EHR platforms."[2] Therefore, they were often working with an EHR or medical record system based on what they could afford instead of one that had features to maximize interoperability or capture data to improve quality.

Additionally, COVID-19 forced many county behavioral health organizations to rapidly implement telehealth. Most had little or no experience with telehealth prior to the pandemic. Telehealth is continuing to evolve as these practices are now working to develop hybrid approaches to providing care based on the needs of individual patients. Workflows for triaging of patients into the best approach to fit their medical needs are being developed, and models of care that will incorporate both in-person and telehealth modalities need to be implemented, but many of these organizations lack staff with the skills and experience to design optimal systems.

Proposed Government Actions

MetaStar supports additional funding for programs that prioritize addressing these health disparities. Regional Extension Center-style programs that prioritize direct technical assistance for small, underserved, rural health care organizations and their patients are needed to bridge the digital divide that exists between those who have technology and the expertise to leverage interoperability to improve patient outcomes and those who do not. From our experience, these practices are often poorly resourced and benefit greatly from one-on-one ongoing assistance from a trusted advisor. An advisor is needed to help practices and their patients understand the full range of health IT benefits vs. short term, immediate goals.

Respectfully,
Mona Mathews
Program Manager
MetaStar, Inc.

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White House
Office of Science and Technology Policy (OSTP)

Response to Request for Information (87 FR 492)

STRENGTHENING COMMUNITY HEALTH THROUGH TECHNOLOGY

Submitted to: Jacqueline Ward
Date of Submission: February 28, 2022

Prepared by:

Mettle SOLUTIONS

An SBA Certified 8(a) Business

POC: Melanie Combs-Dyer (Director of Innovation)
10320 Little Patuxent Pkwy, Suite 233-02, Columbia, MD 21044

DUNS Number: 079346709 | **FEIN:** 27-4746158 | **Cage Code:** 7NKX3 | **NAICS Code:** 541990

Mettle Solutions believes there are 3 key initiatives that OSTP should immediately undertake to improve the Community Health infrastructure in America:

1. Help healthcare providers give **Good Faith Estimates** of costs to their patients.
2. Build **Corp of Case Managers** to help patients/clients navigate America's complex health care system.
3. Build the infrastructure for **Health Action Plans** that a patients/clients could securely set up on the device of their choice (cell phone, tablet).

Below are more details about each of these community health infrastructure improvements.

	GFE[1]s	Case Manager Corp	Health Action Plan
Definition	A Good Faith Estimate is what a healthcare provider gives to a patient to let them know how much they will have to pay to obtain them item or service being recommended by the provider.	Case Managers could help patients navigate the health care system by: 1) scheduling visits, 2) arranging transportation, and 3) reminding the patient about other actions items listed on the Health Action Plan. The case manager would	A Health Action Plan would be the patient's version of a care plan but focused on the action steps that need to be taken by the patient (such as scheduling a test, exercising, or eliminating fried foods from one's diet). Once standards are established, a person's HAP could be accessed from any

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[1] GFE = Good Faith Estimate

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		be paid by the insurance company and would stick with the patient even when they change health insurance companies.	device and by anyone the patient approves to see it.
Successful Models in the U.S	A successful model of Good Faith Estimates is the US **mortgage industry**. The lending institution is required to give the borrower an estimate of the closing costs associated with the loan being issued.	Medicare "**Conditions of Participation" (CoPs)** for health care facilities has been a successful model for allowing the private sector to deliver care while ensuring strong oversight to minimize fraud and ensure high quality of care. The white house could issue an executive order directing CMS to establish CoPs for the Case Manager Corp.	A successful model of allowing people to collect health information from their provider's medical records is **Apple Health Kit.**
Barriers	• Resistance from some healthcare providers • Resistance from many insurance companies	• Some insurance companies may resist this idea.	It is too hard for patients find health apps with Health Action Plan functionality that are connected to: a) their health care providers, b) their insurance companies, c) their Medicare "Blue Button" data
Trends from the Pandemic	Although the lack of patient cost transparency, case managers, and health action plans was a problem before 2020, the pandemic highlighted the need for all three.		
Tools and Training Needs	**Healthcare providers need a tool to find EHR[2] apps** that help them create GFEs for their patients	The new corp of case managers may require special orientation to the program.	**Patients/clients need a tool to find mobile device apps** that help them receive GFEs, find case managers and create Health Action Plans.
Proposed G'ment Action	• Congress or HHS[3] should require certified EHRs to waive set up fees for FHIR[4] apps that meet the patient	• Build a network of case managers that are easily discoverable from patient health apps.	Create a **Patient-App Matcher** platform. • Encourage <u>providers</u> to specify on the platform which patient apps they are connected to.

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[2] EHR = electronic health record
[3] HHS = the Department of Health and Human Services
[4] FHIR = fast healthcare interoperability resources

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	cost transparency standards.
	• Encourage the Medicare FFS program to develop the systems needed to respond instantaneously to GFE requests from healthcare providers.
		• Establish CoPs such as (must be a social worker licensed in the state where the patient/client resides most of the time)
		• Create a directory of FHIR endpoints for all Medicare-enrolled case managers, healthcare providers, and insurance companies
		• Make it easy for social workers to get enrolled in Medicare.
		• Congress or HHS should require certified EHRs to waive set up fees for FHIR apps that meet the electronic referral standards.
			• Encourage federal, state or county public health officials to give a star rating to each app to indicate the number of social service providers (e.g., meals on wheels) that are connected to the app
			• Require health insurance companies to specify on the platform which patient apps they are connected to
			• Require the app maker to specify (in a filter-able manner) whether their app contains the following functionality:
			  ○ Contains a **Health Action Plan**,
			  ○ Can receive **GFEs** from providers (to allow the patient/client to shop for the best price)
			  ○ Can **buy a medical item** (or schedule a medical test/procedure) that has been ordered by their PCP directly from the app,
			  ○ Can connect to local **social service organizations**.

Health Equity	Healthcare GFEs would provide a much-needed cost transparency to all patients seeking medical care, especially people with low incomes.	A corp of case managers that can follow a patient across health insurance transitions would provide helpful assistance to all patients -- especially people with low incomes or other social determinants of health.	Although Health Action Plans may provide helpful reminders to all patients/clients, they may be especially helpful to people who have challenges understanding or remember what a healthcare provider has suggested they do (such as people with dementia, a medical condition that causes "brain-fog," or those who do not speak English.)

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From:	Porsche Fischer ███████████████████
Sent:	Thursday, March 3, 2022 4:36 PM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Strengthening Community Health Through Technology
Attachments:	image004.png

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Purple Category

Hello,

I received information that you were requesting input on how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

We are working on that in several ways at MiCHWA, the first is the creation of a training program to cross-train Community Health Workers (CHWs are trusted members of the local community who act as a liaison between managed care organizations/ large-scale interventions and local community members) to become Community Tech Workers (CTWs). As CTWs, they can then help members of vulnerable populations in underserved communities to bridge the digital divide and increase their digital health literacy by teaching them how to overcome the intimidation of using technology and use basic computer and mobile device skills to access health programs and communications.

The second way is by creating climate change training resources for CHWs in Canvas's online learning system. As previously mentioned, CHWs are trusted community members serving as liaisons for sharing important public health information. The training program we created addresses emerging climate change issues and utilizes technology to increase awareness about climate change for CHWs in a virtual environment, specifically mobile devices. We focused on following health literacy guidelines like plain language, simple concepts, colorful matching exercises, assistive technologies, interactive activities, engaging infographics to make this virtual training accessible to CHWs. Creating a user-friendly CHW Toolkit of resources to replace technical, scientific, environmental jargon will help increase the understanding of the CHWs and increase their confidence in sharing how climate change impacts can affect the vulnerable population members in their communities.
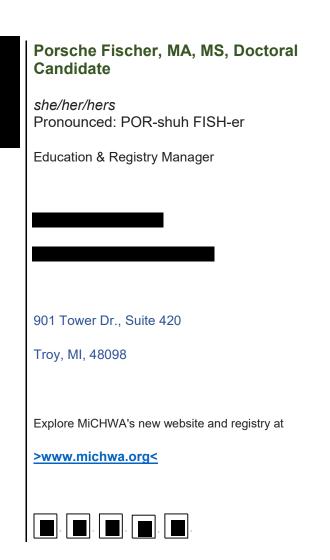
The climate change content we wanted to share with CHWs was quite technical, so we advocated adding CHWs to our development team to assist with digital content creation. We also recommended using public health literacy guidelines to help the team create educational materials that prioritized appropriate health literacy and numeracy levels to create accessible ways to understand more complicated, technical, and academic resources. The team now intends to share what they learned through working with CHWs during the course creation process to benefit others. We have identified the benefits of including CHWs in creating, reviewing, and pilot-testing health equity educational content intended for CHWs to enhance engagement, increase participation, and improve completion rates. We also hope to share ways to follow health literacy guidelines when creating online educational content specifically for community health workers who work to increase health equity for vulnerable populations.

Please let me know if you would like to learn more about any of the work that we are doing at MiCHWA.

Hugs,

Porsche

Porsche Fischer, MA, MS, Doctoral Candidate

she/her/hers
Pronounced: POR-shuh FISH-er

Education & Registry Manager

901 Tower Dr., Suite 420

Troy, MI, 48098

Explore MiCHWA's new website and registry at

>www.michwa.org<

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Co-Designing a Digital Innovation to Foster Identity Affirmation, Wellness, and Better Mental Health Outcomes for LGBTQ+ Teens

Response to the White House Office of Science and Technology Policy RFI on Strengthening Community Health through Technology prepared by: the milk collaborative, a partnership between [Hopelab](#), [CenterLink](#), and the [It Gets Better Project](#). February 28, 2022.

It is well established that LGBTQ+ youth have disproportionately high unmet health and mental health needs when compared to their counterparts who are cisgender and heterosexual, yet have been long neglected in healthcare, policymaking and research. Longstanding disparities faced by this community – such as compound effects of stigma and discrimination and increased risk of depression, anxiety, substance use and suicide – have been exacerbated by the pandemic (Fish et al., 2020; Ormiston & Williams, 2021). Now more than ever, we can rise to the occasion for our nation's LGBTQ+ youth and move the needle on health equity – especially as the number of LGBTQ+ identifying people in the U.S. continues to increase (Jones, 2022). We, the milk collaborative – a partnership of community-based organizations, academic researchers and technology developers – have designed our latest digital tool with this goal in mind.

There is a dearth of support tools or programs designed specifically for LGBTQ+ youth; even when available, they may be inaccessible to teens due to negative consequences of being outed to parents, peers or other members of their communities. Additionally, physical distancing stemming from the pandemic resulted in loss of in-person social connections for some LGBTQ+ youth as they were confined to home environments offering less support (Fish et al., 2022). Many sought relief online where, as noted in GLAAD's 2021 Social Media Safety Index, nearly two-thirds (64%) of LGBTQ+ social media users reported experiencing harassment and hate speech. The report, the first-ever baseline evaluation of the LGBTQ+ user safety experience across social media, summarizes the landscape as follows: "The prevalence and intensity of [LGBTQ+] hate speech and harassment stands out as the most urgent problem" (GLAAD, 2021).

Minority stress theory proposes that sexual minority health disparities can largely be attributed to stressors induced by a homophobic and hostile culture, which can result in harassment, victimization, internalized homophobia, expectations of rejection and more (Meyer, 2003; Williams and Mann, 2017). It is therefore critical that we develop and deploy additional evidence-informed, digital tools for LGBTQ+ youth to explore and affirm their identities – tools that can be easily found and accessed online by those who may not be able to be safely out at this time. While effective tools based around crisis events do exist, there are fewer non-crisis based support tools with multiple options to meet users where they're searching, to help cope with minority stressors on a regular basis.

This is where imi comes in: imi is a new free, digital, science-backed mental health tool designed to support, bolster and improve the mental well-being of LGBTQ+ youth. With imi, tech is providing a supportive lifeline to help LGBTQ+ youth through the online minefield; here, they can learn coping skills, hear stories from members of their community and explore resources designed to affirm their identities and boost mental health. The online tool covers specific

topics such as minority stress management, navigating intersectional LGBTQ+ identities, unpacking internalized stigmas like homophobia or transphobia and better understanding and exploring one's gender identity and expression. A randomized controlled trial (RCT) of imi was recently conducted in partnership with the University of Pennsylvania and we are preparing for national launch of the tool in June 2022.

We've co-created and co-designed this digital health intervention in collaboration with the LGBTQ+ youth community, those we hope to reach. More than 350 LGBTQ+ youth have contributed to the design since the project began in 2020; the majority (61%) of these youth self-identified as racial/ethnic minorities. Last year, to ensure imi would be relevant and useful to QTBIPoC (Queer, Trans, Black, Indigenous, and People of Color) teens, we expanded the scope of our youth co-design and feedback program to include additional QTBIPoC-led organizations and youth who could help us identify ways to improve the tool and make it more relevant and impactful for those facing multiple marginalized identities.

Youth who helped to co-create and test imi indicate that the tool has been meaningful to them. As one teen from Georgia told us, "It helped me see myself in a different light...my self-loathing for being a part of the community is because it's been internalized due to my environment." Another teen from Connecticut said, "I found [imi] both informative and affirming. I think that learning about others who have had similar experiences with their sexuality is a great way to come to terms with one's own sexuality, and the stories and activities on imi helped to facilitate this. I would certainly recommend it to other LGBTQ+ teens struggling with their identities."

In designing our RCT for imi, we sought to ensure that our results generalize to youth most impacted by minority stress, and selectively oversampled BIPoC and transgender or gender non-conforming teens. Our study sample of 270 LGBTQ+ youth was majority BiPoC (78%) and transgender or gender expansive (60% gender other than cis), with 90% survey completion at 4-week follow-up assessments. Preliminary analyses are promising; findings cannot be shared at this time as they are pending peer review – anticipated this spring, with manuscript to follow.

imi's R&D process was guided by the importance of working with those embedded in LGBTQ+ youth communities, serving individuals with multiple intersections and marginalized identities. Over the last two years, we've held a series of feedback sessions with Black and Latine LGBTQ+ youth and the organizations that serve them. This allowed us to gather and integrate specific input from these communities in an iterative development process. For example, feedback sessions led us to prioritize interactivity to optimize user attention and engagement. And we learned that youth want to personalize their experience through customization, contribution and connection – which help them to better "see" themselves in the tool. Finally, not having enough specified representation across content can lead to unrelatability or a missing sense of belonging; feedback helped us understand the need to make sure youth are shown a true diversity of people across race/ethnicity, sexual and gender identities, body types and abilities.

We know that imi can only be effective in supporting LGBTQ+ youth if they're able to access and use the tool. imi will launch this June in honor of Pride, and our long-term goal is to get imi to

100,000+ LGBTQ+ teens across the U.S. That's why we prioritized planning for distribution from project outset, rather than at the end of our development process. From the start, we've partnered with LGBTQ+ centers as collaborators to inform imi's design and development. We've held ongoing, open dialogue with community organizations to understand how they work with, interact with and have regular touchpoints with LGBTQ+ youth, and to better understand which distribution channels are likely to show the most promise.

It is our vision that imi's launch will reshape the experience of health and mental health for today's LGBTQ+ teens, who are too often expected to navigate their daily experiences alone or without adequate resources outside of crisis. Feedback from our nearly 300 study participants has already demonstrated the positive impact imi can have, praising imi for being relatable, uplifting and identity-affirming. Without a doubt, these results are due to how we've constructed imi's DNA: through co-creation, co-design and distribution processes honed in collaboration with the LGBTQ+ youth community we're serving. Co-creation with end users, partnering with community-based organizations and planning for distribution as part of the design process are essential elements to consider when utilizing digital health interventions to transform community health and work towards health equity.

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Erica Bates, M.S., CCC-SLP, CBIST
Vice President of Services
Minds Matter, LLC
HCBS BI Waiver Service Provider-Kansas
(Community-Based Rehabilitation Organization)

Topics Included in Response: Successful models within the U.S., Barriers, User Experience, Proposed government actions, and Health Equity

I conducted a program evaluation in the summer of 2020 following Appendix K allowances due to the pandemic. Each of the response areas indicated above are addressed this evaluation and the following narrative.

The Kansas Home and Community Based (HCBS) Kansas Brain Injury (BI) waiver program is designed to provide both rehabilitative services to Kansas between the ages of 0 and 65. The BI waiver focuses on independence and community-based living by gaining or re-learning lost independent living skills because of acquired or traumatic brain injury. Participants on the BI waiver engage in intensive rehabilitative therapies that include physical, occupational, speech-language, cognitive and behavioral therapies. Additionally, participants or consumers can access transitional living skills, personal care services, assistive services, medication reminder services and home delivered meals. Consumers develop person-driven goals in collaboration with their therapy team and Managed Care Organization (MCO) to achieve functional goals that impact day to day life. Examples of independent living goals range from transferring, dressing and grocery shopping to employment, driving and having meaningful relationships. Rehabilitative services are provided in the consumer's natural environment (i.e., the home and community).

In 2015 alone, a traumatic brain injury was sustained by 21,187 people in Kansas (KDHE, 2015). Inequities are noted in access to rehabilitative services for people with brain injuries (Foster and Tilse, 2003). In 2014, the Disability Rights Center of Kansas (DRC) and the University of Kansas Research and Training Center on Independent Living (KU RTC/IL) partnered to improve the outcomes of those with BI in a more effective manner (DRC and KU RTC/IL, 2014). One of their key recommendations to policy makers was to ensure an adequate network of brain injury service providers is available across the state. In some parts of Kansas, these specialized services are not readily available (DRC and KU RTC/IL, 2014). This resulted in the KanCare Oversight Committee developing provider network adequacy standards for HCBS and Behavioral Health (BH) services in 2018 (KanCare, 2018). Despite these cumulative efforts, consumers in some areas of the state continue to access the BI waiver without participation in rehabilitative services due to the lack of providers.

In response to COVID-19, the Kansas Department of Health and Environment (KDHE) and the Kansas Department for Aging and Disability Services (KDADS) allowed HCBS BI waiver therapies to be provided via telephonic and tele-video delivery methods. BI waiver providers were able to provide services to consumers in areas that were previously void of providers. Perceived benefits of this approach include accessibility and convenience, time and cost efficiencies, and user autonomy (Ownsworth et al., 2020). Due to the recent pandemic, the medical community and those in the healthcare sector are beginning to see telemedicine as a viable tool (Latifi and Doarn, 2020). Given

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that this method of service delivery is new to providers and program participants, an assessment of effectiveness, consumer satisfaction and provider perspective was needed. Information obtained was used to better understand the benefits and drawbacks of teletherapy; ultimately leading to program improvement.

Evaluation question
Are consumers and providers satisfied with rehabilitative services provided via teletherapy on the KS HCBS BI waiver?

Criteria:
75% of survey respondents agreed or strongly agreed that teletherapy technology is reliable and easy to use.   75% of survey respondents agreed or strongly agreed to being satisfied with services.   75% of survey respondents identified teletherapy as an effective method of service delivery.

Data Collection:
Data collection occurred between the dates of June 25, 2020, and July 10, 2020. Two surveys containing 10 equivalent questions each, were distributed to two separate respondent groups. Additionally, each survey contained an open-ended text box for respondents to share feedback. The first survey was distributed to 130 consumers on the BI waiver and the second to 121 therapists providing rehabilitative services to waiver participants. The surveys were designed to assess the perception of teletherapy specific to these groups. Questions assessed: - Perceived Effectiveness (i.e., in general and compared to in-person sessions)   - Reliability and Usability of Technology   - Progress Made While Using Teletherapy (i.e., on at least one goal)   - Satisfaction   - Perceived Effectiveness of Tele-Video Sessions   - Perceived Effectiveness of Telephonic Sessions   - Inclination to Use Teletherapy Following the Pandemic   - Perception of How Well-Suited Individual Therapy Disciplines Are to Teletherapy   37 open-ended responses were reviewed and then coded into representative categories. The categories and associated number of respondents are as follows: - Difficulty with Technology or Connectivity-7   - Good Alternative When In-Person Isn't Available-19   - Some Therapies Are Better Suited Than Others-6   - Best to Meet In-Person At Least Once-2   - Benefits (Results, Productivity, Higher Comfort Level)-3

Data Assimilation:
Criteria 1: 75% of survey respondents agreed or strongly agreed that teletherapy technology is reliable and easy to use. **Not Met**.

70% of survey respondents agreed or strongly agreed that teletherapy technology is reliable and easy to use.

Criteria 2: 75% of survey respondents agreed or strongly agreed to being satisfied with services. **Met.**

76.67% of survey respondents agreed or strongly agreed to being satisfied with services delivered via teletherapy.

Criteria 3: 75% of survey respondents identified teletherapy as an effective method of service delivery. **Met**.

82.76% of respondents identified teletherapy as an effective method of service delivery.

Since the conclusion of this program evaluation, teletherapy has continued as a method of service delivery as approved by Appendix K. Ongoing collaboration between the State, MCOs, and Minds Matter, LLC has resulted in a new technology pilot for a large group of BI waiver consumer. Minds Matter, LLC continues to accept referrals and provide rehabilitative therapies to individuals statewide. This would not be possible without the opportunities teletherapy has supplied. Immediate government action is needed to allow continued teletherapy access on HCBS BI waivers.

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4

BUILDING HEALTHY COMMUNITIES

Exploring Why Social Determinants of Health and Community Collaboration Matter for Healthy Communities

University of Missouri's new Building Healthy Communities ECHO provides a shared learning and relationship building opportunity for communities to work collaboratively for optimal health and well-being. A team of experts in social determinants of health, health equity, community outreach, health policy and community development will offer online learning sessions **every second Wednesday of the month from 10 to 11 a.m.**

HOW THIS ECHO WORKS

Participants will join the expert team in case-based learning via videoconferencing. Together, they will:

- Participate in a learning community to build relationships, share experiences, and work collaboratively to build healthy communities.
- Develop confidence in understanding and using University of Missouri Extension's comprehensive framework for health equity and well-being.
- Understand, prioritize, and integrate health equity and social determinants of health in plans for community collaborations.
- Strengthen local collaborations and access to tools and resources for building healthy communities.

WHAT DOES THIS ECHO OFFER?

- Free continuing education for professionals
- Collaboration, support and ongoing learning from specialists in building healthy communities
- Residents get better support in their communities
- No cost to participating sites or individuals

READY TO JOIN?
Visit showmeecho.org

MEET THE EXPERT TEAM

Shannon Canfield, PhD, MPH
Social Determinants, Health Equity
University of Missouri School of Medicine

Rachel Buenemann, MS, RD
Extension, Policy, System and Environment
University of Missouri Extension

Sarah Hultine Massengale, PhD
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Community Health, Health Equity
University of Missouri Extension

Sherry Lea, BS
Community Coalition
Council for a Healthy Dent County

Tracy Greever-Rice, PhD, MS
Social Determinants, Health Equity
University of Missouri Center for Health Policy

TOPICS FOR LEARNING AND DISCUSSION

- What is community health?
- Empowering communities
- Equity and social determinants of health
- What is a coalition?
- Strategic planning, asset mapping, identifying goals, assessment measures, and identifying health needs with data
- Implementation
- Outcome evaluation
- Extension programs and other resources

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Response of the MITRE Corporation to OSTP's RFI on Strengthening Community Health Through Technology

March 31, 2022

For additional information about this response, please contact:
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The MITRE Corporation is a not-for-profit company that works in the public interest to tackle difficult problems that challenge the safety, stability, security, and well-being of our nation. We have no commercial pressures to influence our decision-making, technical findings, or policy recommendations. MITRE operates multiple federally funded research and development centers (FFRDCs), including the CMS Alliance to Modernize Healthcare[i]. MITRE provides the nation with world-class expertise for health and human services, including clinical quality, information technology, standards and interoperability, digital health, informatics, public health, biomedical innovation, health systems, and communication and strategy.

The technologies and capabilities referred to collectively as "digital health" can be the cornerstone for timely, effective preventive health services, as well as virtual and in-person clinical and behavioral health services, to address social determinants of health and public health. However, there is a risk that aggressive proliferation of digital health will worsen conditions for those who are already behind in terms of connectivity, digital literacy, and access to care. Any focus on advancing the capabilities and utilization of digital health technologies needs to be done within, and in support of, a comprehensive national strategy for digital health.[ii] MITRE's prior analysis led us to conclude that such a comprehensive strategy must systemically link activities at three levels: national, community, and individual/family. We crafted a strategic framework[iii] comprising six priorities: **Form a connected health ecosystem** defined by timely, secure data exchange; **Empower individuals** with stronger rights to data ownership and digital literacy resources; **Grow digital equity to achieve health equity**, with affordable access and integration of equity throughout the solutions development cycle; **Strengthen community health** by institutionalizing timely sharing of integrated data; **Build a workforce** with technology skills and that represents the evolution of care delivery; **Establish artificial intelligence** as a trusted cornerstone of digital health. We answer a subset of the RFI's questions (due to the RFI's page limit for responses) from this national digital health strategy perspective. We believe that doing so will be helpful to OSTP, as it has similarly stated that the RFI is itself a subcomponent of a broader "Community Connected Health" initiative.

Question 1: Innovative examples of community health providers using digital health technology to deliver healthcare, enable healthier lifestyles, or reduce health disparities.

Digital health technology is enabling the delivery of care to people at the point of need, wherever and whenever it fits into their lives. Active partnership among patients, providers, and community health workers is key to success. A team-based approach empowers everyone involved and leads to better outcomes, as demonstrated by the Accountability, Coordination, and Telehealth in the Valley to Achieve Transformation and Equity (**ACTIVATE**) program. ACTIVATE is helping community health centers and their patients in rural California communities improve access to care by leveraging the use of remote patient monitoring (RPM) devices for hypertension and diabetes to share data back to healthcare providers. The RPM data and technology impact are enhanced by empowering patients with health coaching (from medical assistants and community health workers) to encourage self-management of chronic conditions with the support of technology and collaboration with their providers. ACTIVATE further supports the integration of technology into health center workflows with the use of video virtual visits, tablets, connectivity, and digital and health literacy tools. ACTIVATE appears to be a model worth scaling up; it has demonstrated better clinical outcomes, patient engagement, provider enthusiasm, and equity.[iv]

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Many digital health innovations are aimed at ensuring there is capacity to flex under an emergency and extend to deliver care in austere circumstances. **NETCCN**, a cloud-based health information management system that enables care delivery from "anywhere to anywhere," was developed by the U.S. Army to support local, non–critical care trained clinicians with remote critical care expertise in emergency and/or austere circumstances.[v, vi] **VA ATLAS** Telemedicine Pods/virtual care stations ensure local provision of care where access would not exist otherwise.[vii]

The nation must grow a healthcare and public health workforce with the appropriate mix of skills to ensure that the relationships between caregiver, patient, and community health worker are dynamic and self-reinforcing. The pandemic forced a greater reliance on non-traditional care providers, such as community navigators and unpaid family members and friends. Promising areas of digital health to support the formal and informal care team include mobile applications to organize administration of medications, remote patient monitoring, facilitation of communication and coordination among care providers, and sharing of documentation of palliative and end-of-life care preferences and decisions.[viii] An example of an innovative approach to building community-based skills is serious games[ix] such as **Now We're Talking**, which is designed to prevent veteran suicide and homelessness by engaging veterans and their families in a game of building emotional intelligence and communication skills.[x]

Question 3: How has the use of digital health technologies changed over the course of the pandemic, including impressions of what is likely to continue, or not?

As the nation learned in the pandemic, we can expect an increasing frequency of large-scale infectious disease outbreaks, particularly of respiratory viruses, with costly impacts on mortality, the workforce, the economy, and the mental well-being of our nation. To be prepared for this "new normal," we need a true, dynamic learning health system. Data is the fuel for a learning health system, starting at the community level and rapidly consolidated and shared to inform proactive public health. Innovations that emerged in response to COVID-19 provide building blocks for a learning health system. Tools like **Sara Alert** generate timely data needed by public health agencies and reduce the burden of data collection.[xi] The volume and velocity of data require a robust system of networks to enhance data capacity for public health surveillance and research. **The Clinical and Community Data Initiative (CODI)** provides a framework for local and national stakeholders to collaboratively develop a distributed health data network infrastructure.[xii] CODI demonstrates innovation in several key challenge areas: (1) privacy-preserving record linkage, (2) distributed clinical-community longitudinal queries, and (3) governance for data sharing across sectors and information systems.[xiii] Data that drives the learning health system has impact when it is converted to public information. The speed, volume, and variation of information will continue to grow sharply, as will the incidence of mis- and disinformation. A learning health system must be architected with appropriate mechanisms to ensure the reliability of information that is widely distributed. The development of resources to help the public respond to mis/disinformation is critically important. MITRE's **Health Information Persuasion Exploration** framework and health communication playbook, which specific targeting COVID-19 vaccine hesitancy, were developed in response to the pandemic.[xiv] Finally, the pandemic underlined the importance of supporting technological innovations with standards for semantic interoperability; policies to support the rapid sharing of

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data between clinical and public health settings; and innovative partnerships, such as the **COVID-19 Healthcare Coalition**, to convene public and private organizations, conduct distributed research, and rapidly analyze data and collaboratively problem solve in the face of uncertainty.[xv]

Question 7: Use of digital health technologies in community-based settings to reduce disparities or achieve equity?

Robust, affordable broadband is widely accepted as a social determinant of health (SDoH) and a pre-requisite for an equitable health system.[xvi] Yet notable disparities persist.[xvii] The **FCC Connect2Health Task Force** is supporting research to advance understanding of broadband connectivity (i.e., access, adoption, and use) as an SDoH and thereby accelerate the emergence of a "systems approach to health" that addresses SDoHs and connectivity together.[xviii] To achieve and sustain health equity, the nation needs routine, reliable collection of standardized data to support timely, community-level decision making. Data requirements include demographics, social needs, and adequacy of network and services access. The collection of SDoH data must be the norm and similarly standardized for healthcare providers.[xix] For cancer, **mCODE™**, or Minimum Common Oncology Data Elements, establishes a common language for cancer through a core set of data elements that are computable, clinically applicable, and aimed to be available and accessible in every electronic health record for patients with a cancer diagnosis.[xx] As a pilot for mCODE™, **ICAREdata®**, or Integrating Clinical Trials and Real-World Endpoints, is enabling clinical oncology research by prospectively gathering high-quality real-world data, understanding the efficacy and safety of approved therapeutic agents in underrepresented and minority populations, and accumulating a large number of patients and data required to achieve success in personalized medicine.[xxi]

Current initiatives are strengthening community-level capacity and generating valuable data at all levels—individual, community, and national. The **Service Area Needs Assessment Methodology** was developed by MITRE for the Health Resources and Services Administration (HRSA) to provide a consistent and transparent approach for assessing community-level need using publicly available data.[xxii] The HRSA **Optimizing Virtual Care program**, an evidence-informed practices and strategies program for virtual care implementation among 29 high-functioning community health centers, includes a feasibility assessment of scaling best practices across all health centers in the future. This MITRE-supported effort will increase access to optimized in-person and virtual care at health centers, with a specific focus on technology access, digital health literacy, and engagement for patients who are medically underserved and at disproportionate risk of the negative effects of health disparities. The **Mental Wellness Index (MWI)** enables local, state, and federal entities to understand mental wellness at the community level and address social, economic, and health inequities.[xxiii] The MWI aggregates 28 factors into a single ranking at the ZIP code level, available for the entire nation to use.

Digital health tools and technologies are changing the landscape of health equity and require a fundamental paradigm shift. The federal government should provide guidance and resources to support collaborative design and evaluation of digital health tools, such that the user is involved from the beginning. MITRE's *Framework for Assessing Equity in Federal Programs and Policy* offers an approach and methods for federal agencies to examine programs and policies from the perspective of underserved communities as required by Executive Order 13985.[xxiv]

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Strengthening Community Health Through Technology

We believe the aging and disability service providers deserve world-class tools to enable the sustainability of their work for the next century.

About Mon Ami

'Social determinants of health (SDoH)' has become a buzzword with healthcare entities as large bureaucracies move to value-based or whole-person care. It's as if they've just discovered that nutrition, exercise, and social connection impact medical outcomes and bottom lines. Of course, SDoH is just the latest moniker for impact long understood by those who've dedicated their careers to human services, particularly those who support seniors and adults with disabilities. It's *about time* healthcare entities started to catch on. Over the next decade, we expect funding dollars for Aging and Disabled Adult Services from healthcare sources to grow substantially.

And while the delivery of these life-sustaining SDoH services is second nature to AAAs and other stakeholders in the Aging and Disability Services Network, many nuances of working with healthcare entities are not. Business acumen, compliance and data security, and outcome tracking require improved infrastructure. That's where Mon Ami comes in.

Founded in 2018, Mon Ami is a **comprehensive software solution** for Area Agencies on Aging, Independent Living Centers, and other public entities serving seniors and persons with disabilities. Our interfaces are purpose-built for services like care management, congregate meals, falls prevention, and Medicare consultation. This offers three main benefits relevant to this RFI.

- Because Mon Ami is not general purpose human services software but *Aging & Disability only*, there is **higher usability in the tool** for agency staff and **more rapid deployment** timelines vs. general purpose solutions.
- Use of Mon Ami **standardizes workflows** to ensure compliance and track real outcomes.
- Finally, as a central data clearinghouse, Mon Ami's APIs enable comprehensive interoperability with other reporting platforms, eliminating duplicate entry

Mon Ami is woman-led and privately held, based in San Francisco, CA.

Our Team

Mon Ami's founders have deep personal investment in this work and the professional experience to deliver world-class products and services in aging and disability services.

- [Joy Zhang](#) previously worked for the World Health Organization's Innovation for Aging team, and was a founding member of two prior tech-enabled community-based organizations in aging and caregiving: AgeWell Global (South Africa, USA) and Weal Life (USA). The pilot program that Joy designed for AgeWell Global has been tapped by the

WHO as best practice for aging. She has been a volunteer in dementia care and hospice settings since high school and graduated from Stanford with a BA and MBA.

- [Madeline Dangerfield-Cha](#) was raised by a single mother and her maternal grandmother. She has been a friendly visitor to people with dementia for the last five years. She also has an MBA from Stanford and led marketing and data analysis for Google in Asia.
- [Steve Fram](#) lost his mother to Alzheimer's over a decade ago. He has led two previous technology organizations, including Caring.com and Babycenter, which sold to Johnson & Johnson and was valued over $8Bln.

The future of technology for senior and disability services: standardized service tracking

Problem: non-standard experiences across an agency network

Mon Ami supplies technology to dozens of AAAs, ILCs, and nonprofits serving seniors and persons with disabilities across the US. The mission of these agencies to serve clients is the same, but the level of business acumen, compliance, and outcome tracking they are able to offer varies widely. This makes it incredibly difficult for an agency network to offer a consistent standard of service.

Up to this point, technology has only exacerbated the problem. Many of these organizations receive funding from five or more different sources, and each of those sources has its own data collection and reporting platform. **There is no one source of truth within or across agencies.** Program staff are taking notes in notebooks, word documents, and excel spreadsheets, then cobbling information together at the end of the month. It's incredibly time-consuming and drainings for social workers, community health workers, and other program staff to waste their energy in this way.

This means outcomes, especially in a healthcare context, can't be tracked effectively, let alone held to a common standard. For a client receiving multiple different services from even a single organization, their basic demographic information is collected at each program enrollment and stored in different ways: one form for MIPPA, one for Home Delivered Meals, one for Evidence-Based Classes, etc. The problem gets even worse when that client receives services across multiple different agencies. That means a funding partner today may see quantities of people served, but not outcomes. Did those Evidence-Based Classes actually prevent more falls? Which demographic groups were most likely to discontinue a Care Transitions program before completion? Healthcare partnership will require the infrastructure to effectively answer these questions, and many more.

Solution: a standardized operating system for senior and disability services

That's why Mon Ami focuses on **standardized service tracking**. What do we mean by this?

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First, the technology mandates that services across agencies are **uniform**: Home Delivered Meals in one county will be the same in another county. The data that gets collected before, during, and after the services are delivered are consistent whether an agency serves 100 seniors or 10,000 seniors.

Secondly, the technology enables service **automation**: The act of delivering the service automatically records the fact that it was completed. Instead of delivering only a database where information needs to be entered or uploaded after-the-fact, Mon Ami offers tools to automate or speed up day-to-day tasks that used to be done with pen and paper or excel. Here are some examples:

Service	Traditional Reporting Systems	Standardized Service Tracking
Telephone Reassurance Volunteering	Volunteers log their hours on a monthly basis; staff makes estimates for those who don't complete their logs	Integrated phone system keeps personal phone numbers private and automatically logs date, time, and duration of calls
In-home Visits	Notes on clipboards are logged into the system days or weeks later; clients sign paper forms to prove staff was on-site	Mobile app captures notes, form completes, and voice memos in real time; doing so uses cell phone geo-location data to check-in and check-out, ensuring compliance and automatically logging time units
Vendor Service Authorizations & Referrals	Case managers fill in a service auth form manually, scan it into the computer, email it to the vendor; they receive a scanned copy with signature days or weeks later to confirm receipt	Completing case management assessment and intake forms automatically generates pre-filled service authorizations and sends them via email; vendors can accept with the click of a button

Outcome: less fraud, better data, healthier clients

Thus, organizations leveraging **Mon Ami's standardized service tracking** achieve the same transparency of a traditional, manual data-entry based reporting system with the addition of:

- Saved staff time and resources by eliminating duplicate work goes back into serving clients
- Increased standardization and decreased unintentional errors/fraud across an aging network
- Improved interoperability capabilities as a result of standardized data collection, allowing for the sharing of information among agencies and in aggregate in tracking longitudinal client transitions
- Increased data quality and improved outcome tracking with real-time accessibility

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The Promise of Systems Integration

Monroe County Systems Integration Project's Response to the White House Office of Science and Technology's RFI entitled Strengthening Community Health through Technology.

Submitted by: Laura Gustin, Executive Director, Monroe County Systems Integration Project
Contact: █████████████████████████
Organization Type: Multi-Sector collaborative, including the health, human service, education, public, and philanthropic sectors
Website: www.systemsintegration.org

Background: Monroe County's narrative mirrors other rust belt communities. Once the booming home of corporations such as Kodak and Xerox, today the poverty rate within the city of Rochester, Monroe County's urban center, is 33% - highest in the nation among like-sized cities. This frame of poverty is essential, because those with limited financial resources must navigate a complex system of social programs to receive basic supports such as food and affordable housing. Every day, hundreds of individuals and families fall through the cracks, get lost in this "system", and spin in a perpetual cycle of crisis and vulnerability.

Founded in 2017, the Systems Integration Project (SIP) is a collaborative of 300 partners, working to implement a common vision for system transformation: *The greater Rochester community is working across a diverse network of committed providers to build an interconnected, person-centered system of health, human services and education, leveraging a unified information platform, to improve the health and economic well-being of individuals and families, especially those who are vulnerable or impacted by poverty.*

SIP has spent the last four years designing, developing, and now implementing:

- A **Multi-Sector Provider Network** focused on collaborative problem-solving, working in cross-sector care teams, and activating service pathways that move people from crisis to thriving
- **Person-Centered Service Delivery,** developed using the tools of human-centered design and a formal equity review process
- A **Community Information Exchange (CIE)** that includes a user-interface, referral management and a 360-degree view of a person's wellbeing (MyWayfinder), integrated data systems, integrated data sets, and a reporting infrastructure that supports the needs of all connected stakeholders
- A measurement model that creates **Business Intelligence for Public Good,** including methods for evaluating system performance, value/ROI, consumer satisfaction, and provider satisfaction.

SIP as a Model Innovation: We believe that SIP can act as a model for implementing integrated technology that powers an integrated service delivery system aimed at reducing poverty, improving community health, and delivering return on investments.

SIP is unique in that its technical solutions were designed with and for providers and people. At inception, business requirements were gathered from over 100 community partners, and design goals were established, including use of an open-architecture framework that is interoperable, scalable and leverages existing digital infrastructure, and the use of a minimum data set that aims to identify and share the minimum necessary

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information to coordinated service delivery and improve outcomes. IBM is SIP's technology vendor, and SIP's digital tools are currently in early adoption with community members, service providers, neighborhood hubs, and 211.

A core component of SIP's technical solution is MyWayfinder-a unified information platform that offers a 360-degree view of an individual's needs, as well as their interactions with the service delivery system. MyWayfinder allows a parent to locate the best behavioral health services for their struggling teen, a teacher to see that her student was recently evicted, a pediatrician to know if a child's schools attendance is becoming abnormally high, and a food pantry worker determine if a family qualifies for SNAP.

Key learnings from SIP implementation that should be highlighted as innovative practice include:
- SIP is funded through neutral, regional economic development dollars. This allows solutions to be created for public good, vs. being beholden to the needs of individual institutions or sectors
- Technology and referral management are merely tools that facilitate the work. In order to build an efficient, proactive, and integrated service delivery system, SIP is designing new, coordinated workflows that transform the way that people move between institutions and sectors. Key areas of focus include common "front-door" protocols that normalize the experience of entering the system, shared processes for referral management, and service pathways that document how a person navigates the system as they transition from crisis to thriving. All workflows are supported by our digital infrastructure.
- SIP emphasizes that the system must fully support the person, instead of a person adapting to a disconnected system. In response, MyWayfinder is designed as a tool for both service providers and community members. With MyWayfinder, community members have the ability to self-navigate the system, select who is on their care team, and customize their privacy controls.
- MyWayfinder is powered by a shared language protocol and associated algorithms that measure changes in a person's wellbeing as they receive services across providers and sectors. It is no longer enough to connect a family to a box of food. Instead, we want those who are food insecure to be connected to SNAP, Free and Reduced Lunch, their local food pantry, and appropriate transportation supports, so they might achieve food stability. This requires navigation across multiple providers, and SIP's service pathways and MyWayfinder facilitate these interactions.
- SIP's Legal Framework for cross-sector data sharing was developed over a two-year period by 20+ lawyers and privacy officers from participating sectors and organizations.
- SIP's informed consent model was developed using human-centered design and is focused on facilitating a journey of trust with community members.
- SIP has developed a measurement model that allows us to test hypothesized mechanisms of change that result from working as an integrated system using coordinated technology, including:
  - Improved data flow is the foundation for the overall system improvement
  - Referrals among providers and between providers and DHS are improved due to better information
  - Because of information available in MyWayfinder, coordination is improved among providers, between providers and navigators, and between providers and the Department of Human Services (DHS)
  - Since providers' profiles and service availability are available in MyWayfinder, provider choice will be made easier for community members and navigators

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- Providers can improve their operations and service provision due to information available in the system because they do not need to collect such information through phone calls or in-person interviews; they also receive feedback from community members through the system to improve service provision
- Eligibility determination is faster and more accurate given personal information available

We believe that when individuals and organizations actively use tools and resources created under SIP:
- Individuals and families will be more empowered to advocate for their wellbeing
- Information will be shared thoughtfully and confidentially, so multi-sector care teams can better and more holistically respond to an individual's needs
- Community trends will be better identified to shape programs and services that are responsive to our local environment
- Services and programs will be more aligned and coordinated across all aspects of our community
- Investments in our community will be better spent, allowing more individuals and organizations to thrive.

Centering Equity: A person-centered system must be trusted by those who use it. The user experience should be exceptional. In response, SIP is committed to 10,000 community touch-points in our redesign effort. We have robust community engagement and diversity, equity, and inclusion strategies, and have established an Equity Review Board to monitor and provide input into our transformation efforts. In addition, borrowing from the private sector, the SIP applies human-centered design to every aspect of our work, and we have trained over 400 service providers and community members as human-centered design practitioners. As a result, the process of building a data system, developing new workflows, and documenting cross-sector service pathways includes constant engagement with system-users via empathy interviews, prototyping, and piloting. By the end of 2024, SIP intends that 40,000 impacted community members will actively be using MyWayfinder to navigate the integrated system towards improved wellbeing.

Proposed Government Actions: As previously shared with the House Rules Committee at the Ending Hunger in America Roundtable (July 15, 2021), there are several key learnings from SIP that can be addressed at the Federal Level. First and foremost, adopt a systems mindset. Community health will be improved by addressing broken interactions and behaviors that reside far upstream from their impact. Second, champion integration across federal departments and agencies. For example, the federal government should adopt common definitions for hunger and homelessness that can be used as providers communicate across sectors, and federal reporting systems should move towards integration, with common data dictionaries that can be mirrored by local communities. Finally, don't over-prescribe solutions from Washington. Transformation requires time, trust, and flexibility. SIP is funded through 2024 with a project design that allows our community the space to be creative with flexible dollars, local expertise, robust community input, and an agile project management framework.

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monument

February 28, 2022   350 7th Ave
Dan Erstad, VP Business Development and Partnerships   New York, NY 10001

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue

Submitted electronically via ███████████████████

Thank you for the opportunity to comment on OSTP efforts on Strengthening Community Health Through Technology. Given the widespread mental health challenges faced by our country and its most vulnerable communities, we're grateful to see OSTP crowdsourcing innovative ideas that will directly translate into equitable policy solutions. The following comment will focus on how Monument, an innovative telemedicine platform for the treatment of alcohol use disorder (AUD), can expand access to evidence-based virtual care for those navigating unhealthy alcohol use. In our experience, the approach Monument has taken has tremendous potential for greater impact at a community level.

At [Monument](), we empower our members to meaningfully reduce their alcohol consumption or achieve abstinence through evidence-based virtual care. Treatment is led by therapists and physicians, and supported by a powerful digital community. We believe treatment should be affordable, accessible, and research-based, so everyone can achieve their goals for sobriety or moderation. Since launching in spring of 2020, Monument has supported over 35,000 individuals on their journey to change their relationship with alcohol.

Background
Unhealthy alcohol use is one of the leading preventable causes of death in the US. Despite the fact that over the last ten years roughly 95,000 deaths per year were directly attributable to alcohol, heavy alcohol use has increased over the last two decades. Between 2006 and 2014 rates of alcohol-related ER visits increased 47 percent. Additionally, the COVID-19 pandemic has further exacerbated unhealthy alcohol use as demonstrated by alcohol sales and survey studies.

While excessive alcohol use climbs, there is more widespread acknowledgement of the chronic medical condition known as alcohol use disorder (AUD). Many people who drink alcohol will develop AUD, defined by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as "a medical condition characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences". According to the 2019 National Survey

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on Drug Use and Health (NSDUH), researchers estimate as many as 5.3 percent to 13.9 percent of American adults have AUD. However, only 7.2 percent of those with AUD receive treatment in a given year. There is an urgent need to address AUD and reduce barriers to care by providing accessible, evidence-based treatment.

Evidence-based modalities help patients achieve their goals

Monument's treatment program includes three core modalities: psychotherapy, medication, and peer support.

1. Psychotherapy

Monument connects patients to therapists specialized in treating substance use disorders. The Monument therapist network utilizes psychotherapy modalities including Cognitive Behavioral Therapy (CBT), Motivational Interviewing, and Contingency Management. CBT has been demonstrated to have a positive impact on alcohol related outcomes when compared to control conditions. CBT can help individuals build coping skills, manage urges to drink, persevere through setbacks, and address co-occurring anxiety and depression.

2. Medication

Monument connects patients to licensed physicians who can prescribe medication if appropriate. Medications such as naltrexone and acamprosate for AUD are supported by randomized controlled trials: a meta-analysis published in JAMA in 2014 revealed both medications reduce the risk of returning to any drinking as well as return to heavy drinking. While naltrexone has been demonstrated to reduce the likelihood of relapse irrespective of psychosocial intervention, data suggests it works best in conjunction with CBT as evidenced by a reduced risk of heavy drinking days. The combination of pharmacology and psychotherapy is widely acknowledged by substance use disorder experts as the gold standard in the treatment of AUD, and is the clinical basis of Monument's treatment program.

3. Peer Support

Monument facilitates peer-to-peer connection through virtual support groups and an anonymous community forum. Monument's peer support groups differ from Alcoholics Anonymous (AA) and other groups based in Twelve Step Foundation (TSF) because they are moderated by a licensed therapist, inclusive of goals for abstinence and harm reduction, and are open discussions on a variety of topics. However, Monument groups do build upon the evidence from AA/TSF that shows peer encouragement and accountability can reduce heavy drinking.[12] Mutual help organizations like AA and TSF have demonstrated efficacy in sustaining abstinence from alcohol and in decreasing alcohol-related outcomes, such as drinking intensity and

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monument

drinking consequences. Participants in AA/TSF have also demonstrated lower healthcare costs after two years of follow up.

Conclusion: Expansion of telehealth for AUD treatment is an opportunity to meet meet patients where they are

Telemedicine is a rapidly evolving modality for effectively treating AUD, and by the nature of how services are delivered, it reduces barriers to care such as physical proximity, scheduling challenges, confidentiality concerns, and cost. Telemedicine makes treatment more accessible, and it also enables patients to initiate and engage in treatment alongside their daily schedule. Monument's initial statistical results point to industry-leading rates of initiation and engagement in treatment among its members, outlined in a [white paper published in September 2021](#).

Implications & future directions

Telemedicine for AUD has tremendous potential to engage more patients who can benefit from evidence-based treatment and support. Specific actions that OSTP can consider:

- Permanently remove the restriction on home as the originating site for telehealth per Social Security Act section 1834m
- Ensure universal and sufficient coverage and payment for video and audio and audio-only telemedicine for AUD treatment in parity with in-person services
- Ensure licenced providers can practice across state lines to improve equitable access to care

We thank the White House Office of Science and Technology Policy for the opportunity to comment. Monument welcomes the opportunity to discuss these comments in further detail, as appropriate. If you have any questions regarding these comments, please do not hesitate to contact us at ▉▉▉▉▉ or at ▉▉▉▉▉▉ .

Respectfully submitted,

Monument
By:

Dan Erstad
VP, Business Development and Partnerships | [Monument](#)

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28 February 2022

Subject: Response to Connected Health RFI #2021-28193

Dear White House Office of Science and Technology Policy Members:

MTX Group, Inc. is pleased to submit this response to your request for information to help inform and guide policies and actions related to strengthening community health through digital health technologies.

MTX is a technology system integrator and consultant with significant involvement at multiple levels of health care IT modernization, digital solutions development and implementation and training, and highly configured solutions designed to assist a broad array of public sector clients in 34 U.S. states. As such, we have a unique perspective from which to share some context and recommendations regarding the deployment of digital health technologies to strengthen community health.

In 2020, MTX configured and deployed its vaccination management solution and used the Salesforce CRM platform as the core system for a state with a significant rural population. The system used a web-based technology solution in the cloud platform that includes the following:

During our efforts to deploy our comprehensive vaccine management solution and collect vaccine data on individuals in rural areas we faced the following barrier to care related directly to a lack of internet access:

- Individuals without Internet access could not be screened, make initial or follow up appointments
- Traveling nurses could not document vital vaccination information in real time
- Data was captured off line and uploaded when internet access could be established - causing a delay in data collection
- Devices that collected data offline quickly faced storage capacity - necessitating nurses to capture data by hand
- Each vaccination that could not be captured online took 15 minutes to record by hand or by call to DOH
- DOH created a new position called transcribers who became necessary so that nurses in rural areas could call the state DOH and deliver required data
- With rural home visits averaging 15-20 a day and rural nursing nursing home visits averaging 50-100 a day it because virtually impossible to capture and deliver data in the time requested by the CDC

We see a need to deploy cloud-based platforms and requisite technology stacks as well as application programming interfaces that can be used to (a) reach and connect these target beneficiaries to the health care systems - anywhere, anytime, without the need for broadband, and in a secure IT environment and (b) integrate those solutions with the EHRs and HIE that comprise the backbone of the health system IT and (c) leverage the data collected to optimize those systems and inform the healthcare delivery, finance, and research initiatives - all in service of improving health outcomes and control costs for our most vulnerable populations.

We envision that this development and deployment could be done in a manner that is much less expensive than EHRs and HIEs, contribute substantially to the connectivity required to efficiently realize, and effectively manage the care continuity and provision of care that is the basis for the modernization of the health IT systems. ***MTX sees an opportunity to rapidly develop and implement cloud-based enterprise level solutions nationwide that will facilitate patient engagement, service delivery, outcomes, and cost controls.***

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Response to The White House OSTP Request for Information on Strengthening Community Health Through Technology
Organization: Muso
Document Number: 2021 28193
Date: March 31, 2022

About Muso

Muso collaborates with governments, institutions, and communities to design, test and deploy Proactive Community Case Management (ProCCM), an evidence based community health approach for rapid, universal access to care, maternal health, and child survival. Muso's ProCCM model, helmed by Community Health Workers (CHWs), operates within strengthened public health systems. CHWs routinely (two hours per day, six days per week) search for patients door to door and connect them to life saving care early.

Muso's 434 CHWs currently deliver proactive care to approximately 360,000 patients across Mali and Côte d'Ivoire. We embed rigorous operational research into our direct service provision and leverage our findings through technical assistance partnerships to inform and drive changes in policy and practice at national and global levels. A 2018 study in the British Medical Journal of Global Health documented rapid and sustained health improvements across the populations we serve in peri urban Mali. The study showed that our ProCCM sites, which at baseline in 2008 had a child mortality rate of 154 deaths per 1000 live births, sustained an under five mortality rate at or below 28 per 1000 since 2011, ultimately reaching a rate of 7 per 1000—the lowest rate documented in sub Saharan Africa.[1]

Topic 2 | Barriers

The use of digital health technologies in community centered care models is viewed as a potential catalyst to improve speed, quality, and equity of care and contribute to reaching the goals of universal health coverage (UHC), a point emphasized in the 2019 WHO Guideline on Digital Interventions for Health System Strengthening.[2]

Although access and ownership of mobile devices is increasingly common across low income countries, Ministries of Health have faced challenges to seamlessly integrating digital health tools into their health programming. Even where pilot efforts have had success, infrastructural limitations such as poor internet connectivity make scaling up digital health technologies difficult.

As of 2019, only 22% of Malian households had access to the internet.[3] Low and poor connectivity leads most health workers to resort to pen and paper to gather crucial health data. This method for collecting and storing data results in a slow, ad hoc process that leaves patients frustrated,

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health workers skeptical of the technology, and policymakers unable to make evidence based health policies.

In Muso sites, CHWs are equipped with the CHW App. This human centered job aid helps CHWs overcome several challenges of their work, including keeping track of 14 different forms and workflows they must follow and managing a constantly updated list of tasks to care for patients. While the App makes it easy for CHWs to perform their job functions, it also collects and stores data in real time, even in areas where internet access is limited or non existent. The CHW App synchronizes to Muso's database and is interoperable with the national District Health Information Software 2 (DHIS2) database. Where connectivity is not available, the App securely stores data offline for later syncing by the CHW. Once uploaded, the data is scrubbed from the App, allowing for more offline storage space. Equipping health workers with enabling tools that flex and respond to their needs and context is a high impact way to utilize digital health technologies in community centered care models.

Topic 4 | User experience

To support both CHWs and their supervisors, Muso has embedded three digital health tools into our ProCCM model:

- **The CHW App:** As noted in the previous response, this smartphone application, integrated with the CHW Supervisor App described below, helps CHWs keep track of and update patient forms, prioritize follow up visits, and manage the 700 1000 individuals whom they care for in their catchment area.
- **The CHW Dashboard:** The Dashboard lives on a tablet used by the dedicated CHW supervisor and displays a set of easy to read graphs on CHW performance across three dimensions: quantity, speed, and quality. The Dashboard also provides a histogram of protocol errors, enabling CHW and supervisor to target with pinpoint precision which errors are most frequent for that particular CHW and correct relevant gaps. During their monthly one on one meetings, the Dashboard serves as both a data feedback loop and a measure of dignity for the CHW as a health professional who deserves encouragement and motivation in their work. A 2018 randomized controlled trial on the CHW Dashboard found that supervision with the Dashboard improved CHW productivity, increasing home visits without sacrificing quality of care.[4]
- **The CHW Supervisor App:** This App serves as a job aid to CHW Supervisors. It guides them through each step of the workflow of the ProCCM 360° Supervision protocol, reminds them of their daily tasks, and helps them monitor progress toward completing supervision visits with each CHW on their team. This tool was designed in collaboration with Muso's dedicated supervisors, engaging them as equals in a technological system that all too often remains distant from those it was meant to serve.

These three tools work in concert to ensure patients receive quality care and ensure that every CHW is equipped to deliver quality care equitably across their catchment areas.

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[4] Whidden C, Kayentao K, Liu J, et al., 2018. Improving Community Health Worker performance by using a personalised feedback dashboard for supervision: a randomised controlled trial. *Journal of Global Health* 8(2): http://jogh.org/documents/issue201802/jogh-08-020418.pdf

Topic 7 | Health Equity

In 2018 Muso conducted a gap analysis of CHWs using our digital tools, exploring quality, equity, and coverage. The gap analysis found significant variations in the coverage received by households and discrepancy in household visits based on the economic status of the household. Poorer households had lower odds of receiving the required two home visits per month and lower home visit count compared to their wealthier counterparts.

To address these issues, Muso and our partner, Medic, developed a software extension to the CHW App called UHC Mode. Born from a rigorous human centered design approach, UHC Mode's features include an array of user friendly displays to support CHWs in planning daily home visits. Rather than alphabetizing data, UHC Mode orders households in the App by least recent visit and uses red, green and yellow visual alerts to show which households have not yet received the required number of visits and should be prioritized. A 2021 randomized controlled trial documented a 13.6% increase in equitable household coverage in rural and peri urban settings among CHWs using UHC mode. These findings indicate that UHC mode can improve the effectiveness of CHWs, and by extension, the health outcomes of the populations they serve.[5]

Topic 8 | International models

Muso has learned many lessons since embedding digital tools into our ProCCM model in Mali:

1. Successfully standing up and integrating digital tools into health initiatives requires involving end users at every step. Human centered design is critical for uptake of the technology and achieving its intended goal.

2. Digital tools whose primary intent is to collect data add a burden on health workers already stretched thin and are less likely to be used continuously. The CHW App is an example of how digital tools can succeed if they are first a job aid for the user. A digital tool for health workers that simplifies their job functions makes it invaluable, and more likely to be used on a daily basis. Continuous use by the provider allows for quality data collection to happen in the background.

3. Digital tools should be evidence based, drawing on the wealth of knowledge and guidance available. Implementers can draw from existing resources on high impact community health systems, including the CHW AIM Tool[6] and the 2018 WHO Guideline on CHW Programs.[7]

4. Digital tools are only as strong as the health systems into which they are integrated. Digital tools cannot repair health systems but can serve to support and enhance them.

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Greetings,

I am an experienced primary care provider in southern West Virginia serving marginalized rural communities with disparities. While working as Primary Care Director at Princeton Community Hospital, I headed the ambulatory telemedicine project for their outpatient clinics involving designing templates, teaching providers, staff and patients, billing, coding, and marketing. In addition, we used a CDC grant to develop a program linking our most poorly controlled diabetics with a medical nutritional therapist via telehealth and found that it did improve HgA1C scores. It was well received by patients and providers and was financial feasible.

Through an 1815 grant from the CDC, WV AFP and WV Bureau of Public Health, I have authored the Comprehensive Primary Care Guide to Telehealth In West Virginia found online on the WV AFP website. This is currently undergoing revision and will hopefully be incorporated into an app available to all physicians in our state in an effort to improve the adoption and effectiveness of telehealth in WV.

After working with Meditech Expanse EHR and Information Technology Department at Princeton Community Hospital and their telehealth program, I decided to sit for my American Preventative Medicine Subspecialty board exam in Clinical Informatics in October 2021.

Recently, I made a job change and have been acquired by Charleston Area Medical Center (CAMC) as their Medical Director of Ambulatory Clinical Informatics for all of their outpatient clinics in WV in addition to being their Medical Director for a new primary care clinic in Princeton WV starting in early February 2022. I am charged with exploring ways to improve digital literacy, broadband access, use of remote patient monitoring and team based care through the use of telehealth-based specialty care, medical nutritional therapy, PT, OT and LPN based chronic care management. I am interested in any information you may have in best practices but would also be happy to participate in your project going forward.

CAMC uses Cerner based EHR which as you know was recently purchased by Oracle. Oracle is said to plan a cash infusion and improve the artificial intelligence, machine learning and use of patient data to improve care in addition to revenue cycle management improvements. Cerner is capable of uploading patient data from AppleHealth's patient monitoring data platform. I was personally involved in AppleHealth's preview of their "Scatchpad" structure and it does have promise.

We aim to improve patient access, quality of care, patient experience and lower cost all while improving outcomes. it is imperative that we do not further marginalize those who need our help most. The very complex nature of telemedicine, connection through broadband and remote patient monitoring threatens to do just that if not done correctly.

Please let me know if you have any information for me or if I can be of any help in this endeavor going forward.

Nancy A. Lohuis, M.D. FAAFP

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Request for Information for White House Office of Science and Technology Policy
Response to RFI by Dr. Natalie Hruska, individual academic researcher
█████████████████████████████████

Request for Information (RFI) on <u>Strengthening Community Health Through Technology</u>
RFI focus on barriers, user experience, tool and training needs

Response to RFI: Community Connected Health

My interests are in technology provision and training to raise locus of control so people can have a more positive (digital) health experience. My dissertation was on the topic of health technology. I found that individuals with a locus of control were more likely to use web-based resources for health and assess this use as positive. Locus of control is the belief that a person can control the circumstances in their lives rather than an external factor, like other people, a religion, or luck. One way to raise locus of control is through volunteering. My proposal is to increase opportunities for volunteers (as the volunteer and recipient) with focus on provision of digital health technologies and training on use of them in order to increase a sense of locus of control and optimal use of digital technologies. These volunteer opportunities could be localized, available online or on ground, within local communities and across the socioeconomic spectrum.

In order for technology developers, community-based healthcare providers, or other community-based stakeholders to use health technologies, they must be user friendly. My mixed methods research uncovered what makes a health website experience truly useful vs. websites people would most likely avoid. People agreed that websites that include peer-reviewed information from a trusted source and did not have many advertisements were more credible.

In addition to the need for a user-friendly digital presence, there are many other barriers to the optimal use of modern digital health technology. Older people, younger people, and people that lack the training to use technology, or the access to technology, face barriers. I propose opening a wide realm of volunteer opportunities (online and offline) with focus on the provision of digital health technologies- smartphone, tablet, desktop, laptops- and training on the optimal use of these tools. This could potentially increase locus of control for all stakeholders. Badges and other types of certifications could be awarded to volunteers and the recipients for the work completed, which they could add to their digital resume for certification. Locus of control could be measured before and after. These initiatives could take place immediately. Volunteer opportunities and availability could be posted across social media, shared through word of mouth and other advertising forms in order to reach the diverse audience.

Link to some of my relevant publications
<u>Viability of web-based resources for prevention and self-management of Diabetes II within the American Indian Population</u> | <u>Decision Making Technology</u> | <u>Effect of Personality on the Use and Perceived Utility of Web-Based Health Resources</u> | <u>Role of ICT in the NGO: The Relevance Factor</u> | <u>Choosing Among the Choices: Technology as a tool for building decision-making skills</u> | <u>Self-Efficacy, Self-Regulation, and Technology</u>
Pamphlets on the health benefits of going online and giving back <u>for the public,</u> <u>for healthcare workers</u>, <u>for people working in technology</u>

February 28, 2022

TO:	The Office of Science and Technology Policy (OSTP), White House
FROM:	The National Alliance to Impact the Social Determinants of Health
	████████████████████)
SUBJECT:	NASDOH Response to the OSTP RFI on Strengthening Community Health Through Technology

The National Alliance to Impact the Social Determinants of Health (NASDOH) is pleased to respond to the White House Office of Science and Technology Policy (OSTP) request for information (RFI) on "Strengthening Community Health Through Technology" FR Doc # 2021-28193. NASDOH appreciates the administration's focus on innovation in science and technology to lower barriers for Americans to access quality health care by meeting people where they are in their communities, and on community-based health settings and populations traditionally underserved by health care.

NASDOH believes this RFI can yield important input from community-based health settings into how federal policies and actions can leverage digital health technologies to advance community health. As showcased by the COVID-19 pandemic, digital technologies can be instrumental in improving access to health care services; however, barriers persist that prevent some community-based organizations from developing and adopting digital health technologies. We offer our input from perspectives representing health care providers and payers, consumers, public health, social service, and community-based organizations.

ABOUT NASDOH

NASDOH is a group of stakeholders working to systematically and pragmatically build a common understanding of the importance of addressing social needs as part of an overall approach to health improvement. We seek to make a material improvement in the health of individuals and communities and, through multi-sector partnerships, advance holistic, value-based, person-centered health care that can successfully impact the social determinants of health.

NASDOH brings together health care, public health and social services expertise, local community experience, community-convening competence, business and financial insight, technology innovation, digital health capabilities, data and analytics competencies, and policy and advocacy acumen to assess and address current regulatory frameworks, funding environments and opportunities, and practical challenges to implementing and sustaining social determinants of health efforts. NASDOH's members have experienced firsthand the disparate ability of organizations across communities to adopt and implement digital health technologies for the purposes of community health, particularly for community-based organizations which lack the resources or capacity to partake in digital health technologies and public health data systems.

TERMINOLOGY: DIGITAL HEALTH TECHNOLOGIES

OSTP suggests the term `digital health technologies' to be interpreted broadly as any tool or set of tools that improve health or enable better health care delivery by connecting people with other people, with data, or with health information. Given the broad application this term may have, NASDOH calls attention to several elements in particular. We emphasize that technology used to capture data encompass both information generated by the health care sector (i.e., the collection of social needs and clinical data of populations

served by a health system), as well as information generated by the community (i.e., surveys and questionnaire responses that highlight community priorities and needs). It is critical in developing digital health technologies for the benefit of the community that data from both traditional health care entities and stakeholders representing community-based entities be taken into consideration. The data points collected from each type of entity are informative in serving the community effectively. Additionally, NASDOH underscores that both qualitative and quantitative data serve valuable purposes to connect accurate and appropriate health services with individuals.

SUCCESSFUL MODELS

NASDOH's members represent a wide array of entities that contribute to community health. Due to their wide array of experiences as well as keen insight on levers and opportunities that exist on the ground, NASDOH members offer a range of innovative examples and models of how community health providers have successfully used digital health technologies to deliver health care, enable healthier lifestyles, and reduce health disparities. In its 2020 SDOH interoperability concept paper, NASDOH outlined opportunities and key features to enable an interoperable data ecosystem where social needs information is shared seamlessly, privately, securely, and with consent to improve individual and community health. In addition to this concept paper, members offer several examples of successful models, including:

- The Connect Us network in Utah: The multi-county collaboration of medical, behavioral health, and community-based organizations digitally connected on a closed-loop social care referral platform. It arose from the Alliance for Determinants of Health demonstration project that was funded by a charitable contribution from Intermountain Healthcare and formed to improve health outcomes, health care affordability, and coordinated care across sectors involved in addressing SDOH. Integrations between stakeholder systems and the platform has begun.
- Vaccine Equity Planner: Google supported the development of the Vaccine Equity Planner, helping to identify geographies in the U.S. that may lack easy access to vaccination sites. The tool draws from a variety of public data sources for potential vaccination sites, general population characteristics, and area-based measures, as well as pediatric practice locations identified by HealthLandscape. The tool has been used by local and state policymakers across the U.S., supporting targeting of pop-up vaccination locations and informing pediatric vaccine efforts.
- Searching for Food Access: Food insecurity is a key health equity issue; Black, Latinx, and Indigenous households in the US are disproportionately affected by food insecurity compared to their white peers. And while solving this issue will require work from government, businesses, nonprofits and individuals working together, Google is playing a role in giving people easy digital access to the information they need, when they need it - including finding food pantries and accessing benefits like SNAP.
- healthAlign's Digital Platform: healthAlign has built a platform that brings a diverse range of community-based providers (home care, meals, rides, home modification, pest control, errands, etc.) into a single environment so that the payer can standardize credentialling and quality; monitor real-time fulfillment; score provider performance; manage payments to providers; and offer program-wide reporting in a single window.
- Camden Coalition's My Resource Pal: Since 2016, the Camden Coalition has partnered with Findhelp (formerly Aunt Bertha) to power My Resource Pal, a customized community resource referral platform for Camden and South Jersey. Community members and providers use My Resource Pal to find information about and connect with over 7,000 programs throughout New Jersey that provide resources for housing, food, transportation, and more. My Resource Pal is also used by the Coalition's Accountable Health Communities screeners and navigators to connect patients to resources that address their social needs.

As detailed in our January 2022 letter to the administration, NASDOH emphasizes the need for infrastructure and interoperable systems, particularly incorporating community-based organizations and social service organizations, to enable the collection, sharing, and handling of data and information. NASDOH has a keen understanding that social service organizations tend to lag health care organizations in the level of sophistication and functionality of systems to share health-related data and information. They also tend to lack financial support needed to enable investment and reimbursement mechanisms for to participate in digital health technologies. Notwithstanding broader financial constraints, NASDOH members offer specific descriptions of the current barriers faced by individuals or organizations to the use of digital health technologies in community-based settings, including:

- **Standards development:** Despite significant efforts in this area, a lot of work remains to define standards for social care-related data sharing that must occur before interoperability can happen at scale.
- **Disconnected systems preventing optimal interoperability:** Some CBOs in Utah, including at least one local mental health authority, operate on home-grown electronic health record and care management systems. Other CBOs, including federally qualified health centers (FQHCs), operate on smaller-scale, non-web-based, locally installed vended solutions and are on different versions of those solutions. This makes designing and implementing interoperable capabilities quite challenging because these organizations, and their technology partners, may not have the resources, technical capabilities, or bandwidth to prioritize developing interoperable capabilities with community information exchanges (CIEs) or large-scale vended solutions. Furthermore, CIEs or large platform vendors may not prioritize integrations with home-grown or small-scale solutions.
- **Privacy and consent:** HIPAA-covered entities that are involved in making electronic referrals to community-based organizations may face challenges complying with HIPAA privacy and consent regulations when sharing protected health information from electronic health records. NASDOH encourages policymakers to support the identification and removal of barriers to social care coordination.
- **Service delivery:** Bringing CBO provided services into the home is complex and there are a range of administrative, data visibility and fulfillment challenges to do it successfully. For example, providers may not be familiar with third-party payers or with credentialling and claims processes. All have their own systems for data collection and visit documentation which often results in valuable data lost with unconnected end-point providers.

TRENDS FROM THE PANDEMIC:

NASDOH has advocated for the use of COVID-19 related flexibilities to develop and strengthen data and tech systems to meet the needs and capacity limitations of community-based organizations and promote information sharing across health care, public health, and social services to improve community health. During the COVID-19 pandemic, NASDOH members have appreciated and made use of flexibilities that have facilitated the use of digital health technologies and the exchange of health information across health care, public health, and social service organizations and improved access and delivery of health care services. Flexibilities such as those around the provision and billing of telehealth services have allowed health and social service providers greater opportunity to offer and deliver services using modes that meet the needs of individuals. For example, Intermountain Healthcare increased telehealth capabilities and now has the ability to offer 24/7 care management services for patients at high health risk. This level of service would be unattainable without telehealth.

NATIONAL ASSOCIATION OF
Community Health Centers

February 28, 2022

Dr. Jacqueline Ward
Assistant Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

RE: **Comments on the Request for Information (RFI) on Strengthening Community Health Through Technology**

Dear Dr. Ward:

On behalf of the National Association of Community Health Centers (NACHC), thank you for the opportunity to provide input on how digital health technologies are used to transform community health, individual wellness, and health equity.

NACHC is the national membership organization for federally qualified health centers (also known as FQHCs or health centers). Health centers are federally funded or federally supported nonprofit, community-directed provider clinics serving as the health home for nearly 29 million people, including 1 in 5 Medicaid beneficiaries and 1 in 3 people living in poverty. It is the collective mission and mandate of the 1,400 health centers around the country to provide access to high-quality, cost-effective primary and preventative medical care, as well as dental, behavioral health, pharmacy, and other support services that facilitate access to care to people located in medically underserved areas, regardless of insurance status or ability to pay.

Digital health technologies provide immense opportunities to lower barriers to accessing high-quality, patient-centered health care for all Americans, especially in health centers that already provide culturally and linguistically appropriate services. As the health care system continues to evolve towards more technology-based platforms, policy approaches must reflect the unique nature of health centers to enable them to continue effectively serving their communities.

Barriers to the Use of Digital Health Technologies
The most critical barrier is the lack of clarity about the future of telehealth policies. At the onset of the pandemic, health centers ramped up virtual check-ins, audio-only visits, and e-visits for a range of services. Nearly all (98 percent) health centers provided telehealth services at some point during the pandemic to their 30 million patients, compared to only 43 percent of health centers before the pandemic. Telehealth is now a core component of health center services. However, it is challenging for health centers to determine how to integrate telehealth into their care delivery models permanently without assurances that current policies will remain in place and ultimately be made permanent.

Additionally, health centers inherently struggle with limited resources and workforce shortages that make successful integration of digital health technologies a challenge. Any effort to expand the use of digital health in FHQCs must invest in training programs and support for both providers and non-

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clinical staff as well as patients. Investments in training and workforce will ensure effective decision-making to purchase products, configure systems, identify requirements, improve security and privacy, create opportunities for interoperability and apply quality improvement. For patients, health centers need staff and resources to support patient's digital health literacy and navigation skills.

Trends from the Pandemic

As noted above, health centers have proven highly effective at expanding telehealth over the last two years to provide vital primary care to patients and communities disproportionately impacted by COVID-19 who may not have otherwise had access to these services. The pandemic demonstrated even relatively low-resourced health providers could rapidly transition to and expand telehealth-centric care. Among the most notable trends is the reliance on audio-only telehealth services, especially for hard-to-reach patients in rural areas or those who do not have easy access to reliable broadband or smartphones. Audio-only has been shown to reduce patient no-show rates and allow health centers to reach more vulnerable populations and treat more patients with chronic conditions, behavioral health, or substance use disorder needs.[1]

Another related and critically important trend that has enabled health centers to continue offering telehealth services to their patients, specifically those on Medicare, was the removal of geographic restrictions that essentially prohibited health centers from providing Medicare telehealth services before the pandemic. Congress and the Centers for Medicare and Medicaid Services (CMS) loosened these restrictions that enabled patients to receive telehealth services, regardless of their location or that of the provider. Many of these flexibilities will end with the termination of the federal public health emergency (PHE) absent Congressional action.

User Experience of Health Technologies

Effective expansion of digital health technologies will require health IT regulatory standards designed to improve the user experience. Possible approaches may include a mandatory reporting requirement that every screening in electronic health records (EHRs) allow users to enter a ticket to provide documentation from that location, and formal usability and safety assessment of production products should be a requirement for certification. The lack of standards and oversight related to usability impacts staff time and workload, and patient safety outcomes.

Tools and Training Needs

A key area of focus needs to be improving electronic health record integration. NACHC is currently directing a project funded by the Centers for Disease Control and Prevention (CDC) at 15 health centers to engage community health workers (CHW) and other care team members as mobile health and vaccine ambassadors. NACHC surveyed the staff to understand their current digital health technology capability and found many sites still use paper to track their field encounters. In contrast, others with more formal mobile health units utilize the clinic EHR functions. Because of the unique nature of health centers' patient population, CHWs and clinic staff often struggle with handling complex and lengthy enrollment processes and identifying information from patients resistant to providing it. Digital health policy must include a commitment to user-friendly tools, training, and reimbursement for safety-net providers. Additionally, support for better integration with local health information exchanges (HIEs) could also help complete patient data and allow for access to patient data for mobile health units that might not otherwise be able to see data from an outside center.

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[1] https://www.nachc.org/wp-content/uploads/2021/07/Audio-Only-Report-Final.pdf

Proposed Government Actions

With many telehealth flexibilities set to expire at the end of the PHE, it is crucial that the following policies be continued and ultimately made permanent to ensure equitable access to telehealth:

- Recognize health centers as distant site providers;
- Remove originating site restrictions to allow for care regardless of the patient location;
- Ensure payment at the FQHC Prospective Payment System (PPS) rate; and
- Permit health centers to continue providing audio-only telehealth visits for patients.
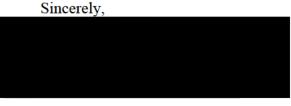
There are a number of current bills and policy actions that would address these priorities. They include the CONNECT for Health Act (H.R. 2903/S. 1512) and Protecting Access to Post-COVID-19 Telehealth Act (H.R. 366) and the HEALTH Act (H.R. 4437). In addition to these initiatives, NACHC is also strongly advocating that any policy effort continues to build on the recent CY 2022 Physician Fee Schedule Final Rule published by CMS that expanded protections for FQHC mental health services provided via telehealth.

Additionally, a priority should be placed on ensuring that every community has access to broadband. Increasing the availability of high-speed internet and associated platforms with appropriate technology will help remove structural barriers to telehealth access for health center patients. Lastly, health IT and virtual care programs should advance care coordination, interoperable and semantically meaningful data and plug and play tool integration. Information blocking is a tool that could be used to force more investment in the industry, but more proactive work on industry-wide test systems, content standards and data sharing requirements are needed.

Digital Health Technologies to Reduce Health Disparities

Technology has a clear role in exacerbating health disparities even as it has potential to address them. During the pandemic, patients without broadband access, smartphones or mobile data did not have equal access to services compared to others. Digital health policies need to ensure comprehensive access for underserved populations. Privacy and security must be closely examined given patients' general lack of familiarity with health IT technology and security, data ownership, sharing and related risks. Virtual care technology training and education should be reimbursable, focusing on usability testing to identify the best tools for underserved patients. More standards are needed to remove inherent bias in machine learning systems. Finally, digital health programs should incentivize providers to serve more patients with unmet social needs and health disparities.

We thank you for your leadership and continued commitment to strengthening digital health. Should you have any questions, please feel free to contact me at ███████████████

Sincerely,

Joe Dunn
Senior Vice President, Public Policy and Research
National Association of Community Health Centers

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National Consortium of
TELEHEALTH
RESOURCE CENTERS

February 28, 2022

Dr. Jacqueline Ward
Assistant Director
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

RE: Comments on the Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Ward:

On behalf of the National Consortium of Telehealth Resource Centers (NCTRC), we are submitting these comments in response to the request for information from the White House Office of Science and Technology Policy (OSTP) that was published in the *Federal Register* on January 5, 2022. The NCTRC is a collaborative made up of the 14 federally funded telehealth resource centers (TRCs) that consist of 12 regional telehealth resource centers (RTRCs) and two national TRCs (NTRCs) with one focused on policy (NTRC-P) and the other on technology (NTRC-T). The TRCs are funded through a cooperative agreement with the Human Resources and Services Administration (HRSA). While the TRCs provide technical assistance to a wide variety of audiences, we do focus on rural areas, community health centers and underserved populations. Several years ago, the TRCs agreed amongst themselves to form the NCTRC to create a more effective national network and utilized the very limited funding we receive as efficiently as possible. This decision proved to be invaluable to the nation when two years later, COVID-19 hit.

During the COVID-19 pandemic, the TRCs were called and relied heavily upon as the nation pivoted almost overnight towards telehealth. Due to the long-standing telehealth expertise of the TRCs and the network we established, we were able to rise to the challenge of the enormous demand for technical assistance on telehealth. The TRCs provided program operational assistance responding to questions as basic as, "Where do I start?" to understanding the ever-changing telehealth policy landscape on both the national and state levels. The TRCs, given the audiences we assist, were provided a bird's eye view of what works on the delivery level not only on the national, but state level. While researchers may study one system, it is just one system or one program, and often they may not sufficiently understand the daily challenges that providers, clinics and patients face. The TRCs do because we help them directly with those challenges. With this background, the TRCs have compiled a list of suggestions and responses to the RFI.

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1.   *Successful models within the US.* In response to the pandemic many organizations stood up practically overnight technology-enabled programs. There are numerous examples of clinics, hospitals and individual providers utilizing telehealth for the first time and not only successfully providing services to their patients, but they themselves were also surprised at how effective the technology was. Many of them had not considered utilizing telehealth before, partially because of the policy barriers that existed pre-pandemic. The temporary waivers, and being forced to utilize telehealth, allowed them to explore the use of technology and for many, both provider and patients, the experience has been beneficial.

However, simply providing services through telehealth was not the only area where we saw a need for assistance. Since telehealth was not widely used, there were many health care providers who lacked experience with the technology. During the pandemic, we've seen increased action around training the health care workforce on the use of telehealth. There were various certification programs that launched to meet standards that some state governments were instituting such as programs in Massachusetts, Connecticut (required), New York, Maryland, Ohio (required for Board of Nursing certified CHWs), Indiana, Kentucky, Texas (required), New Mexico, Arizona, Nevada, Oregon, Illinois (required), Rhode Island, and Vermont.

While the TRCs are not saying certification programs are the solution there is a need for resources to be provided to train providers on the use of telehealth. The enormous amount of request for technical assistance the TRCs received in those beginning days of COVID showed many in the US health care system lacked the experience and knowledge of how to deliver health services through technology.

2.   *Barriers* – While telehealth can be a great tool to improve access to health services, it is reliant on being able to access telehealth itself which includes having robust enough connectivity and the right equipment. This became extremely apparent with the pandemic. While steps have been made to address the connectivity issue, it will not be something that will be solved overnight and even if it were to be, there still remains the issue of having access to the right equipment.

Additionally, while the relaxation of telehealth policy barriers greatly assisted in providing access to needed services for many, these were only temporary and many, particularly those in rural areas or have other access issues (transportation, immobility, etc.) face the loss of them. While the Administration can only do so much without Congressional actions, there are steps that the Center for Medicaid and Medicare Services (CMS) as well as the Drug Enforcement Agency (DEA) can take to ensure at least some continued access. For example, the DEA could finally create the telehealth registry Congress directed it to do in 2019. That would provide telehealth providers another avenue to continue prescribing controlled substances. While CMS cannot eliminate the rural requirement in Medicare for telehealth services, it can redefine the term "rural" to cover more geographical locations, an action it did do in 2016.

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3.   Trends from the pandemic - The advancements in artificial intelligence, virtual and augmented reality and other technical developments in health care are increasingly used for health applications such as virtual tumor boards or ambient clinical intelligence for automatic audio to text for reducing EHR documentation burden for clinicians.   Much of these developments could benefit from wider involvement from patient and community input and social science-based research. There is also a concern that the introduction of advanced technologies and services will reinforce existing health care inequities.

4.   Tool and Training Needs. It became apparent during the pandemic that more resources needed to be provided to the training and education of not only providers on telehealth, but also consumers. The TRCs receive limited funding from the federal government and those resources were not enough to handle the overwhelming demands in those early months of COVID-19. The TRCs did receive one-time funding in response to the pandemic, but that funding runs out March 2022. The demand for technical assistance, however, continues at levels that are much higher than pre-pandemic. The demand for help is clearly there and entities like the TRCs who provide expertise based not only on knowledge and experience, but that they are agnostic in their materials, information and outlook, are best positioned to provide that service. More resources need to be allocated in these efforts.

Other educational information that could be provided is clearer guidance on billing for telehealth in Medicare. Often policies come out that are vague and providers, and the TRCs, are left to interpret what CMS wishes to see. For example, the direction to ensure consent is obtained from the patient before technology is used to provide services. Providers will ask can that be incorporated into other consent materials they have patients sign? How often does the consent need to be obtained? Before each telehealth visit? Once per course of treatment? Once a year? Often these details and information are lacking, leaving providers wary of going forward with telehealth for fear of inadvertently making a mistake. Clear, concise directions would go far.

5.   Proposed government actions. Several suggestions were previously made in the "Barriers" section. Other steps that Administratively can be taken if Congress does not act include:
- Redefining what a visit means for federally qualified health centers (FQHCs) and rural health clinics (RHCs) to allow the use of technology to deliver services beyond just mental health visits.
- Greater flexibility to the state Medicaid programs to use technology to the fullest they see fit without concern of not obtaining a federal match for covering such services.

6.   Health Equity. Health equity has been of great concern to the TRCs and we have strived to service all populations, but as the pandemic made apparent, the use of telehealth may inadvertently lead to disparities due to geographic location, income, race, education, and other factors. Some factors impacting these disparities reach beyond telehealth such as connectivity (a larger infrastructure issue) and in the case of using telehealth to treat disabled communities, a

lack of provider awareness of their obligations under the American Disabilities Act (ADA). A recent *Health Affairs* article noted that over a third of physicians did not know what their obligations were under the ADA. These are deep-rooted issues that stretch beyond telehealth, but telehealth has helped to raise the issues to the surface. Some can be more easily addressed than others, such as the lack of knowledge around ADA requirements which can be addressed with educational efforts. Others will take longer to solve such as connectivity.

The NCTRC appreciates the opportunity to provide this feedback. If you have any questions, please feel free to reach out to Mei Kwong ▮▮▮▮▮▮▮▮▮▮▮

National Consortium of Telehealth Resource Centers

March 30, 2022

Submitted Electronically

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

NHIT, the National Health IT Collaborative for the Underserved, is pleased to comment in response to the *Strengthening Community Health Through Technology* RFI. NHIT is glad to share perspectives and insights gathered over the last decade of working with federal, state, community, academic and private-sector leaders in advancing comprehensive, accessible care and eliminating health disparities for underserved communities.

NHIT is a 501(c)3 non-profit organization with a mission to engage underserved populations in the development and use of health information technology (HIT) as a means to support and sustain health equity and economic viability based on NHIT's five pillars: Workforce, Innovation, Policy, Research, and Community.   Since 2008, NHIT has been dedicated to cultural competency and building trust among underserved and vulnerable populations and ensuring those communities benefit fully from health information technology initiatives and advances. With participation from OSTP, our 2015 White House briefing "Advancing Health Equity through Health IT Innovation and Collaboration" spurred participants from the public and private sectors to use open data and technology to advance health equity.

Barriers; Tool and Training Needs; International Models
Reaching truly equitable health outcomes requires a holistic, community approach. The lack of basic needs like safe housing, nutritious food, clean water, adequate transportation, financial security, access to healthcare, and community connection are injustices and inequities that often overlap. Not every problem can be solved or mitigated with technology, but lack of broadband internet access is a "super-determinants of health" that directly impacts quality of life and health through multiple vectors.   Millions of residents across the US lack high speed internet access which can impede their full participation in remote work, training, education, healthcare, and social interactions. For millions in rural areas, healthcare is often entirely out of reach. Residents are subject to numerous social challenges including physician shortages, long travel times, and inadequate broadband. Those most at risk in rural areas include migrant farmworkers, who face additional barriers due to shifting work demands and residency.

NHIT is glad to see significant funds from the Infrastructure Investment and Jobs Act marked for broadband infrastructure. While broadband infrastructure and access to technology are necessary, true equitable access also requires focus on digital literacy and proficiency for underserved communities to see the benefits of full participation.

NHIT, as a co-founder of the Telehealth Equity Coalition, an umbrella organization focused on improving telehealth equity for all that now counts over 150 members, NHIT was proud to contribute to The Coalition's recent white paper on how a community approach is key to bridging the digital divide and empowering digital health solution called "Underfunded Infrastructure: Impact on Health Equity".

Putting recommendations from the white paper into action, NHIT, in alliance with international care network Keralty, has identified opportunities to enhance the capacity and capabilities of the healthcare ecosystem with community-based partnerships for a holistic approach that provides clinical care, social services, and resources to address the social determinants of health (SDoH) that diminish health outcomes and access to care. This holistic, whole-person approach extends the reach of physicians and healthcare providers beyond traditional clinical settings and services. A key component of this holistic approach includes community health workers (CHWs) who are members of underserved and vulnerable populations and share the same language, culture, ethnicity, status, and experiences of their communities. CHWs can reduce the common barriers to health education and care services, build and maintain relationships of trust and respect within their communities, and understand the reality of how people live and what obstacles keep them from success.

Proposed Government Actions
NHIT is pleased to see funds allocated via the IIJA to meet health equity challenges. We also advise that the organizations best suited to make use of the resources afforded by this groundbreaking law have deep understanding of cultural competency and significant history developing trust with underserved members and their community leadership. Building trust is key to breaking through inherent doubt and skepticism built from years of social and economic marginalization. While building trust, we also further learn what specific barriers stand between a community and full participation. We therefore recommend that the leadership of any funded programs include representation from community and grassroots organizations with a history of engagement and a record of building trust within underserved communities.

Health Equity
With the passage of the IIJA, we have before us a rare opportunity to make significant strides toward real health equity. The COVID-19 pandemic underscores the importance of digital health systems. The shift in momentum of political will and federal funds both acknowledge that reality, but we must acknowledge that any progress toward health equity depends on meaningful inclusion and representation from underserved communities. Neither industry nor government should build digital tools for people from underserved and marginalized communities without their representation and active involvement. To model such inclusion and

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participation, NHIT has partnered with the American Medical Association (AMA) on a program called *In Full Health*. This program seeks to bring people from these communities to the table in envisioning, tailoring and building digital health solutions that address the real-world challenges of people like them.

Digital health services like telehealth are useful tools for both patients and providers. For patients, it can reduce or eliminate travel time, facilitate visits that otherwise might be canceled, and provide culturally-competent service in geographic regions where physicians are absent, unable to see new patients or do not share the patients' language or culture. Telehealth technology can also enable remote support from family and friends who cannot be physically present during patient appointments.

For providers, telehealth services can make more efficient use of their time by conducting visits virtually, either in real-time or via asynchronous technologies when appropriate. Telehealth visits can also overcome barriers related to provider shortages, such as enabling specialists to serve patients in a much wider geographic area that would have otherwise been prohibitive.

During the pandemic, NHIT worked with the Army's Telemedicine & Advanced Technology Research Center (TATRC) to bring the National Emergency Tele-Critical Care Network (NETCCN) to a hospital in rural Puerto Rico experiencing staffing shortages and struggling to care for COVID-19 patients. Simply put, bringing virtual consultative support to the doctors, nurses and community health workers at this hospital allowed them to deliver the best care for their patients - care that would not have been possible without telehealth.

The US Department of Health and Human Services identified disparities in health equity for the underserved nearly 40 years ago, and these gaps still exist. As the healthcare system invests more in information technology, there exists the risk that these investments – if not designed with and for the needs of underserved communities in mind – will exacerbate disparities. As the trusted voice of the underserved in health IT matters, NHIT's work is more important than ever.

We look forward to working with OSTP to deliver on the promise of digital in improving health care for all Americans.

Sincerely,

Luis Belen
Chief Executive Office

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February 28, 2022

Dr. Alondra Nelson
Acting Director, White House Office of Science and Technology Policy (OSTP)
Submitted electronically via Federal Register, Document 87 FR 492

Re: [Request for Information](#) on Strengthening Community Health Through Technology

Dear Dr. Nelson,

On behalf of the National Urban League, an organization with a 111-year history of advocating for policies that promote economic empowerment for African Americans and other historically underserved communities, I write with our recommendations for strengthening community health through technology.

In 2021, the National Urban League released the Lewis Latimer Plan for Digital Equity and Inclusion ("Latimer Plan").[1] This detailed and comprehensive agenda was created to address four goals: deploying networks everywhere; getting everyone connected; creating new economic opportunities to participate in the growth of the digital economy; and using the networks to improve how we deliver essential services, particularly in workforce development, health care, and education settings. The plan addresses "the three A's"—availability, adoption, and access to economic opportunities. Millions of American homes, businesses, and other enterprises cannot fully participate in 21st-century society because we as a country have not adequately addressed these three barriers to broadband adoption.
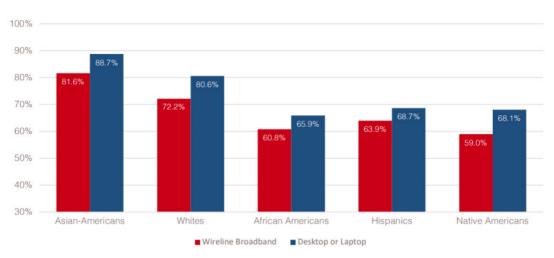
Barriers to the Use of Digital Health Technologies in Community-based Settings
Due to a history of racial discrimination, communities of color face profound disparities in health status -- people of color experience higher incidence or prevalence of disease, earlier onset or faster progression of disease, poorer daily functioning and quality of life, premature or excessive mortality, and greater global burden of disease. While telehealth has the potential to make meaningful change for health in communities of color, our Latimer Plan identified several key gaps that need to be addressed in order for this to happen. These include the availability and adoption of home broadband (which includes, by definition, reliable and affordable service) and Internet-enabled devices; eligibility to receive telehealth services and corresponding reimbursement; limitations in digital literacy and workforce diversity, which affect interactions with providers; and limited research and data specific to telehealth and communities of color.

As the below graphic shows, broadband and computer adoption varies by race, indicating systemic barriers. Black, Hispanic, and Native Americans have the lowest rates of adoption of desktops or laptops

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[1] "The Lewis Latimer Plan for Digital Equity and Inclusion." *National Urban League*. https://nul.org/sites/default/files/2021-04/NUL%20LL%20DEIA%20041421%20Latimer%20Plan_vFINAL_1136AM.pdf

(12-15 percentage points lower than White or Asian-Americans) and of broadband (10-20 percentage points lower).

FIGURE 3

HOUSEHOLD WIRELINE BROADBAND & COMPUTER ADOPTION
BY RACE & ETHNICITY (2018)

Specifically, our report outlines the following gaps:
- *Availability Gap:* Millions of American homes, businesses, and other enterprises cannot connect to a broadband network capable of allowing them to fully participate in the economy, obtain education and health services, train, search, and apply for a job, and otherwise participate in society.
- *Adoption Gap:* Even among those Americans for whom a broadband network is available, there are still tens of millions who have not adopted broadband, for either reasons of affordability or a lack of digital literacy.
- *Affordability Gap:* For millions of Americans who do not subscribe to broadband, the cost of service remains an overwhelming obstacle to adoption.
- *Utilization Gap:* There is also a lesser-known challenge--improving how we actually utilize digital platforms to improve essential services for all, especially in healthcare.

Trends from the Pandemic
Although telehealth has been available for decades, the pandemic has greatly accelerated its adoption across all patient and provider populations. The Centers for Medicare and Medicaid Services reported unprecedented increases in telehealth, with 1.7 million beneficiaries receiving services in the last week of April 2020, versus only 13,000 a week before the pandemic. A 2022 report from HHS's Assistant Secretary for Planning and Evaluation[2] revealed "significant disparities" in usage of audio versus video

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[2] Karimi, Madjid et al. 2022. "National Survey Trends in Telehealth Use in 2021: Disparities in Utilization and Audio vs. Video Services." *ASPE*. https://aspe.hhs.gov/reports/hps-analysis-telehealth-use-2021

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telehealth among groups. Overall reported telehealth usage (both audio and video) among nearly 675,000 adults surveyed between April and October 2021 was similar among education levels, and Black respondents used telehealth more than any other racial group on a percentage basis. Nearly 27 percent of Black respondents reported using telehealth in the previous four weeks compared with 21 percent of White respondents, 24 percent of Latino respondents and 22 percent of Asian respondents. And lower-income respondents were more likely to use telehealth. But differences emerged between groups in video telehealth usage by age, education, income and race in the study's second half. People earning less than $25,000 used video for less than half of virtual visits, a figure that steadily rose among income brackets, with nearly 69 percent of visits by people earning at least $100,000. And White respondents had the highest rate of video telehealth visits at 61.9 percent, followed by multiracial or other respondents at 58.9 percent, Black respondents at 53.6 percent, Asian respondents at 51.3 percent and Latino respondents at 50.7 percent.

These disparities matter a great deal. Telehealth use has exploded since the outset of the Covid-19 pandemic and figures to play a larger role in health care beyond the pandemic. Audio-only telehealth has been suggested as a solution to reach more vulnerable communities that may lack stable internet. In November, CMS moved to permanently allow payment for audio-only mental health care, but only if the patient can't use or "does not consent to" two-way audio/video. However, the authors of this 2022 HHS report point to research suggesting that video-enabled telehealth may be better than audio-only in "many clinical contexts." Telehealth policy going forward will need to account for disparities in audio vs. video telehealth, to ensure the highest level of virtual care is available for all communities, especially those who are underserved.

A key trend from the pandemic is the digital divide widening in health care. A reliance on digital technology to accomplish essential tasks, including disseminating health information and monitoring conditions, as well as communicating with and engaging patients in their health care, has added to, rather than helped to close, current health disparities for patients without access to or the skills to use these technologies. We saw this play out as many people of color were unable to get a vaccine appointment due to online appointment scheduling being the only vehicle to securing one.

As healthcare workers continue to leave their professions after years of staff shortages, lack of resources, and the continued challenge of the pandemic, care for already marginalized populations will decline. One solution is to leverage technology more, but that will only work for those already participating in the digital health world. It is a moral imperative at this point to do all we can to get low income, urban areas, rural areas, communities of color, and others in the digital divide connected.

Proposed Government Actions
With healthcare services increasingly provided online, the government must assure that everyone has access to user-friendly, health-enabling tools that connect them to high-quality, affordable health services and medical information they can understand. Disconnected communities need a permanent affordability solution.

The National Urban League's Lewis Latimer Plan recommends that federal and state governments act to reduce disparities in access to health care services by

- Adopting consistent policies across state Medicaid programs
- Permanently removing geographic and originating site restrictions where a patient must be located at the time of service
- Permanently removing limitations on eligible services, providers, and facilities
- Permanently removing unnecessary restrictions on practitioners eligible to provide telehealth services
- Funding programs supporting digital health care infrastructure and technical assistance, digital health literacy, and workforce diversity
- Permanently authorizing FQHCs to provide distant site telehealth services

Additionally, the Latimer Plan recommends
- The Department of Health and Human Services should allocate funding to develop, recruit, and retain health care professionals from underrepresented groups
- The FCC should modify the Connected Care Pilot Program and the Telehealth Program to focus more on improving health outcomes for low-income communities and communities of color
- LifelineMobile, would continue the current Lifeline subsidy for basic voice and mobile functions with some limited data, albeit with comprehensive reforms; and
- LifelineMed, a component of LifelineHome, would provide broadband at home to low-income persons, both to utilize the full suite of telehealth services available

Combined with increased access to telehealth services in underserved communities, greater diversity in the healthcare workforce can help address racial and ethnic healthcare disparities. Health care professionals who identify as racial or ethnic minorities are more likely to provide care to lower-income, minority and uninsured populations. Yet only 23 percent of Black Americans, 26 percent of Latinos and 39 percent of Asian Americans have a physician that shares their race or ethnicity, compared to 82 percent of White Americans. Racial concordance between the healthcare provider and patient correlates with improved health outcomes, patient satisfaction and communication. It can also help overcome harmful racial or cultural biases in the provision of healthcare, mistrust of the medical community, as well as cultural attitudes and beliefs about health care. Although the overall health care workforce is becoming more diverse, the majority of people of color remain in entry-level and often lower-paying jobs with little opportunity for advancement. Congress must appropriate more funds for programs that combine social, academic and financial support to address the financial challenges, disconnected pipelines and unclear career pathways, and lack of academic and social supports hindering workforce diversity.

Health Equity
Broadband has the potential to address many of the key failings of the healthcare system that contribute to disparities, including inadequate access to care, inconsistent quality of care, and variations in patient experience due to location. As the Latimer Plan references, research from the greater Rochester, NY area demonstrated that introducing telehealth to children in poverty redressed socioeconomic disparities in acute care access, thus contributing to a more equitable health outcomes.[3] That being said, telemedicine

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[3] Ronis, Sarah D., Kenneth M. McConnochie, Hongyue Wang, and Nancy E. Wood. 2017. "Urban Telemedicine Enables Equity in Access to Acute Illness Care." *Telemedicine and e-Health* 23(2): 105–12. http://doi.org/10.1089/tmj.2016.0098

should not become a substitute for the provision of quality health care. It will greatly help with the access to care issues but we cannot let its implementation be used as the only solution to quality medical interaction.

The federal government should help community-based and smaller providers be able to adopt and use digital tools to increase access to their patients. We know that in low-income and rural areas, it is Federally Qualified Health Centers (FQHCs) and sole physician practices that provide care to vulnerable, underserved populations. To increase equity and access to high quality telehealth, we must ensure that these providers have the opportunity and support to adopt this technology.

Thank you for the opportunity to comment. Should you have follow up questions, please contact Morgan Polk (███████████ of my staff.

Sincerely,

███████████

Marc H. Morial
President and CEO, National Urban League

February 28, 2022

Alondra Nelson, Ph.D.
Director
White House Office of Science and Technology Policy

Dear Dr. Nelson:

On behalf of Nemours Children's Health, thank you for the opportunity to comment on your recent request for information on how digital health technologies can help transform community health, individual wellness and health equity. Nemours Children's Health is one of the nation's largest multistate pediatric health systems, including two free-standing children's hospitals and a network of nearly 75 primary and specialty care practices. Nemours Children's seeks to transform the health of children by adopting a holistic health model that utilizes innovative, safe, and high-quality care, while also caring for the health of the whole child beyond medicine. Nemours Children's also powers the world's most-visited website for information on the health of children and teens, KidsHealth.org.

The Nemours Foundation, established through the legacy and philanthropy of Alfred I. duPont, provides pediatric clinical care, research, education, advocacy, and prevention programs to the children, families and communities it serves. For more information, visit Nemours.org.

Nemours Children's Experience

Electronic Health Records (EHR)
Electronic Health Records (EHR) can improve patient care, quality, and safety outcomes, minimizing medical errors and improving communication.[1] EHRs facilitate use of predictive analytics, whereby existing patient data is used to inform risk of future disease. Predictive analytics can be employed for the benefit of an individual patient or used at the population health level as a key contributor to risk stratification. Because disease risk, and consequently, healthcare utilization, often is driven by social determinants of health (SDOH), lessening the impacts of these risks can reduce the cost of medical care. SDOH contribute to approximately 80% of a person's overall health.[2] These factors can negatively and disproportionately affect people living in marginalized communities, who likewise bear the brunt of chronic illness.[3] Risk mitigation efforts in the community, supported by healthcare organizations such as Nemours Children's, can reduce the incidence of chronic illness, pivoting the U.S. healthcare system toward "paying for health" in the move toward value-based care.

Presently, SDOH data are not routinely or effectively captured in EHRs. Challenges include a lack of consensus over standards for its collection and representation.[4] Healthcare systems are beginning to seek innovative ways to incorporate SDOH data into the EHR in pursuit of mitigating risk and improving patient outcomes. An example of what is possible is occurring at Nemours Children's Health in Delaware. Interoperable technology connecting schools,

clinicians, and Nemours' EHR is being used to address chronic school absenteeism. Text notifications sent to a child's pediatrician when absences exceed a threshold enable the pediatrician to contact the family and facilitate appropriate support. Policies that support the transition to value-based care will incentivize the necessary evolution of the EHR as a tool that goes beyond the traditional patient encounter into a tool that can be used to address the social barriers to health within the community.

Telehealth

Nemours Children's telemedicine program, launched in 2015, experienced an exponential increase in patient visits across primary care, urgent care, and pediatric specialties during the pandemic. Much of this rapid increase is attributable to changes that were made at the state and federal level during the initial emergency declaration. At Nemours Children's, state and federal waivers allowed us to rapidly meet patient demand for virtual care through expedited licensing procedures. These procedures were employed for 28 qualified Nemours Children's urgent care providers who were prepared to deliver care on the platform in as few as ten days,[5] and hundreds of additional primary and specialty care providers who were then able to provide care across state lines.

In our urgent care service, which accepts "on-demand" telemedicine visit requests from patients, utilization increased by 172% in the early months of the pandemic compared to 2019.[6] This growth coincided with Medicaid waivers, enabling families to initiate video or audio-only telehealth visits from the comfort and safety of their home for the first time. Utilization by families enrolled in Medicaid increased by 8% across our Florida operations.[7] The recent expiration of state-level Medicaid waivers has meant that telemedicine coverage once again is limited for many of our Florida patients. The loss of access to care disproportionately impacts people already at increased risk for poor health outcomes. Legislation to allow Medicaid Section 1135 waivers' extension through 2024 until comprehensive telehealth policy can be developed and implemented would positively impact the health of Nemours Children's patients and millions of others across the U.S.

Despite the recent overall growth in telemedicine utilization, our patients residing in rural communities make up less than 5% of our virtual urgent care population. During lockdowns in the early months of the pandemic, virtual urgent care visits *dropped* among Nemours Children's rural patients in Delaware, suggesting that patients did not have access to the necessary technology in their home.[8] These challenges underscore the pressing need to expand broadband technology into communities across the U.S. to help ensure that all Americans have reliable access to health care. Moreover, rurality and cultural preferences correlate with higher utilization of audio-only telehealth.[9] However, just 18 states reimburse audio-only telehealth, further contributing to health disparities.

Implementing policies that recognize and support the unique needs of different patient populations is essential to health equity. Maintaining waivers that expand access to care is essential for the people who need it the most during challenging times. Moreover, for multi-state organizations such as Nemours Children's, our ability to employ physicians who can meet the needs of patients across a diverse geographic landscape would be facilitated by a permanent national license reciprocity standard. Finally, federal programs that encourage states to require

training of medical residents on telehealth would help to ensure the workforce is prepared to utilize the technology rapidly in future national emergencies.

Mobile Health (mHealth) Apps

Mobile health ("mHealth") apps hold the potential to increase access to care, facilitate education, improve engagement, and improve patient outcomes.[10] Apps can assist patients in managing chronic health conditions by enabling sharing of health data with physicians between office visits. Benefits are optimal with joint patient/provider utilization[11]; a recent Nemours Children's study found that physicians accessed real-time patient health data shared in the Nemours App to update their pediatric asthma patients' care plans, eliminating the need for the patient to wait until the next scheduled office visit.[12]

Alternatively, mHealth may contribute to the digital divide as these technologies are not equally available for all patients, resulting in adverse impacts on health equity.[13] Barriers include unequal access to broadband and/or smartphones[14,15], lack of multi-language app content[16], low usability[17], and patient concerns about privacy and data security.[18] Additionally, provider adoption is low.[19] Limited involvement in app development and concomitant workflow challenges undermine more widespread adoption among providers.[20] Additional challenges include mHealth's limited integration with EHRs[21], lack of reimbursement for its use, and limited availability of research on app effectiveness.[22] These challenges must be addressed.

As more apps are demonstrated to be reliable and effective and their data are being securely integrated into EHRs, it is imperative that providers are incentivized and reimbursed for clinical care delivered via mHealth. In addition to reimbursement, many other federal policies and funding efforts that support telehealth adoption also are relevant for mHealth adoption and access, including those impacting broadband access and data security, programs that support increasing access to care in the community, and programs that promote health literacy. Policies supporting integration of mHealth patient data into the EHR and reimbursement for its use will help to solidify it as a key source of patient health information and a fixture of value-based care.

CONCLUSION

Nemours Children's stands ready to leverage our expertise and relevant experiences to assist you as you work develop digital health policy. Thank you for your consideration of our recommendations, and we look forward to continued collaboration. Please do not hesitate to reach out to us at ████████████████████████████████ with questions or requests for additional information.

Sincerely,

Carey Officer
Vice President, Service Delivery Innovation
Center for Health Delivery Innovation
Nemours Children's Health

Daniella Gratale, MA
Director
Office of Child Health Policy & Advocacy
Nemours Children's Health

[1] Atasoy H, Greenwood, BN, McCullough JS. The Digitization of Patient Care: A Review of the Effects of Electronic Health Records on Health Care Quality and Utilization. Annu. Rev. Public Health 2019. 40:487–500. doi.org/10.1146/annurev-publhealth-040218-044206

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[21] *Ibid.*

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12780 El Camino Real, San Diego, CA 92130 ████████████

Submitted Electronically to Director Alondra Nelson, via ████████████████████

March 23, 2022

Re: Connected Health RFI

Dear Director Nelson,

Neurocrine Biosciences, Inc. (Neurocrine) appreciates the opportunity to submit comments to the Office of Science and Technology Policy (OSTP) in response to the [Request for Information (RFI) on Strengthening Community Health Through Technology](#).

Neurocrine Biosciences is a neuroscience-focused, biopharmaceutical company dedicated to discovering, developing and delivering life-changing treatments for people with serious, challenging and under-addressed neurological, endocrine and psychiatric disorders. The company's diverse portfolio includes FDA-approved treatments for tardive dyskinesia, Parkinson's disease, endometriosis, uterine fibroids and clinical programs in multiple therapeutic areas. For thirty years, Neurocrine Biosciences has specialized in targeting and interrupting disease-causing mechanisms involving the interconnected pathways of the nervous and endocrine systems.

Neurocrine applauds OSTP's leadership in efforts to improve community health, including by exploring the use of innovative technologies to improve access to quality healthcare. In our comments, we respond specifically to OSTP's requests on the topics of digital technology trends from the COVID-19 pandemic and the impact of these technologies on health equity, particularly for people living with mental health conditions who may be at risk of developing a drug-induced movement disorder (DIMD).

DIMDs, including tardive dyskinesia (TD), are a group of disorders that can occur because a person is taking prescribed medications that help control dopamine, such as antipsychotic medications to treat a primary mental health diagnosis, such as schizophrenia, bipolar disorder, or major depressive disorder. DIMDs straddle the divide between physical and mental health conditions, and they can significantly impact activities of daily living, such as speaking, getting dressed, eating, and a person's ability to work. TD is a persistent condition that is often irreversible, and which manifests in involuntary physical movements across the face and body. The condition is typically, but not always, screened for and diagnosed by psychiatrists, nurse practitioners and physician assistants treating a primary mental health condition, and periodic screening for and treating disordered movements is [expressly the standard of care](#) for patients with schizophrenia who are prescribed antipsychotics.

Trends from the pandemic, and health equity concerns: During the COVID-19 Public Health Emergency, telehealth provided an important lifeline to many people who would have otherwise

been unable to access care while in-person encounters were discouraged. Telehealth may help address certain barriers to access, such as proximity to providers, lack of transportation, and mobility issues. At the same time, there is a significant and often overlooked tradeoff with patient safety implications: telehealth access at the expense of medically necessary in-person care has the very real potential to exacerbate health inequities, particularly if services are delivered via telephone.

Our recent survey of providers on the diagnosis and treatment of DIMDs via telehealth raises further questions concerning the potential for telehealth to exacerbate existing inequities. Survey respondents identified lower functioning patients, patients without regular caregivers, and patients who reside in group homes as the most difficult types of patients to monitor for DIMDs via telehealth, and as the types of patients most at risk of missed diagnosis when treated by telehealth.[1] Unfortunately, these data suggest that certain patients already underserved by the mental health system may be much less likely to benefit from the growth of telehealth than those with comparatively better access to care.

Experts have gone so far as to raise concerns about creating a future "two-tiered" system of telehealth. At an April 2021 Congressional hearing on the future of telehealth, multiple witnesses expressed apprehension about such a system materializing, with one clinical expert in telehealth stating: "while … telephone calls may increase access for disadvantaged populations, I am concerned about a future with a two-tiered system where the poor and disadvantaged have phone calls and the wealthy have video visits." And, as the acting director of the Agency for Healthcare Research and Quality (AHRQ) noted in a recent blog post:

> As we recommit ourselves to addressing historical racism and advancing health equity, we must ensure that increased use of telehealth in all its forms does not leave any group of patients, including those with limited Internet access, behind. Like all healthcare innovations, telehealth must be considered with equity in mind.

Furthermore, emerging expert opinion finds that audio-only treatment may be particularly sub-optimal for new patients, including initial psychiatry visits, patients who may not be sufficiently stabilized, and those for whom a physical assessment is critical to screening or diagnosis. A prime example presents in persons living with serious mental illness, who may be at risk of developing DIMDs, such as tardive dyskinesia. These disorders are screened for via a physical assessment that relies on visual cues to identify involuntary muscle movements in different areas of the body. For those at risk of developing DIMDs, audio-only telehealth can thus lead to ineffective screening, missed diagnoses, or inappropriate treatment plans. In fact, providers in a recent survey indicated that persons living with serious mental illness who are new to a practice are at high risk of a missed diagnosis when care is delivered through telehealth.[2]

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[1] Neurocrine Biosciences,. Survey of 277 neurologists, psychiatrists, and advanced practice providers (nurse practitioners and physician assistants) affiliated with neurology and psychiatry practices. Data presented at Psych Congress on October 29-November 1, 2021.
[2] Neurocrine Biosciences, data on file. Survey of 277 neurologists, psychiatrists, and advanced practice providers (nurse practitioners and physician assistants) affiliated with neurology and psychiatry practices. Data accepted for publication at Neuroscience Education Institute Congress on November 4–7, 2021.

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The delivery of care via an audio-video interaction, however, only slightly lessens our concerns, particularly for patients at risk of developing a DIMD. Audio-video telehealth limits the ability of a health care provider to screen for DIMDs due the difficulty of viewing the body below the neck, poor video resolution, and other factors. Market research indicates that health care providers find it difficult or ineffective to screen for or diagnose DIMDs via telehealth. As a result, they are much less likely to screen patients for DIMDs in virtual settings, including audio-video visits. Syndicated data captured across multiple therapeutic areas indicate that a patient seen via telehealth is approximately 50% less likely to receive a prescription for a new therapeutic regimen than a patient seen in-person.[3] Therefore, we are concerned that telehealth patients needing a therapeutic change may receive suboptimal treatment due to healthcare provider reluctance to initiate a new treatment regimen in the absence of an in-person visit.

Policymakers must now contemplate long-term telehealth policy, including whether measures enacted during the pandemic response should be continued. One of the most concerning trends is a shift to delivery of health care services over a computer or telephone as a *substitute* for in-person care. Neurocrine strongly cautions that a significant lack of data exists regarding the impact of audio-only telehealth on access and quality of care. Furthermore, for both audio-only and audio-video telehealth interactions, preliminary data from the Assistant Secretary for Planning and Evaluation (ASPE) Office of Health Policy suggest that telehealth may *exacerbate* existing health disparities. For example, ASPE data shows the highest audio-only telehealth utilization among underserved populations including Black, Latino, Asian, and elderly populations, and those with lower education and lower income, even though "Live video services appear to offer advantages over audio-only services in many clinical contexts".[4]

Absent policy guardrails that expressly preserve periodic in-person visits for mental health care, the risk remains that for some patients—including low-income, rural, and otherwise disadvantaged patients—the default setting of care may become a computer or telephone, thereby exacerbating existing health disparities and leading to poorer health outcomes. Given the clinical limitations of telehealth services, and particularly audio-only telehealth, including for patients living with or at risk of developing DIMDs, we strongly recommend a balanced approach to telehealth, including policies that cover audio-only telemental health services only in cases where patients otherwise would be unlikely to receive any care.

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Neurocrine Biosciences appreciates the opportunity to comment on this RFI, and we look forward to discussing the ideas in this letter with OSTP. Should you have any questions, please contact me at ████████████████ or Kendra Martello, Vice President, Public Policy at ████████████████

Sincerely,

████████████

Tim Clark
Vice President, Government Affairs

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[3] U.S. Pharmaceutical Market Trend Report, IQVIA, Data week ending December 3, 2021. Published December 2021.
[4] HHS Assistant Secretary for Planning and Evaluation (ASPE), National Survey Trends in Telehealth Use in 2021: Disparities in Utilization and Audio vs. Video Services Issue Brief. February 2022. https://aspe.hhs.gov/sites/default/files/documents/4e1853c0b4885112b2994680a58af9ed/telehealth-hps-ib.pdf

<div align="center">3</div>

Response to: Request for Information (RFI) on Strengthening Community Health Through Technology

Organization: NeuroFlow, Inc.
Point of Contact: Ellen McGeoch, Director of Contracting -

The following Request for Information response is submitted on behalf of NeuroFlow, Inc. NeuroFlow is a digital behavioral health company located in Philadelphia, PA, and whose mission is to create a happier and healthier world.

The responders of this RFI are members of the NeuroFlow clinical operations team, each with a unique background. Notably social workers who focus on behavioral health and public health policy. NeuroFlow's clinical operations team is led by Matt Miclette, a mental health board certified registered nurse, Tillman Scholar, and former Army Nurse Corps Captain. Mr. Miclette was awarded the Meritorious Service Medal for improving behavioral health interventions at Darnall Army Medical Center.

We hope this information is useful to the research group, and look forward to any conclusions, recommendations, or insight this RFI may produce. Our team is available for further discussion around the current topic or any related topics.

Successful models within the U.S.

Digital health technology has been used to improve health outcomes by offering solutions that combine clinical tools, data analytics, and individual engagement. By creating a powerful digital feedback loop between organizations, care teams, and individuals, digital health solutions contain workflow integrations to better measure, risk stratify, and support the behavioral health of patients at scale. The most impactful solutions couple automation and data science capabilities, allowing providers to manage larger populations in a cost effective manner. Innovative solutions intelligently increase access to care by using actionable intelligence to assign patients with a higher acuity to the right treatment or therapy (telehealth or in person) and provide the lower acuity individuals with a personalized self care curriculum available 24/7/365.

Community health providers may be able to measure outcomes or success by utilizing HEDIS standards, which can be easily measured through digital health tools. With the NeuroFlow platform, example clinical outcome metrics include:

- 53.29% of users with a moderate PHQ or above (>9) experience depression response within 4-8 months (defined by the HEDIS measures as a 50% reduction in 4-8 months), compared to an industry-standard treatment-as-usual rate of 26%
- 32.51% of users with a moderate PHQ or above (>9) experience depression remission within 4-8 months (defined by the HEDIS measures as going from above clinical level to reaching a score </= 5), compared to an industry-standard treatment-as-usual rate of 29%

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Additional clinical outcome metrics, such as cost reduction, inpatient or emergency department utilization, or improvements to clinical efficiency can also be measured by a digital health solution. For example, Jefferson Health in Philadelphia, PA saw a 34% decrease in ER visits and a 19% increase in screening, with 82% of patients reporting improvement in anxiety or depression symptoms while utilizing the NeuroFlow platform. More information can be found here, while additional metrics and research can be found here.

Barriers

As with any new care modality, there are utilization barriers for digital health technologies. At a high-level, most digital technology is so new that stakeholders have many questions around the legitimacy and security of these solutions. Stakeholders will often ask these questions without knowing what an acceptable answer would be, causing lengthy delays and unnecessary documentation from both the organization and the digital health company. Many digital health companies have digitized work that was previously done manually, however stakeholders are interested in clinical trials or academic studies ensuring the legitimacy of the technology. This is an issue, as digital health is iterative and the technology studied will be outdated, and likely improved, by the time an academic paper can be published.

From a contracting standpoint, iterative SaaS products do not fit within traditional contracting mechanisms. Current contracting documentation tends to be for software installed on-site with a small amount of planned updates throughout the year, rather than cloud-based software that is incrementally updated every two weeks. Logistical barriers include the need for reliable internet access and personal computers or smart devices, which can be an issue with rural or underserved populations.

Trends from the pandemic

The demand for digital health has been amplified in the wake of COVID-19, especially for behavioral health services. Social isolation, economic downturns, and tense social conditions have intensified the effects of depression, anxiety, and substance use disorder driving organizations to find ways to engage patients, members or employees remotely. Combining validated techniques, data science, and behavioral economics, platforms should aim to help all facets of healthcare by helping insurance, healthcare, and government organizations deliver personalized, evidence based behavioral health solutions. This will allow organizations to rapidly and remotely engage individuals with evidence-based tools and resources that support the measurement and management of behavioral health conditions.

To combat the spike in mental health issues during the first week of the pandemic and to provide the community with quick, accurate information, NeuroFlow deployed a custom COVID-19 Assessment and Anxiety Screener to help efficiently route high-risk individuals to location specific testing resources while also providing evidence-based tools and information to

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support mental wellness during a difficult time. Remote technologies facilitating access to reliable information regarding physical and mental health can serve as an invaluable resource to those in need, and should be prioritized in the event access to physical locations are limited again. In the wake of COVID-19, NeuroFlow was utilized by Jefferson Health (students) and Trinity Health (medical staff) to combat the psychological toll of the COVID-19 pandemic. Due to the flexible nature of digital health solutions, these products were able to be deployed quickly and updated with organization-specific content and resources.

User experience

The user experience should be top of the mind for any digital health technology company. At NeuroFlow, we believe the design should be intuitive, keeping users engaged regardless of gender, age, race, or education. Development, product and design teams utilize A/B testing, user research, and focus groups to deliver valuable behavioral health resources through our platform.

When delivering content via the digital health technology, it is presented in several forms, including video, journal or text responses, and audio, to meet the needs of a variety of populations. Our technology is driven by user-centered design and UX best practices, including using behavioral economics and gamification to help make the technology a tool people want to use every day. When users register, they are walked through an onboarding experience (allowing for customized pathways), while clinically-validated assessments lead to further personalized care pathways based on patient needs. Gamification tools include streaks and badges for completing assessments and trackers, and accumulating points can be exchanged for optional gift cards at popular stores such as Amazon, Target and Walmart.

User feedback is at the core of our technology, with our product teams creating Client User Advisory Boards (UAB), where they work collaboratively with provider and patient users to ensure product or service iterations and improvements are designed to deliver maximum benefits.

Proposed Government Actions

The government currently has programs in place, such as the SBIR program, to foster innovative technologies. In the immediate future, programs could be publicized to show how companies with SBIR funding are supported by the federal government, with incentives for health systems willing to adopt these technologies. Organizations willing to work with innovative digital health companies may receive federal recognition and be applauded as a positive example across the country for embracing digital health.

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From:	
To:	
Subject:	[EXTERNAL] Fwd: Live from Topeka: Community Maternity Providers
Date:	Tuesday, March 15, 2022 4:33:00 AM

Dear OST Office,

Please send this glimpse of Midwest reality to someone in the Biden White House.

We know what to do out here to unite coalitions of rural and urban populations- healthy birth.

We need you to listen to us and support us. Use capitalism for good and give us solid infrastructure.

Take bold action for the shared love of our country.

---------- Forwarded message ---------
From: **Kendra Wyatt**
Date: Tue, Mar 15, 2022 at 3:17 AM
Subject: Live from Topeka: Community Maternity Providers
To: Argentieri, Ryan (OS/ONC)   Laib, Nevin (CMS/CMMI)
                        >, Marks, Caryn (HHS/IEA)
CC: Sue Kendig

Dear Caryn, Nevin and Ryan, cc Sue

Yesterday I gave testimony to the Kansas House Insurance Committee regarding the Birth Center and access to affordable Malpractice Insurance.

I talked to 15 legislators from across the state. During the hearing the number one concern was the ability to keep having primary birth in their communities. I was asked, can you bring your model back to my community ?

Leavenworth County, the home of DOD Fort Leavenworth and its family-popular two year war college program has no delivering facility due to its IDN hospital being shut down 2 years ago. These families need primary access to basic birth services.

After all the work done in the the Momnibus package, none of the bills move the basic economic levers from fee for service to a Money follow the Mom value based model.

Hospitals and physicians and the Fully Insured Employer sponsored plans are not going to change on their own. I touched 3 health systems yesterday all following the same failed strategies for making money on NICU admissions. Providence has 1 year to break even in maternity or they will shut the OB down. That will leave Wyandotte County with no community based birthing facilities. They already have the worst outcomes in the state. There is no chance for equity when there is no access.

We need the Biden Administration, CMMI and the Federal Employee Health Plan to adopt

primary perinatal episode payment based on risk adjusted and HITECH supported models of care.

NBC can be a model and HRSA Region 7 institute for the Community ER/Birth Center we know is needed in the Urban Core and Rural Communities.

We are exactly what is needed to fix the maternal health crisis. But I can't do this by myself.

I'm begging you all to take action that we can see. Ignoring primary community birth that works is tearing our country apart. Ignoring what works is contributing to fringe voices gaining strength. Legislators write abortion bills in desperation to save their communities. They argue the people in charge don't get it. It appears our federal government is only concerned about Medicare and for profit insurance plans. Now those same voices are going after Medicare itself.

Please support us with payment models and infrastructure. Support the American's people deep rooted need for self determination, informed consent and give us risk adjusted perinatal population health based on perinatal HITECH infrastructure.

The status quo is propelling rural America towards a nationalist handmaids tale.

Sue and I know what's needed.
Please listen to us and support us.

Your fellow American,
--
Kendra

Kendra Wyatt, CEO & Co-Founder
New Birth Company
9209 West 110th ST
Overland Park, KS 66210
(m) ███████████
--
Kendra

Kendra Wyatt, CEO & Co-Founder
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The New York Academy of Medicine
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IMAGE: NYC, the Interactive Map of Aging

The New York Academy of Medicine (NYAM) tackles the barriers that prevent every individual from living a healthy life. Through its high-profile programming for the public and focused symposia for health professionals, NYAM engages the minds and hearts of those who also value advancing health equity to maximize health for all. In 2014, NYAM published *Resilient Communities: Empowering Older Adults in Disasters and Daily Life* in response to a series of catastrophic events in the last 15 years that posed significant challenges to older adults.[1] Grounded in the recommendations from this report, NYAM partnered with the City University of New York (CUNY) Mapping Service at the CUNY Graduate Center to develop an interactive mapping tool that served to:

- Facilitate more equitable planning and localized deployment of resources for older people in New York City, as well as other localities where it is adapted.

- Contribute to better delivery of culturally and linguistically competent social services and health care through the ability to isolate the needs of subpopulations in a given locality.

- Catalyze connections within and between sectors, institutions and individuals, leading to increased social cohesion, which supports aging in community and community resilience.[2]

This tool, called IMAGE: NYC, the Interactive Map of Aging, is an open-source map of New York City's current and projected population age 65+. It combines sociodemographic descriptors and overlays of relevant services and resources with geospatial mapping to provide a more nuanced picture of the city's neighborhoods. This map is the signature tool of the Center for Healthy Aging (CHA), one of the three research centers at NYAM. Current staff affiliated with IMAGE: NYC include Elana Kieffer, MBA; Mario Rubano, MPH; Yuxiao Lei; and Steven Romalewski, MS (CUNY Mapping Service).

Technical Details of IMAGE: NYC

The IMAGE: NYC map is hosted on web servers at the CUNY Graduate Center. Any data that contains a spatial component and/or can be displayed using spatial features can be incorporated onto the map. Data is obtained from various sources including NYC Open Data, government agencies, nonprofits and community-based organizations.[3] Raw data is formatted by CHA staff, ensuring that all necessary components are formatted before upload.

Two types of geographic data are displayed on IMAGE: NYC: area/district boundaries, and "point locations" of services and resources. Boundary files are managed using a local instance of ArcGIS Server at CUNY, which generates web services that are consumed by the map application. Several hundred descriptive variables are stored via a Microsoft SQL Server database. Updates are directly edited in the server, making new information automatically available to users. Point locations are uploaded via ArcGIS Desktop to an ArcGIS Online account to generate a web map feature service that is consumed by the IMAGE: NYC application. This allows NYAM to display point location services

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[1] https://media.nyam.org/filer_public/64/b2/64b2da62-f4e7-4e04-b5d1- e0e52b2a5614/resilient_communities_report_final.pdf
[2] http://imagenyc nyam.org/about/
[3] https://opendata.cityofnewyork.us/

Elana Kieffer:

and resources as clickable geographic features on the map. Other information is "hard-coded" into the map application via JavaScript and HTML files. To track map usage, Google Analytics are used to tally the number of visitors to IMAGE: NYC and organizations that link to the website.

User Trainings and Experience

To ensure users are familiar with using IMAGE: NYC, the team at CHA created a "How To" webpage that details information on hosted data as well as tutorial videos showcasing map features.[4] In addition to these resources, free training sessions are offered by CHA multiple times a year to NYAM's community partners. These interactive trainings offer a more in-depth look into the use of IMAGE: NYC and provide attendees with the chance to apply their skills under the supervision of a NYAM staff member. Office hours are also hosted throughout the year and are open to the public.

> "Librarians throughout the Brooklyn Public Library system are now using IMAGE: NYC to help us better serve our older patrons. The map helps us understand where they live, which library branches they are close to, and where to target programs such as 'Books By Mail' for those who need to bring library services to their homes."
>
> Molly Kass-Kaufman, Brooklyn Public Library

> "LiveOn NY has been proud to utilize the IMAGE: NYC Map to better understand the varying resources available to older adults in communities across the five boroughs...by mapping the locations of HUD 202 senior housing buildings, juxtaposed to the projected 65+ population in 2030, we are able to visually see where affordable senior housing investments may be most critical."
>
> Andrea Cianfrani, LiveOn NY

NYAM utilized the expertise of our in-house Head of Digital, Robin Naughton, PhD, to oversee user experience research. Dr. Naughton and members of the CHA team conducted interviews with a subset of users to understand how organizations and individuals used the map and how the map could be improved. Follow-up surveys and interviews were conducted to determine whether the technical enhancements implemented during beta testing were responsive to feedback. Examples of user experience improvements based on feedback include the additions of a "slider" function that allows the user to view two sets of demographic data at once and an address search feature. Users are encouraged to submit ongoing feedback via the map page and periodic emails are sent requesting feedback.

Barriers

One key barrier to developing and maintaining an interactive map is the associated cost. In addition to the start-up costs required to create the map, obtain data and solicit user feedback, there are also costs related to maintaining the technical aspects of the map, identifying and uploading new data, and making user-experience updates to the map. Identifying appropriate personnel, including those with technical expertise, to maintain the map and provide trainings may also be a challenge. For users, technological barriers may exist, particularly among those who are unfamiliar with online mapping tools. Therefore, it is essential for organizations to provide publicly available trainings to ensure users fully understand the functional capabilities of the tool.

Scaling Up with Federal Support

The ability to scale up beyond the individual organization relies on multiple factors. Consistent public or private funding is necessary to ensure ongoing operations. University partnerships have proven to be valuable assets for IMAGE: NYC (CUNY), Bergen & Somerset (Rutgers), and Healthy Aging Data

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[4] http://imagenyc.nyam.org/how-to/

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Elana Kieffer:

Report (University of Massachusetts) maps.[5,6,7] Academic institutions often have the technology infrastructure, technical expertise and personnel to establish, maintain and grow these tools. The ability of these tools to demonstrate their usefulness by aiding in local policy changes is also critical. The Healthy Aging Data Report has been used throughout four New England states to secure several key legislative victories including the creation of the Governor's Council to Address Aging Issues (MA), the development of the Commission on Aging (NH) and the expansion of transit access to older adults (RI).

Due to a lack of resources, less-affluent localities may be less likely to create and maintain a mapping tool, preventing these areas from reaping the many benefits of geospatial visualization and further exacerbating health inequities. The federal government could collaborate with State Units on Aging and Area Agencies on Aging to play an instrumental role through the funding of new maps in localities across the country and the promotion of existing maps like IMAGE: NYC. Furthermore, the federal government could promote the benefits of such tools and provide technical assistance for interested municipalities.

The Expansion of Hyper Focused Local Geospatial Data Tools

In recent years, the rise of geospatial tools exhibiting neighborhood-level data has been observed throughout the United States. California's Healthy Places Index (HPI) aggregates community characteristics and "non-health" policies into a score for each census tract throughout the state.[8] Baltimore's Health Department offers a map gallery with resources specific to the city's health needs including locations offering the flu vaccine and pharmacies carrying naloxone nasal spray.[9] More recently, Rutgers consulted with NYAM and collaborated with local government leaders to develop their own age-friendly mapping tool for Bergen and Somerset counties. Using code provided by CUNY, Rutgers was able to create tools that display concentrations of older adult subgroups with sociodemographic characteristics, as well as the geospatial positions of community-based assets.[4,5]

COVID-19 & Beyond

When COVID-19 vaccinations first became available to the public in March 2021, CHA promptly compiled vaccine site data from various sources to add new information onto IMAGE: NYC, displaying the information for every public vaccine site throughout the city. Additional resources on vaccine eligibility, COVID-19 epidemiological data, free transportation and special services for homebound individuals were also included on the map. COVID-19-related information is updated on a regular basis as new information is released.

The disproportionate rates of COVID-19-related hospitalizations and deaths experienced in lower income neighborhoods and among people of color highlight the message that maps such as IMAGE: NYC have been promoting for years. The pandemic has further emphasized the important role that local geospatial data plays in the community setting, whether that be in vaccine distribution or aging-in-place. In order to address the health inequities that are related to an individual's neighborhood, solutions driven by local data must be utilized. By effectively disseminating and visualizing information, neighborhood-level geospatial data will continue to aid the public health field in striving toward a more equitable health system.

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[5] https://agefriendlymapping rutgers.edu/bergen
[6] https://agefriendlymapping rutgers.edu/somerset
[7] https://healthyagingdatareports.org/
[8] https://map healthyplacesindex.org/
[9] http://gis.baltimorecity.gov/healthmaps/

March 14th, 2022

White House Office of Science and Technology Policy (OSTP)
200 Independence Avenue SW
Washington, DC 20201

Re: Request for Information on Strengthening Community Health Through Technology

Submitted electronically to █████████████████████████

To Whom it May Concern:

NextGate appreciates the opportunity to submit comments, as a *technology developer,* to the White House Office of Science and Technology Policy (OSTP) on this Request for Information (RFI). For over two decades, NextGate has been dedicated to helping healthcare organizations overcome clinical, operational, and financial challenges that result from duplicate medical records and disparate IT systems; it does this by providing a complete and accurate view of patient data across care settings. A global market leader in healthcare enterprise identification, NextGate's flagship Enterprise Master Patient Index (EMPI) solution manages patient identities for more than two-thirds of the U.S. population and over one-third of the populations in the U.K and Australia. NextGate operates in four countries, with over 200 customers, and is deployed by the most successful healthcare systems and health information exchanges (HIEs) in the U.S.

Overall Comments and Responses to Selected RFI Questions
We applaud OSTP's Community Connected Health initiative and support your goal of "meeting people where they are in their communities". **Accurate patient matching and identity solutions are central to high-quality community-based care, as are complementary technologies linking caregivers within and across healthcare organizations.** These tools are the most promising path to near-term, substantial increases in patient matching accuracy and enable **integration of disparate community-based healthcare systems.** We also highlight the promise of building from EMPIs and legacy health IT to APIs, apps, and standards-based, decentralized identities. We urge OSTP, working with the Department of Health and Human Services, to recognize the importance of decentralized, standards-based, patient identification to policy and rule-making and to monitor and support private sector work and relevant functional requirements, standards, and implementation guides.

1. **Successful models within the U.S.:** In work with clients, we have identified multiple healthcare organizations and communities where an EMPI and related technologies have enabled a full longitudinal view of community patients, enhanced the accuracy of patient data and enabled more effective community-based care.

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2. **Barriers:** Lack of accurate patient matching within and across healthcare organizations and communities leads to patient safety hazards, incomplete patient records and lack of coordination across providers and clinicians and with behavioral health and social service agencies.

3. **Trends from the pandemic:** COVID-19 has highlighted the fragmentation of U.S. health care, with a major cause being the lack of a national patient identification strategy. Without accurate patient identification, data remains siloed and difficult to use for research and care coordination. Resulting deficiencies in data integrity drive suboptimal outcomes for populations and individuals. Especially at the start of the pandemic, basic data needed to track and manage patients was not captured, with far-reaching negative consequences for treatment, testing, and science. At a March 2020 meeting of ONC's Health IT Advisory Committee, it was reported that about 40% of patient demographic data was missing from commercial COVID-19 lab test feeds. Such a lack of contact information can produce delays in notifying patients of their status and contact tracing. Patients increasingly receive care and tests from disconnected healthcare organizations and labs (including telehealth non-traditional settings like retail pharmacies) with no unified patient record or method of patient identification that enables a coordinated, comprehensive view of care histories, especially if key demographic information is missing. Resulting gaps in caregivers' data also threaten treatment plans for vulnerable individuals, worsening disparities.

4. **User experience:** Patients face major usability challenges as they must manage the need to access multiple provider portals, each with different log-in methods and credentials. Fortunately, we see major opportunities for patients to use a single, patient-managed, digital identity verification app that could be used by multiple portals and other sites with their PHI, including virtual visit sign-on. Similarly, providers face usability challenges associated with single-sign on methods for EHRs and other health IT, as well as the substantial time and complexity of credentialing. Addressing such usability challenges would be much easier with a self-sovereign digital identity that obviates the need to contact multiple source organizations for verification.

5. **Tool and training needs:** EMPIs and related technologies to identify and link providers and clinicians are central to complete and accurate patient and provider data. Beyond these tools, we need adequate training and support for staff to gather the demographic and other information needed by these solutions.

6. **Proposed government actions:** A 2019 Executives for Health Innovation (eHI) report commissioned by NextGate surveyed provider and HIE leaders and 38% of U.S. provider respondents reported an adverse event in the last two years from a patient matching issue. There was a resulting high level of support for the federal government to establish a nationwide patient matching strategy and to help fund a

national patient identifier. We support these views and a federally-led nationwide patient matching strategy implemented through public-private collaboration, including federal support for coordinated EMPI use for accurate patient matching. We support elimination of Section 510 of the Labor-HHS-Education appropriations bill, which limits federal support for patient matching solutions, enabling HHS to better work with the private sector on a nationwide strategy. We also urge OSTP and HHS to recognize the importance of decentralized, standards-based, patient identity solutions to healthcare application provider interfaces (APIs) and apps, including those used in recent regulations. We highlight self-sovereign approaches to identification, including NIST standards for person-centric identity models.

7. **Health Equity:** Social Determinants of Health (SDOH) are central to reducing disparities and achieving equity. Screening for social needs, combined with an electronic health record (EHR), enables SDOH data to be better collected, accessed, and maintained across health care and social service organizations. The ability to track patient IDs across systems and settings enables a comprehensive patient view. EMPI-powered ID management supports deeper engagement with social risk and SDOH. For example, combining EHRs with socioeconomic needs data helps providers develop comprehensive portraits of patients' health status. With this information in EHRs and population management tools, they can develop condition-specific registries to guide outreach. For example, San Mateo County Health System, a major safety-net provider using four EHRs, found that robust HIE required management of patient identities across these systems. It used an EMPI to create one patient ID, for a comprehensive patient view, and cut duplicate records from 6% to below 1%. It also identified co-managed clients across multiple units, such as its medical center and behavioral health programs, enabling comprehensive care that reduced SDOH risks.

8. **International models:** We have extensive global experience. Accurate patient identification enhances the quality of health data and enables more efficient and equitable specialist referrals and integration of medical and social service resources.

Conclusion

NextGate hopes these comments are helpful and appreciates the opportunity to help OSTP as it works on these critically important issues. If you have questions or seek additional information, please contact Jordan Needs at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ We look forward to continuing the dialogue on this and other important matters.

Sincerely,

Andy Aroditis, CEO and co-founder   Daniel Cidon, CTO and co-founder

Nobel Institute
6303 Cowboys Way, STE 400, Frisco, TX, 75034

28 February 2022

Subject: Response to Connected Health RFI #2021-28193

Dear White House Office of Science and Technology Policy Members:

The Nobel Institute is pleased to submit this response to your request for information to help inform and guide policies and actions related to strengthening community health through digital health technologies.

The Nobel Institute aims to make a global impact by improving quality of life outcomes through purposeful research that informs and advances policy. The Nobel Institute partners with community organizations, government entities, and nonprofits to fulfill this aim. The Institute is a subsidiary of MTX Group Inc., a technology system integrator and consultant with significant involvement at multiple levels of healthcare IT modernization, digital solutions development and implementation and training in 34 U.S. states.

The COVID-19 pandemic has illuminated the need for re-examining our capability and capacity for accelerating innovation in community-based health care delivery systems. The pandemic also illuminated the disparities and limitations of our current system of care. We are now at an inflection point where we can assess lessons learned and ensure that we do not run the risk of thwarting innovation by continuing to admire the problem of equitable access to healthcare technology solutions. We have to rethink our current state and get upstream by focusing on the 3Ps: Prevention, Precision and Programming.

Rapid cycle technology and innovation in real-time has been the hallmark of the pandemic. For example, MTX Group made it easier for state agencies and community-based healthcare delivery systems to quickly and accurately manage vaccine programs at scale while simultaneously providing intelligent analytics and data visualization, vaccination inventory management, outbound patient communications and more. The MTX vaccine management solution brought together various components of a COVID-19 vaccination program, including vaccine administration and inventory management and worked with public health departments to identify necessary steps to

promote vaccination adoption within a community. Their unique end-to-end solution provided state and local agencies with a customizable solution that aids in increasing vaccine orders, assisting with inventory visibility and dosage accountability.

The MTX example is one of many that could not have been achieved without states having the latitude to move quickly through the procurement process. Expedited procurements and rapid cycle production of solutions brought to light the strengths and weaknesses related to equity in access, readiness tools and training, and government actions and funding.

Equity in Access

The need for broadband access in rural areas is well-known, however, access to technology is only half of the equation. We have to have a quality workforce who can provide the care that is needed regardless of the technology solutions that are available. The *Great Resignation* will make it more difficult to recruit and retain healthcare professionals which in-turn will make it more difficult to sustain the infrastructure needed to support broadband expansion, especially in rural areas. The issue of digital healthcare literacy, as it relates to maximizing the capabilities of digital solutions, will potentially undermine the value of expansion if sustainability plans do not specifically address the need for ongoing recruitment and retention strategies of well trained staff to implement the solutions.

The pandemic also underscored the need for solutions specifically designed to address the unique healthcare issues of the underrepresented and marginalized populations. Digital healthcare solutions can not be a one size fits all approach. Social determinants of health dictate where and when consumers will seek healthcare services and interventions. Moving forward, community health centers will have to consider if and how telehealth addresses social determinants of health in a holistic, integrated and equitable manner. Simply put, digital solutions have to be tailored to meet the consumer where they are with regard to their view of what constitutes quality healthcare, as well as their perception of well-being and wellness.

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Readiness, Tools and Training

Access to quality digital healthcare is dependent on leadership believing that technology can and will enhance and improve patient centered outcomes. We will need to do everything possible to ensure that industry leaders and decision-makers have more than a general understanding of what technology can and can't do. This will require a concerted effort to integrate technology into workflow processes through deliberate and sustained organizational change management.

Healthcare providers and consumers alike need on-going training related to the use of digital solutions. Moving away from the notion of "one and done" training is going to be necessary as digital technologies evolve. Community healthcare providers could benefit from a national repository of automated toolkits and trainings for building quality systems of care, community engagement, and evaluation strategies. By incorporating artificial intelligence (AI) into the toolkits and trainings, leaders will be able to ensure that equity, access and inclusion is infused end to end.

Government Actions and Funding

States typically are stifled by cumbersome procurement rules and regulations. The pandemic afforded states the ability to authorize emergency procurements which allowed for digital healthcare innovation in real-time and discretionary powers to address broadband issues. Pandemic funding accelerated the art of the possible conversations in many states and communities, however sustainability and expansion will continue to be stifled if there is not deliberate action to require states to address their bifurcated and fractured systems. The unchecked duplicative cost associated with migrating to the cloud will inhibit our ability to reach the finish line.

Lastly, there has to be a concerted effort to regulate and reimburse digital health platforms. For example, over 600 new digital mental health platforms were stood up during the pandemic with little or no oversight with regard to validation of their effectiveness. Some of these platforms are insurance reimbursable while others are self-pay. With the increased focus on health equity and access, there needs to be more oversight and protections for our most vulnerable populations to ensure that there are health data protection and security measures in place.

at the University of Chicago

×NORC

February 28, 2022

Presented electronically to
White House Office of
Science and Technology
Policy (OSTP)

Presented by
NORC
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Chicago, IL 60603

Point of Contact
Prashila Dullabh
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Connected Health RFI

Strengthening Community Health Through Technology Policy

*✶***NORC**

Comments on Request for Information (RFI) on Strengthening Community Health Through Technology issued by the Office of Science and Technology Policy [2021-28193]

NORC is pleased to respond to this Request for Information on Strengthening Community Health Through Technology. As a nonpartisan, nonprofit research organization, we have studied almost every aspect of the human experience for more than eight decades. We partner with government, corporate, and nonprofit clients around the world to provide the objectivity and expertise necessary to inform the critical decisions facing society.

The limitations of U.S. healthcare systems in addressing patient needs are apparent. Sixty percent of the Americans have at least one chronic disease, including diabetes, hypertension, asthma and cardiovascular diseases. These conditions are the primary causes of morbidities and mortalities, disability, and healthcare costs[i]. Existing health disparities and inequities resulted in the disproportionate impact of the COVID-19 pandemic on communities. Proposals to improve healthcare now focus on quintuple aims: improving population health, enhancing the care experience, and reducing costs, reducing burnout, and advancing equity.[ii] Digital health technologies (e.g. mobile devices and telehealth) have potential to facilitate healthcare access and delivery, which been used to connect patients and providers and establish connected health services with communities. Yet, they may fall short as all-inclusive and structurally and culturally appropriate tools that promote equitable care. The COVID-19 pandemic has created an unprecedented need for digital health technologies (DHT), especially telehealth, health management and tracking and remote patient monitoring.[iii, iv] Investments in DHT totaled more than 21 billion U.S. dollars (USD)in 2021[v], with research and development (driven by real world evidence and research trials) being top funded value propositions, and mental health being the top funded clinical field. Connected and integrated DHT (e.g., patient portals, telemedicine, mobile health) proved their value by facilitating timely healthcare communications, reducing information barriers and supporting continuity of care for patients who could not be seen in-person.[vi]

Our responses focus on 2 topics: (1) successful models of DHT implementation within the U.S. and (2) health equity, highlighted with the examples and evidence presented by the agencies, literature and NORC's projects.

A landscape review of CBOs partnering with health organizations conducted by NORC found several opportunities for participation of state and federal stakeholders. Specific to advancing DHT, several interviewees saw a potential role for federal and state agencies to assist with data system integration and continue supporting interoperable standards.[vii] These two recommendations would strengthen the ability of the CBOs and health systems to share data and integrate their referral systems.

SUCCESSFUL MODELS OF DHT IMPLEMENTATION WITHIN THE U.S.

Expanding medical care to health care by addressing Social Determinants of Health

Some researchers estimate seventy percent of a patient's long-term wellness is determined outside of health care settings, which means addressing social determinants of health is vital to the success of a patient's overall health.[viii] Community-based (CBO) offer services critical to addressing SDOH including case management, advocacy, information, or referral to services. Through these services. Through these services, collaborations with CBOs can improve both individual and population health while reducing provider burnout by providing opportunities to addressing social determinants of health.[ix, x]

✶ **NORC EXPERIENCE**

NORC works with a variety of partners and funders on projects that examine models of digital health and provides thought leadership in several key federal initiatives.

- Patient-Driven Research Community Learning Network Coordination. *Leading PCORI funded facilitated learning network with its partner, Academy Health, to create an environment for sharing and synthesizing knowledge across projects to advance the role of PDRCs in clinical and care delivery research.*

- AHRQ Innovations in Physician, Physician Practice and Social Determinants of Health Data. *Supporting research on existing and emerging issues related to healthcare policy and clinical practice research while also complementing existing AHRQ resources.*

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Connected Health RFI: *Strengthening Community Health Through Technology Policy*
Electronically presented to White House Office of Science and Technology Policy (OSTP)
February 28, 2022

Changing regulations have resulted in new opportunities for telehealth.

As COVID-19 swept across the country, both states and federal regulatory agencies temporarily relaxed regulations governing telehealth.[xi,xii] This unprecedented change in telehealth policy has allowed many organizations to test and develop new models of care. A landscape review of telehealth trends indicated that psychiatry (61.9 percent) is now the most highly used telehealth service followed most closely by neurology (27.5 percent), gastroenterology (20.8 percent), and primary care (18.9 percent). Modalities of telehealth include telephone visits, video conference, patient portal enabled telehealth visits, and EHR vendor specific mobile apps.[xiii] While not all models use video conferencing, early literature indicates the use of video in the telehealth was an important component of the models. Patients reported the videos connect helped make them feel more connected to their providers while allowing them to stay within the comfort and safety of their own homes. Providers reported the video conferencing helped them pick up on a facial cue and provided a unique window into their patients homes.[xiv,xv] However, before video telehealth can be widely implemented several barriers in coverage and reimbursement, licensure, broadband access and adequacy, and privacy and security will need to be addressed.[xvi] Exhibit 1 outlines a few prominent examples of telehealth innovation.

Exhibit 1. Examples of Successful Telehealth Models

Specialty Area	Example of Telehealth Use or Expansion due to COVID-19[xvii,xviii,xix]
Psychiatry	Yale New Haven Psychiatric Hospital rapidly designed and deployed virtual intensive outpatient mental health services for complex patients, including group-based psychotherapy.
Gastroenterology	The University of Texas Medical Center transitioned to a gastroenterology electronic consultation program. Electronic consultations were performed for every outpatient referral without the need for in-person clinic visits.
Neurology	University of Pennsylvania implemented telemedicine for spine care and developed a remote spinal examination methodology where the patient is an active participant.
Emergency Medical Services	Programs such as ETHAN in Houston, TX, or the Virginian Commonwealth University Health System collaboration successfully use video telehealth avoid unnecessary ED visits and better serve rural health patients and reduce potential exposures to COVID-19.

Additional examples can be found in the *Changes to Telehealth Policy, Delivery, and Outcomes in Response to COVID-19 Landscape Review*.

HEALTH EQUITY

Emerging barriers with DHT are digital divide and digital literacy

DHT offers promise to increase access and lower costs in healthcare delivery. Yet, the adoption of DHT by health systems and hospital infrastructures was faster than the readiness of patients to use DHT in healthcare. Existing inequitable health access is extended into the virtual environment with the emerging barriers of technology access and digital literacy.[xx xxi] Health equity should go hand in hand with digital equity to leverage DHT across populations. This means that everyone should have "the opportunity to attain their full health potential and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances."[xxii] and "have the information technology capacity needed for full participation in our society, democracy and economy."[xxiii]

× NORC EXPERIENCE

NORC works with a variety of partners and funders on projects that examine and attempt to reduce systemic and structural inequities in a wide range of contexts.

- Reducing Health Disparities through Quality Improvement. *Helping the Centers for Medicare & Medicaid Services (CMH) Office of Minority Health (OMH) embed health equity into programs.*
- California Communities Mental Health Services Survey. *The purpose of this survey is to learn about Californians thoughts and feelings toward mental health and the services provided in California to better support people experiencing mental health challenges.*
- The State of the Collection of Race, Ethnicity, and Language Data in Medicaid. Identifying best practices in states' collection of race, ethnicity, and language of Medicaid beneficiaries.

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![NORC logo]

Connected Health RFI: *Strengthening Community Health Through Technology Policy*
Electronically presented to White House Office of Science and Technology Policy (OSTP)
February 28, 2022

Digital divide is reflected by device ownership and broadband access. Digital divide occurs in healthcare as individuals do not have ownership of smart devices (smartphone, tablet and computers) or broadband services, which are the necessary components for DHT and services (e.g., telehealth visits, patient monitoring). One in five low-income adults and almost 30% of senior citizens own a cellphone (not a smartphone).[xxiv] Rural residents, racial and ethnic minorities, people living on tribal lands, low-income families and senior citizens in US are less likely to have broadband at home.[xxv] Currently, the widely adopted DHT approach is automated text messaging and phone call services, which is effective but limiting communication to audio-only or text-only mediums. In telehealth services, the divide is apparent as telehealth utilization is lower among low-income population, uninsured individuals, and senior citizens.[xxvi]

Digital literacy is a needed component to access healthcare services. Digital (health) literacy represents the level of knowledge that an individual has towards accessing and obtaining digital (health) information. The change of healthcare delivery workflow from physical visits to virtual visits can create an additional burden to patients to understand how to access and how to process digital health information. To reduce the burden, inclusive design principles with DHT should be used considering demographic and socioeconomic differences and providing culturally and linguistically appropriate digital health services.[xxvii] In addition, patients need to be trained to gain familiarity with digital access as well as awareness about personal information, security, and privacy.

Improving health equity through digital health technologies using community-based participatory design and improved clinical workflows

To address the concerns on digital divide and digital literacy, healthcare institutions can focus on

1. Training patients, caregivers, and families on DHT through community-based participatory (human-centered) research design and approaches

CBPR design built upon established trust and network of the community which facilitates the engagement and retention in using proposed DHT in the community level to improve quality of life. Earlier works demonstrated effectiveness of community based DHT implementations in terms of health and social needs screening, health literacy and education, cardiovascular health of the African American community and healthy decision support, self-management applications for mental health and chronic conditions among senior citizens.[xxviii] [xxix] [xxx] Similarly, meaningful community engagement is proposed to advance health equity and transform into equitable health system[xxxi]

Established digital health equity frameworks[xxxii] [xxxiii] and systems thinking approach[xxxiv] may facilitate the development of the knowledge, integration, and transformation of practices to be equitable, participatory, and patient-centered.

2. Improving clinical practice to enable healthcare provider teams to be aware of diverse patients and engage with them using DHT

Healthcare provider teams (e.g., nurses, clinicians, community health workers, care coordinators) should be trained towards gaining awareness about diversity of patients, disability accommodations, cultural differences, and language barriers. Similarly, the health system infrastructure should be readily available to accommodate the needs to support clinical teams (e.g., interpreter services), process/store data and provide services (e.g., multiple language support on patient portal).

EHR data quality improvement and governance should be part of the strategies in clinical practice to ensure equitable patient data collection, which would affect public decision making and fair and equity-driven Artificial Intelligence/Machine Learning (AI/ML) practices at the individual, community, and population levels. Involving human-in-the-loop model with the participation of patients and community members in development and implementation phases of data generation and AI/ML practices would improve the equitable health outcomes.

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OCHIN

A driving force for health equity

Transmittal via electronic mail

March 31, 2022

Dr. Alondra Nelson
Director
Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Re: Request for Information on Strengthening Community Health Through Technology Request for Information

Dear Director Nelson,

On behalf of OCHIN, we appreciate the opportunity to provide feedback and recommendations on how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

OCHIN is a national nonprofit health IT innovation and research network with over two decades of experience transforming health care delivery. We provide leading-edge technology, data analytics, research, and support services to more than 1,000 community health care sites, reaching more than 6 million patients in 45 states. The OCHIN network supports more than 21,000 providers and is comprised of locally controlled community health centers, public health departments, rural hospitals, school-based clinics, correctional facilities, behavioral health providers, Tribal community providers, and critical access hospitals. Fifty percent of our members' patients are covered by Medicaid, one out of three prefer care in language other than English, and three out of five network patients have chronic conditions.[1] The California Telehealth Resource Center and the California Telehealth Network are part of the OCHIN family of organizations.

For more than 20 years, OCHIN has been dedicated to overcoming the digital divide faced by patients experiencing persistent structural inequality and their providers by offering solutions through innovation and optimization strategies including health IT workforce development and training to drive equitable community centered care. The use of digital health technologies, including telemedicine, remote patient monitoring, and wearable technologies, have expanded rapidly in recent years, a trend dramatically accelerated by the federal and state flexibilities and waivers put in place to increase capacity and access due to the COVID-19 public health emergency. While these innovations provide benefits to patients, providers, and the overall health care delivery system, it is vitally important that rural and other underserved communities are not left behind.

Innovation to drive health equity has been OCHIN's mission. It is complex, requires systems thinking, user-centered and equity by design, as well as the trust of the communities served. OCHIN has developed

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[1] OCHIN Epic patients only.

a deep understanding of the challenges when implementing new technology and data and technical standards in some of the most resource challenged settings. As a result, we are committed to transforming care by:

- Integrating digital tools and solutions to help close health disparities.
- Advancing virtual care modalities (like telehealth) to connect more to care.
- Increasing ease and efficiency through clear workflows in critical areas with the training and support to adopt and use them.
- Facilitating adaption to changing times through collaborative-based solutions and policies to reduce risk, manage compliance, and accelerate innovation.
- Supporting more seamless care through a broader more cohesive system of care and robust and usable insights to improve health outcomes.

OCHIN RECOMMENDATIONS

OCHIN is in a unique position to offer recommendations on digital health technologies and the integration in rural and other underserved communities. The following reflect key OCHIN learnings and associated priority recommendations:

1. The optimal uptake and use of digital health modalities does not occur without operational and support staff who are able to deploy, maintain, and optimize use throughout the health care ecosystem. We urge the Administration to take immediate steps to *target funding to support operational and support staff health IT workforce development and training for community clinics in underserved communities, local public health agencies, and critical access hospital*.

The rate limiting factor for digital adoption and technology transformation is not innovation, but the existence and capacity of the workforce to adopt and optimize the use of new technology. The community clinic and local public health agency operational and support staff workforce had been constricting even before the COVID-19 PHE. The pipeline of trained staff needed to deploy and maintain existing health IT systems (such as electronic health records, payment and scheduling systems, patient portals and telehealth) cannot meet the current or projected demand. There is a growing divide between large health systems with funds to recruit the limited number of operational and support staff with health IT skills and safety net providers that do not have the same financial margins to compete. This places burdens on clinicians in underserved communities who take on more health IT and operational duties that worsen clinician burn-out. It also impedes innovation and needed practice transformation. This is not an isolated problem. The U.S. faces an exceptionally tight labor market where hiring isn't always possible and rapid turnover costs clinics precious time and resources—especially in rural areas that are geographically less populated and there are fewer candidates, as a result. In the OCHIN network, standard patient encounters are growing at a faster rate than the growth of our network's workforce. Local communities are facing significant challenges in recruiting and retaining operational and support staff with foundational health IT essential skill sets. Investments in workforce pipelines and upskilling in health IT will enhance clinical care, public health, research, and set the stage for further innovation (given the essential role that digital data collection, use, and exchange play in this area).

2. Meeting patients where they are is essential to improving health outcomes, empowering patients and driving lower overall health costs. Telehealth and other digital modalities have proven to be essential tools for overcoming structural inequality. We must center care where

patients can readily access it. We strongly urge the Administration to extend the COVID-19 PHE to provide Congress time to permanently extend coverage and reimbursement parity of Medicare telehealth (including audio-only) services without onerous requirements, such as mandated in-person encounters before or after virtual visits.

Prior to the COVID-19 PHE, the complex patchwork of federal and state laws governing payment for virtual services and regulatory requirements were further complicated by the varied policies of commercial health insurers. The lack of adequate telehealth coverage and payment were insurmountable barriers, particularly for providers such as federally qualified health centers (FQHCs) and rural health clinics (RHCs) that serve a large percentage of individuals covered by Medicaid or who are uninsured and underinsured. The COVID-19 telehealth regulatory flexibilities (related to licensure and prescribing) and coverage expansions for telehealth, as well as other modalities such as store-and-forward, have been essential in the OCHIN network and our members have produced evidence of the value and need for virtual care to meet patients where they are. This is particularly important for FQHCs and RHCs serving patients who face persistent structural barriers that hinder access to in-person health care. Medicare and Medicaid policies that permanently extend telehealth and other virtual service flexibilities to providers in underserved areas will reduce utilization in higher-cost care sites (such as emergency departments), while minimizing care delays that can lead to more acute or emergent events. In addition, we strongly urge the permanent removal of geographic and originating site restrictions under section 1834(m) of Social Security Act as well as extremely onerous Medicaid service area site restrictions that apply to FQHCS and RHCs that limit their ability to provide virtual modalities to where their patients are located. Finally, it is essential that the current flexibilities for clinicians who can bill for services should remain in place as FQHCs and RHCs do not have the same staffing arrangements as providers with large numbers of commercially insured patients.

3. A persistent challenge that will only deepen due to clinician shortages and demographic trends is lack of access to integrated specialty care for patients in rural and other underserved communities. We urge the Biden Administration to invest in community-based innovation networks with established track records to deliver virtual specialty care services among safety-net providers.

There is a pressing need to fund a virtual services specialty network for patients and community-based clinics in rural and other underserved communities, particularly for FQHCs and RHCs. Primary care providers and their patients require streamlined access into a specialty care leveraging advanced clinical decision-support, on-demand accessible provider and patient education, remote monitoring and management, and telehealth integrated with in-person care. In underserved areas, it is critical that a primary care provider or other clinician (such as a social worker) be able to consult with a specialist. Further, achieving whole patient care and moving to value-based models of health care delivery in the safety net is simply not possible given persistent and growing specialty shortages without expanding availability through a virtual specialty network. This infrastructure is all the more important as it would allow rapid scaling to address future public health emergencies as well as natural disasters which could strengthen care continuity and create surge capacity.

4. Foundationally, to transform delivery of health care, providers and other service organizations must have modernized *interoperable and secure* health information technology and digital options, particularly those who are meeting the needs for patients in underserved communities. We urge the Administration to target already authorized and appropriated COVID-19 rescue and infrastructure funds to health information technology modernization for community clinics,

critical access hospitals, behavioral and mental health providers, and local public health agencies.

Connecting communities through digital innovation does not stop with mid- and last-mile broadband connectivity but must include modernizing the health information technology systems of providers in rural and other underserved communities as well as among providers that were not included in previous efforts to drive electronic health record system adoption such as behavioral and mental health providers. We cannot deliver telehealth and other virtual modalities integrated into clinician workflow and existing health IT systems, without modern systems with resources to update regularly and maintain cybersecurity capabilities and interoperability. Further, modern health IT systems (including electronic health records) are essential in order to transform payment and delivery models, realize the benefits of artificial intelligence systems for a wide range of functions and applications from operations, population health management, clinical services, research, to public health readiness.

5. Digital technology can only improve care if the digital data standards and technical requirements facilitate interoperability and seamless frictionless exchange of digital data that is properly consented and secure. We urge the Administration to prioritize data and technical standards development and testing as well as technical assistance to support widespread adoption of national digital health digital standards and use of health IT for community clinics, critical access hospitals, and providers other underserved communities.

OCHIN continues to support the work of the U.S. Department of Health and Human Services' Office of the National Coordinator to drive national digital health data standards. OCHIN strongly urges a clear roadmap for national digital health data framework centered that rests on equity by design and reflect the end-user needs of clinicians, patients and systems who are underserved as well as public health stakeholders. Directed funding is needed for underserved providers to support their participation in the strategic planning of a digital standards framework and strategy based on equity by design as well as for their active participation in standards development, validation, and implementation testing. Targeted funding is also needed for providers in underserved communities to support technical assistance. The foregoing will improve data quality, research, and policy insights as well as innovations leveraging AI systems.

6. The rapid rise of digital tools provides great promise, but also poses huge challenges for the least resourced communities and providers. We urge the Administration to provide resources to community-based providers in underserved communities to account for the growing volume and varied quality of the data generated through consumer wearables (as distinct from clinician prescribed remote patient monitoring and management digital tools and devices).

The tidal wave of data that clinicians and their care team are confronted with grows daily. Clinicians in underserved communities are already confronting high burn-out rates in part due to the growing data documentation requirements of federal and state programs in addition to commercial payers. Further, integrating the data into workflows is hampered by lack of data standardization and interoperability, and questionable validity and reliability of the devices of consumer wearables, particularly when not regulated devices by the Food and Drug Administration. There are key concerns and issues that have yet, as a result, to be addressed including liability, data stewardship, the extent to which the information should be included in the medical record.

Digital health technology promises to drive improved outcomes and experiences of care for patients and providers. The continuous integration of health technology into every aspect of care enables superior treatment, interoperability and documentation, and patient outcomes. These technological innovations are not without their hurdles; conflicting rules and regulations surrounding telehealth, other virtual modalities, as well as data standards and security, antiquated payment models, and unnecessary carve-outs of specific health data all work to stymy innovation and technological development. OCHIN is ready and willing to be of assistance in working to alleviate these barriers.

We welcome the opportunity to work closely with you so please feel free to contact me at

Sincerely,

Jennifer Stoll
Executive Vice President
External Affairs

APPENDIX

[Permanently Extend Telehealth and Other Virtual Modalities COVID-19 PHE Flexibilities](). Rolling back current federal health care program coverage and payment parity for telehealth ¾ including audio-only telehealth, particularly for FQHCs and RHCs ¾ would dismantle a lifeline to essential and medically necessary health care services for patients in rural and other underserved communities. From the outset of the COVID-19 public health emergency, OCHIN has been actively working with our members to reconfigure the care delivery system to ensure continued access by rapidly scaling telehealth capabilities.

To illustrate: Among members utilizing OCHIN Epic, 99% of their behavioral health and mental health encounters were conducted via telehealth at the outset of the COVID-19 PHE in April 2020. While in-person visits have since returned to levels more consistent with pre-pandemic figures, telemental health encounters have increased overall during this time. Prior to COVID-29, telemental health encounters accounted for .003% of all behavioral health encounters in September of 2019 but accounted for 44% in September of 2021. This underscores the ongoing need to ensure that telehealth remains readily available, particularly in underserved communities. Making sure this modality is an option for patients reduces no-shows, increases the opportunity for provider connection, and improves patient satisfaction. Telehealth expansion does not occur in a vacuum, however, and requires several overlapping solutions.

Policies that limit coverage and reimbursement parity while rescinding FQHC and RHC coverage for telehealth (including audio-only telehealth) would negatively impact patient outcomes and overall costs, creating a structural disadvantage for FQHCs and RHCs and the patients they serve. OCHIN's analysis of 2020 data underscores how telehealth (including audio-only) dismantles the structural inequality that is a feature of in-person only services. It's especially important to note that telehealth in general, and audio-only in particular, are often the only options available for patients displaced by environmental and natural disasters. These patients often need to connect with their established providers to maintain continuity of care. This is particularly true for medically complex patients who, for example, may need medication replacement or ongoing active therapeutic management.

As telehealth is a modality (and not a service) distinct from what is billed when delivered in-person, deciding whether to use this modality for service delivery is a clinical practice determination. Accordingly, regulating medical practice through coverage policy by limiting access based upon originating or distant site of service ¾ or whether the encounter was preceded by an in-person encounter ¾ does not reflect clinical best practice. Clinicians and patients must evaluate a range of patient-centered and clinical factors when determining the appropriate modality. A significant evidence base existed prior to the COVID-19 PHE, which included clinical practice guidelines based upon specialty and service type.[2] The COVID-19 PHE has expanded the data-driven evidence base around appropriate clinical use.[3] As a result, numerous provider and clinician organizations have leveraged lessons learned to develop best practices for implementation, scaling, and continual quality improvement. For example, the California Telehealth Resource Center (CTRC) is distributing *A Healthy Balance: Hybrid Virtual Care Models for Optimal Patient Experience*. This document reflects continuous learning and best practices for deployment in primary care

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[2] See, for example, [The Evidence Base for Telehealth: Reassurance in the Face of Rapid Expansion During the COVID-19 Pandemic](), A White Paper Commentary on an AHRQ Evidence Report, May 14, 2020.
[3] See, for example, Holcomb D, Faucher MA, Bouzid J, Quint-Bouzid M, Nelson DB, Duryea E. *Patient Perspectives on Audio-Only Virtual Prenatal Visits Amidst the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Pandemic*. Obstet Gynecol. 2020 Aug;136(2):317-322; *Telehealth Interventions to Improve Obstetric and Gynecologic Health Outcomes: A Systematic Review*, Obstetrics & Gynecology: February 2020 - Volume 135 - Issue 2.

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clinical settings that drive improved access and patient outcomes. Prior to the COVID-19 PHE, the American Medical Association (AMA) developed guidance for telehealth deployment in clinical practice and launched the Telehealth Initiative to improve access to quality health care. The number of clinical practice guidelines that inform clinician use of telehealth (including audio-only services) also continues to grow in primary care, plus areas such as behavioral and mental health. Community clinics continue to report that coverage and payment for this modality are needed to overcome structural inequalities, thereby providing access to patients facing the most significant barriers to care.[4]

An increase in telemental health service utilization coincides with a well-documented mental and behavioral health crisis that is also a public health emergency.[5] Utilization therefore reflects an increased medical necessity, as opposed to inappropriate use. Additionally, telemental services have an established evidence base to support their use.[6] For all telehealth modalities, clinicians must typically review the patient's medical history, conduct an exam, assess the patient, and determine testing and treatment needs. Reporting and documentation requirements are similarly consistent. The clinician remains responsible for care coordination and appointment follow-up. This may involve support staff services, particularly when utilizing telehealth. Thus, the cost of care is comparable.

To facilitate transition to new payment and delivery models, FQHCs and RHCs need a pathway to expand telehealth and other virtual modalities as part of an integrated continuum of care. This modality represents a proven means to address key social determinants of health, such as lack of transportation and homelessness, that negatively impact access and outcomes. Community clinics need time to fully integrate learnings and experience with this modality, and rescinding coverage places FQHCs and RHCs at a disadvantage. Limiting access to telehealth over time will drive higher costs when patients who are clinically and socially complex are not able to access care early ¾ before conditions become chronic, acute, or emergent. Establishing telehealth payment parity and audio-only coverage for all Medicare and Medicaid beneficiaries is necessary to drive delivery modernization, thereby paving the way for improved patient health and further practice transformation.

Remove In-Person Coverage Requirement. While we supported congressional action to make post-pandemic access to telemental health services permanent -- regardless of a patient's geographic or physical location -- OCHIN, like most stakeholders, was concerned that the Consolidated Appropriations Act *seemed* to impose an in-person evaluation prior to certain telemental services once the PHE expires. We have urged Congress to remove this requirement altogether. It offers no clinical benefit and, based upon OCHIN data, there is compelling evidence that patients in underserved communities utilize telehealth to sustain mental health service access. In addition, given the clinical evidence and utilization patterns among underserved patients, OCHIN does not support the initial requirement of an in-person visit within six months of the telemental visit. Likewise, we do not support requiring an in-person

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[4] See, also, Zachrison KS, Yan Z, Sequist T, Licurse A, Tan-McGrory A, Erskine A, Schwamm LH. *Patient characteristics associated with the successful transition to virtual care: Lessons learned from the first million patients*. J Telemed Telecare. 2021 Jun 13:1357633X211015547.

[5] *Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic—United States,* June 24–30, 2020 *Weekly* / August 14, 2020 / 69(32); 1049–1057, Centers for Disease Control and Prevention (CDC); and, *Medi-Cal Behavioral Health Services: Demand Exceeds Supply Despite Expansions*, California Health Care Almanac, California Health Care Foundation, September 2021.

[6] See, for example, *Best Practices in Video-conferencing-based telemental health*, American Psychiatry Association and American Telemedicine Association, April 1, 2018; Practice Guidelines for Telemental Health with Children and Adolescents, ATA, March 1, 2017. See, also, Samuels EA, Clark SA, Wunsch C, et al. *Innovation During COVID-19: Improving Addiction Treatment Access*. J Addict Med. 2020.

visit every six months thereafter. This will create substantial barriers to care for the most underserved patients.

Audio-Only Coverage Essential to Dismantle Structural Barriers. OCHIN strongly supports coverage and reimbursement parity for audio-only services, which are particularly vital for patients in rural and underserved communities who lack access to affordable, high-quality broadband and often experience other barriers to accessing in-person care or telehealth via video conferencing platforms.

In the analysis of California member patient telehealth utilization, OCHIN found that roughly 26% of patients served used audio-only telehealth in 2020. Among these patients:

- Patients experiencing housing insecurity were 10% more likely to have an audio-only visit compared to those without housing insecurity.
- Patients with transportation needs were almost three times as likely to have an audio-only visit compared to those without transportation needs.

This underscores that parity for audio-only telehealth encounters is crucial to advancing access. Clinicians must review the patient's medical history, conduct an exam, assess the patient, and determine testing and treatment needs for all telehealth modalities. Reporting and documentation requirements are similarly consistent. The clinician remains responsible for care coordination and appointment follow-up. This may involve support staff services, particularly when utilizing telehealth. Thus, the cost of care is comparable. Implementing differential reimbursement will negatively impact those providers and their patients who rely on audio-only services to sustain access.

Licensure and Underserved Communities and Providers. For community clinics, including in rural communities and other providers of underserved patients, we urge the Administration to work with Governors to support targeting resources as well as policies to streamline the time, cost, and complexity of state-based licensure while driving states to participate in interstate compacts and modernization efforts. The burden of state-based licensure falls heaviest on patients and community-based providers in rural areas and other underserved communities. They have limited resources, and the geographic distance and lack of transportation coupled with long-standing and growing provider shortages, means that licensure restrictions exact an administrative cost that diverts from patient care or forecloses access to care altogether. States and licensing boards need to leverage technology and upgrade systems to incorporate user-centered design. This should be accelerated through state compacts and reciprocity arrangements.

Modernization and Workforce. We urge the Administration to target funding for health information technology workforce development and training programs to rebuild community clinic staff (operations and support staff) who are essential and need upskilling as we modernize health care delivery for telehealth, remote patient monitoring, advance population health analytics to support population health and new payment models as well as implement even more complex regulatory requirements (such as the No Surprises Act good faith estimate).

Local health centers remain the frontline, and in some instances the only line of defense, as three public health emergencies have converged—COVID-19 along with the opioid epidemic and the mental health crisis. The community clinic operational and support staff workforce has been devastated. Community clinics are struggling to maintain capacity and cannot scale to meet growing demand - an alarming trend, since health centers play a critical role in reducing burden on local emergency departments, particularly

in rural and underserved communities. Well-trained operational and support staff are able to assume a broader range of administrative functions within clinics in order to reduce the burden on clinicians (which should alleviate some of the strain and burnout experienced by clinicians). The need for technology-trained support and operational staff will only grow with the adoption and implementation of modernized health information technology, which is urgently needed to modernize clinical care delivery and improve public health capabilities at scale.

National Digital Data and Technical Standards and Framework. We urge the Administration to require the use of national digital data and technical standards for digital data collection, exchange, and reporting and to include funds for technical assistance, and incentives that drive adoption.

A widely adopted national digital health data framework that drives harmonization and standardization of medical and public health data and technical standard is needed. This will reduce the cost, complexity, errors, and burden of data capture, analysis, and reporting. The consequences of proliferating data and technical standards fall the heaviest on providers and public health agencies in rural and other underserved communities—which undermines our ability as nation to modernize and protect against pandemics and other natural disasters. In addition, policies that limit interoperability of critical health information, such as 42 CFR Part 2 limitations, pose a significant threat to mental health and substance use disorder treatment in the normal course of health care delivery as well as during public health emergencies such as natural disasters and pandemics.

Seamless data exchange (interoperability), care coordination, research, and public health are hampered by the lack of widely adopted applicable national digital data standards. The myriad of varied (and sometimes conflicting) data requirements at the state and federal level related to demographic data and patient identifiers are a clear example. OCHIN strongly urges increased resources to accelerate the U.S. Core Data for Interoperability work of the Office of the National Coordinator for Health Information Technology. Providers are further burdened by numerous and uneven requirements and standards for collecting data elements and categories.

Health IT Infrastructure. Since the Health Information Technology for Clinical and Economic Health (HITECH) Act, several generations of technological evolutions have occurred. Yet, small community-based providers have not had the significant resources needed to replace obsolete systems that do not enable automated exchanges with public health agencies, nor integrated virtual modalities such as telehealth, remote patient monitoring, and e-consults nor power population health analytics. Further, local public health agencies, nursing facilities, and behavioral and mental health providers were not included in HITECH. Funding for front line systems meets an immediate need to respond to COVID-19 as well as other public health crises and is a sound long-term investment since these are also the systems such practices need in order to implement new patient-centered, value-based delivery models. Digital modernization is contingent on providers, public health agencies, and community-based organizations' ability to modernize and maintain needed updates to their health information technology systems (or acquire them) through incentives, grants, and technical assistance programs in order to increase access in public health, population health, and whole patient care.

For example:

- Because of the OCHIN network health IT capabilities, our members have been able to trigger over 1 million COVID-19 electronic case reports to public health agencies. Despite the foregoing, there

are local public health agencies that utilize antiquated data collection systems that cannot utilize these reports.

- Similarly, OCHIN network members have undertaken over 1 million digitally documented social determinants of health patient evaluations that assist members to address population health social complexity, for example, but cannot make electronic referrals nor coordinate seamlessly with community-based organizations and state social service agencies because the latter do not have adequate health information technology. SDOH goes hand in hand with digital determinants of health, from access to telemedicine to the capacity to utilize wearable technology properly, enhancing national standards and emphasizing SDOH will improve patient outcomes.

National Privacy Framework and Whole Patient Care. Prioritize and work with Congress to establish a unified national privacy and security framework to ensure that patients and more broadly consumers, particularly those most vulnerable to discriminatory or other adverse consequences are not harmed through disclosure of patient clinical information. This includes mental and behavioral health-related information; and SDOH data shared by entities that are not subject to the Health Insurance Portability and Accountability Act (HIPAA), and which are not bound by ethical obligations to patients. On the other hand, there remain restrictions on the secured exchange of substance use disorder (SUD) clinical information even in the context of HIPAA. This undermines patient safety because clinicians do not have access to medical information that impacts care. It also hampers exchange of relevant clinical data, as some regional health information exchanges prohibit inclusion of this information. OCHIN urges the Administration- to consider amending or repealing this section so that once 42 CFR Part 2 data is transmitted or retransmitted, there is no requirement to segregate a patient's 42 CFR Part 2 data from the rest of a HIPAA database.

Ochsner Health

Response to Request for Information (RFI) on Strengthening Community Health Through Technology
White House Office of Science and Technology Policy (OSTP)
Submitted to ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

On behalf of Ochsner Health (Ochsner) – a clinically integrated health system located in Louisiana and Mississippi – we thank you for this opportunity to submit highlights of our experience in deploying digital medicine and telehealth to strengthen community health. As you may know, Louisiana regularly ranks near the bottom of the U.S. in nearly all health indicators, with a population that has a high prevalence of several risk factors for poor health outcomes, such as obesity, tobacco use, diabetes, and hypertension. More than six years ago, Ochsner leaders recognized that it would take innovative strategies and deployment of new technologies and interventions to improve the health and well-being of Louisiana residents.

In response to the challenge of improving care and outcomes while reducing costs, in 2015 Ochsner created an innovation lab, innovationOchsner (iO) to improve health through innovation. iO has developed numerous digital medicine programs that are transforming the patient experience, enhancing health, and well-being, while decreasing costs and reducing the stress on providers of care. Particularly for individuals who are managing complex diagnoses and chronic disease, these programs are facilitating access to care and improving the patient experience by allowing them to receive the care they need, when and where they need it – principally through wearable technologies, remote patient monitoring, and virtual provider visits. And, critically, our pioneering telehealth program is meaningfully increasing patient access to care for people in rural and other underserved areas of Louisiana and Mississippi where, in certain cases, no such access existed before. For many patients, telehealth and digital medicine are the standard of care and a preferred way in which they interface with the health care system.

Given the length limitation, below please find brief overviews of several of our digital health and telehealth offerings. We welcome an opportunity to provide additional details and discuss with you further about how these programs are improving access to care, advancing equity, and reducing disparities.

Successful Models: Examples of Ochsner Digital Medicine Offerings[1]

Ochsner's Hypertension Digital Medicine (HTNDM) program uses a digitally connected blood pressure (BP) cuff to automatically transmit BP readings from the patient's home to a dedicated Ochsner care team, which includes a pharmacist and health coach. ***This program has been shown to be at minimum three times more effective than traditional care at achieving BP control at 180 days, while also increasing patients' medication adherence and patient activation, and reducing the total cost of care***.[2] *Among Medicare and commercial HTNDM participants, an actuarial analysis conducted by a third party, Santa Barbara Actuarial*

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[1] To learn more about Ochsner's digital medicine programs see the following article:
Washington Post: https://www.washingtonpost.com/business/economy/these-louisiana-physicians-can-monitor-your-blood-pressure--and-you-dont-even-have-to-leave-your-living-room/2018/07/11/6d57f198-7beb-11e8-93cc-6d3beccdd7a3_story.html

[2] Richard Milani *et al.*, *New aspects in the management of hypertension in the digital era,* CURRENT OPINION IN CARDIOLOGY VOL. 36, NO. 4, JULY 2021, *https://journals.lww.com/co-cardiology/Abstract/2021/07000/New_aspects_in_the_management_of_hypertension_in.6.aspx*.

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Associates, found a decrease in health care utilization, specifically emergency room visits and hospital admissions, resulting in medical claims savings of $204 per patient per month in Year 1.

Similarly, our [Digital Diabetes Medicine (DDM)](#) program uses a Bluetooth-enabled digital glucometer to monitor a diabetic patient's A1C and other health indicators. This program also has achieved results that are better than traditional care methods, including reductions in A1C, decreases in hypoglycemic events and diabetes distress, and increases in adherence to recommended health maintenance activities.[3] *Among DDM Medicare and commercial participants, an actuarial analysis also conducted Santa Barbara Actuarial Associates, found a similar decrease in health care utilization, specifically emergency room visits and hospital admissions, resulting in medical claims savings of $163 per patient, per month in Year 1*. Our Digital Medicine program currently cares for more than 19,000 participants and our 2021 Net Promoter Score, which is a measure of patient satisfaction/experience, was 87 (anything above 70 is best in class).

The [Connected Maternity Online Monitoring (MOM)](#) program provides pregnant patients with a Bluetooth-enabled BP cuff and scale that interfaces with their electronic health record. This allows patients to perform remote monitoring during pregnancy, and as appropriate, decrease the number of in person prenatal visits, while increasing the frequency of monitoring for potential pregnancy complications. *Analysis of data from early implementation of the program demonstrates that not only does it allow for earlier detection of hypertension in pregnancy, but also increases compliance with post-partum BP monitoring in the initial days and weeks following delivery.*

Successful Models: Examples of Ochsner's Telehealth Offerings

Ochsner has long deployed telehealth to deliver specialty, primary, and urgent care to patients near and far. For example, Ochsner's TeleStroke program provides 24-hour/7-days per week coverage by vascular neurologists who – through telehealth – are immediately available to emergency department physicians in rural hospitals to help them quickly diagnose and treat patients presenting with symptoms of a possible stroke. The program has been instrumental in successfully treating thousands of patients in a timely manner and allows these rural facilities to remain open and successfully care for patients in their own communities. *Seventy percent of TeleStroke patients now stay local; prior to the program's implementation, nearly all patients were transferred.*

[Ochsner's TeleStork program](#) provides 24/7 monitoring to laboring mothers who are inpatient at a remote location; the TeleStork maternal-fetal specialty care team can use two-way audio and video communications to interact with patients, providers, and family members. Interactions are initiated for scheduled rounding, to address patient problems noted during continuous monitoring, or at the request of the bedside team. The TeleStork team can rapidly detect labor distress and maternal or fetal decompensation and quickly facilitate early interventions that help reduce adverse maternal and neonatal outcomes, including Neonatal Intensive Care Unit (NICU) admissions.

In 2019, we announced a partnership with Tyto Care, the health care industry's first all-in-one modular device for remote medical exams. This partnership expanded Ochsner's telehealth existing offering, a consumer-facing virtual visit platform called Ochsner Anywhere Care, which is powered by national telehealth leader

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[3] Richard Milani *et al.*, *Improving Management of Type 2 Diabetes Using Home-Based Telemonitoring: Cohort Study*, NATIONAL LIBRARY OF MEDICINE (June 10, 2021), https://pubmed.ncbi.nlm.nih.gov/34110298/.

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American Well®. The [Ochsner Anywhere Care Health Kit](#) is a portable health kit that enables patients to capture physical examination data at home using a handheld device with a digital camera and various attachments (e.g., thermometer, throat scope) and then share the data with a provider using the Ochsner Anywhere Care app. By providing high-quality digital sounds of the heart and lungs, digital images and video of the ears, throat and skin, and body temperature it is designed to replicate the examinations performed during an in-office visit – eliminating the need for the patient to leave work, school, or home. To see a demonstration video visit: https://ochsner.tytocare.com/.

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Barriers and Proposed Government Actions

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Our digital medicine and telehealth offerings are expanding access to primary, urgent, and specialty care and chronic disease management and increasing patient access and convenience while reducing costs. However, multiple barriers stand in the way of full deployment of these successful programs. For example, Medicare and Medicaid do not reimburse for the cost of the digital devices. Patients are required to pay cost-sharing for remote patient monitoring services and telehealth care, expenses that often stand in the way of patient utilization. Further, services such as TeleStork are not paid for by Medicaid even though they improved outcomes and reduce costs. Fully deploying telehealth and digital medicine to our patients during the PHE has helped us to maintain continuity and coordination of care, as well as allowed for expanded access to care. In many cases, we have been able to reach patients who previously have had limited or no access to such services. This has been possible principally because of the federal telehealth and copayment waivers permitted during the public health emergency (PHE) and an FCC PHE telehealth grant program, created by Congress, that has covered the costs of the digital devices. As such, we strongly recommend the following:

1. Make permanent the full range of PHE telehealth and virtual care waivers and flexibilities.
2. Expand Medicare covered remote patient monitoring services to allow for beneficiary participation in more than one disease program as needed; currently payment is limited to one program (e.g., just diabetes or just HTN, many beneficiaries have both). To ensure utilization and deployment, create an adequate per beneficiary, per month payment for such programs and waive cost-sharing.
3. Provide Medicare coverage and payment of digital medicine and telehealth tools/devices with no cost-sharing to increase patient utilization and access.
4. Reimburse providers who are offering remote inpatient monitoring programs, such as TeleStork.
5. Ensure access to TeleStroke services by establishing separate Medicare payment for providers giving both TeleStroke consult and same day inpatient care to Medicare beneficiaries experiencing acute stroke.
6. Utilize the Center for Medicare and Medicaid Innovation to explore ways to scale the deployment of our Connected MOM, HTNDM, and DDM programs to the Medicaid population – nationwide.
7. Ensure that all Americans have access to affordable, reliable broadband services.

Conclusion

On behalf of our physicians, nurses, and other health professionals and the tens of thousands of patients and the communities we serve, thank you again for the opportunity to share how we are deploying technology to expand and facilitate access to care, improve outcomes, reduce costs, decrease workforce strain, and meet patients where they are. Expanding digital health, telehealth, virtual care, and remote patient monitoring further – throughout the nation – will advance equity, reduce disparities, and strengthen community health. Please contact Mark Beckstrom, VP & Director of Government Relations (███████████████████████████) if we can be of any assistance.

500 Sansome Street, Suite 200
San Francisco, CA 94111

omadahealth.com

March 21, 2022

White House
Office of Science & Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
by email to:

> Re: Request for Information on Strengthening Community Health Through Technology (87 Fed. Reg. 492, Jan 5, 2022)

Dear [director of WH OSTP]

Omada Health, Inc. (Omada), respectfully submits this response to the Office of Science & Technology Policy RFI on Strengthening Community Health Through Technology.

Omada is an eleven-year-old, virtual-first health care provider that provides asynchronous and synchronous health care services for prevention of diabetes and for the management of diabetes (types 1 and 2) and of hypertension. In these programs, our secure mobile application connects our patients to a care team comprised of health coaches, certified diabetes educators, behavioral health specialists, nurses, and physical therapists. Omada also offers full-spectrum physical therapy telehealth through licensed physical therapists engaged by a professional corporation. Omada is the largest supplier of CDC Fully Recognized Diabetes Prevention Recognition Program (DPRP) services, having served more than 500,000 individuals. Our program for management of diabetes is accredited by the Association of Certified Diabetes Care and Education Specialists, one of two accrediting bodies described in the Social Security Act as appropriate to serve Medicare beneficiaries (42 U. S. C. 1396x), and is the **only** all-virtual program to receive NCQA's accreditation as a [Population Health](#) program.

To get right to the point, Omada has successfully supplied its Diabetes Prevention Program (DPP) services to the Medicaid enrollees of Maryland, with impressive results that have been published in peer reviewed journals. We will use this effort to answer the RFI questions.

1. **Identify Successful Models**: From 2016-2019, Omada participated in a [CDC-funded demonstration](#) project to show how state Medicaid agencies and state health departments can collaborate to implement, deliver, and sustain coverage of the National DPP lifestyle-change program. The key lessons related to a virtual-first delivery model were:

   ● In the Maryland demonstration, recruited program volunteers chose participation in the all-virtual program over the program in specific locations by a margin of 2:1.

   ● Omada was able to successfully adapt our online program to ensure it was accessible, understandable, and usable by a population that might have had lower levels of health literacy, or English proficiency, than Omada's then-historic commercial/employer-based health care

1

population. You can read about adapting the digital program in [Contemporary Clinical Trials Communications](#) from 2018.

- The clinical result: weight loss and/or lower blood glucose was the same or better than the traditional in-person method. You can read these results in [Preventing Chronic Disease](#), a CDC peer-reviewed journal.

2. **Barriers:** One much-discussed potential barrier is the lack of broadband access. However, with careful design, effective programs can be deployed (see above) using low-bandwidth cellular technology. All of Omada's digital equipment for DPP uses a 2G cellular signal, not WIFI or broadband. Omada programs work pretty much everywhere, even [rural areas of Alaska](#). A second potential barrier is reimbursement: to the extent that state Medicaid agencies only reimburse for services allowed under CMS rules, many - if not most - technology-based solutions are prohibited from serving Medicaid populations. That is certainly the case for DPP and for telehealth Diabetes Self-Management Training as described in the Social Security Act (42 USC 1395x(s)(2)(S). In Maryland, the state created special Medicaid supplier rules for DPP instead of being limited by the Medicare rules, but measures like that should not be required.

3. **Pandemic Trends**: Both CDC and the American Diabetes Association have concluded that [rates of diabetes and prediabetes rose during the pandemic](#). However, as the National Clinical Care Commission noted in a [January 2022 report to Congress](#), we have not expanded our ability to address diabetes or prediabetes through government programs with effective technological solutions.

4. **User Experience**:

   a. *Technology:* Technology can be effectively deployed for users of diverse income levels. See https://pubmed.ncbi.nlm.nih.gov/30035241/. Language and other accessibility features are often not on the forefront of innovator's minds, but market forces like, like insurer requirements to meet WCAG to serve an insured population, are effective.

   b. *Privacy & Security*: Omada is a HIPAA covered entity because Omada is a health care provider that bills insurance companies with electronic claims. Many younger virtual-first health care providers are also "covered entities," including many participants of the Digital Medicine Society's [IMPACT](#) collaboration. (Omada is a founding member.) Omada's position as a HIPAA covered entity gives the patient/user, and their traditional health care provider, confidence in high-quality privacy and security protections, in contrast with consumer apps that do not operate within HIPAA. You can read more background about this in [a report on this topic](#) that HHS sent to Congress in 2016 and which remains legally accurate today. That said, the ongoing lack of consistent privacy protections for consumers for all the ways in which their health data may be collected and used may actually undermine consumer confidence in digital health technologies. To fix this, public policy should more definitively require apps that provide health care

services to operate under HIPAA (or Congress could otherwise pass a robust nationwide consumer privacy protection law).

5. **Tools and Training**: We believe that the healthcare professional organizations that are responding to this RFI are best positioned to describe their training needs.

6. **Proposed Government Actions**: Reimbursement for virtual-first healthcare remains unsolved. In the short term, there is a need to bring virtual-first healthcare *into the regular healthcare reimbursement systems on a coded claims basis* so that **all** people have access to the same choices in care; we hope to avoid a two-tier system where people with commercial insurance have convenient, virtual-first care, but those in Medicare and Medicaid do not. Moreover, by enabling virtual-first and other technologies to bill accurately with claims, we can generate enough data to study, from a health services perspective, whether that care was high-quality, equitable, and efficacious. In the long term, we should capitalize on the ability of virtual-first care to provide evidence of health outcomes so we can increase the amount of care that is funded through value-based, outcomes-based arrangements.

7. **Health Equity**: As Omada's participation with the Medicaid population in Maryland demonstrates, virtual-first healthcare can be effectively supplied to historically underserved populations. At the same time, however, archaic rules at Medicare prevent entire states from taking advantage of the same technology. For example, per CMS, there are 10 in-person Medicare DPPs in Texas, and all of them are in and around Houston. Meanwhile, Omada supplies DPP *throughout* Texas to members with commercial insurance and has served more than 34,000 people in the 15 months from January 2022 to March 31, 2021, alone. With 40% of the adults in Texas being Hispanic/Latino per the 2020 census, the lack of Medicare DPP throughout Texas is one example of an equity problem that could be easily solved by passage of the Prevent Diabetes Act (S. 2073/HR 2807).

As an eleven-year-old virtual first health company and a leader in thoughtful public policy input, Omada Health, Inc. is happy to assist in any further information collection on these important issues.

Respectfully submitted,

Lucia C. Savage, JD
Chief Privacy & Regulatory Officer | Omada Health, Inc.
500 Sansome St #200, San Francisco, CA 94111

White House Office of Science and Technology Policy (OSTP) - Connect Health RFI

Name: Kate Cordell, PhD, MPH
Organization: Opeeka, Inc.
Stakeholder Type: Technology Developer
Email Contact ███████████████
Phone: ██████████

Introduction. Community health workers and other community-based health providers are key conduits to improved access and equity. We can use technology to improve community health workers' efficiency and effectiveness, driving and increased impact on the community with the existing workforce. There are three main barriers that technology can help overcome: lack of usable information, lack of the right information, lack of care collaboration.

Barrier #1 - Lack of Usable Information. The term 'community health worker' conjures the image of a worker heading out into the streets of a community armed with nothing but a clipboard with maybe a few names. Since the pandemic, many organizations have invested in tablets and laptops so that workers can carry information into the community. Much more information is being captured, and electronic systems keep tallies on individuals, activities, and notes. Regular audits ensure that information is captured. However, all that information is strewn about the system, locked into note fields and drop-down boxes and form fields. The data are stored and retrieved in the same format they are captured. Community health workers simply do not have time to mine information about a patient, read the eight or more pages of unstructured notes, and decide on the right course of treatment or intervention in the context of that person's personal circumstances and history. Instead, community health workers and providers glance at the top level of most recent information and do the best they can do with the limited time and resource they have.

Technology that exists today at Opeeka can connect to electronic records and take existing data about a patient and organize it into a simple-to-read, illustrated patient journey. These 'Story Maps' identify the patients current and former needs/symptoms and skills/strengths, contextualized in their circumstances of unmet social need and preferences of cultural belief. In one simple visual map, workers can glance and understand a patient's entire history in less than 60 seconds, helping to support the best possible decision of care for that person, considering all contextualized circumstances. It is time that information in electronic records go beyond support of billing and audits to support the best possible decision in care. Community health workers can spend less time reading pages of historic notes and spend more time working with patients to address their needs.

Barrier #2 – Lack of the Right Information. Now that technology can organize existing information into patient story maps (see Barrier #1 section), it will become obvious that the information we are collecting does not fully support our decision process and our care model.

Workers will quickly realize that we need to know more about the patient to make the best decision. Workers will want to ask more questions about symptoms, about routines, about habits, and about lifestyle. However, gathering more information is burdensome and health care workers are already stretched for time.

Technology exists today at Opeeka that can reduce the burden to gather the right information, quickly and easily. On a worker's tablet or on a patient's device (i.e., phone, computer, tablet), the right data can be gathered via text, email, interactive text chatbot, or verbal chatbot. Patients can communicate their symptoms, circumstances, and personal goals as comprehensively as they desire without taking time away from the health care worker. Once the patient communicates all the information, Opeeka's technology can display key pieces of that information in the patient's story map (see Barrier #1 section) so that the health worker can quickly glance at the visual map and focus on the areas most important to discuss with the patient. Community health workers can spend less time asking patients probing questions and spend more time with working patients to address their needs.

Barrier #2 – Lack of Care Collaboration. When patients have complex needs, they will often have more than one type of care provider. This means that when they tell their story to a health care worker, that they will often have to re-tell their story to a different health care worker of another type. Often these different types of care workers (let's say home health care worker and cardiologist, for example) may be operating on two different electronic systems or for two different provider organizations. The patient may have signed a release of information for those two workers to collaborate on care decisions, but there is no easy way for the home health worker to communicate with the cardiologist. If the home health worker notices symptoms of potential concern, they would want to reach out to other members of the patient's care team. Today, this is done by leaving phone messages, sending secure emails, faxing reports, or other slow and cumbersome communication processes.

Technology exists today at Opeeka that can reduce the burden of sharing information for care collaboration between multi-disciplined team members to better support community health workers. Opeeka's technology can connect to multiple electronic record systems to exchange key pieces of clinical information judiciously and securely across care team members to support the best care decisions. Health information exchanges have been an enormous step forward for interoperability, but they don't yet support real-time clinical decision in the community. The next step forward is to share clinical information in real-time to support care decisions at the point of care – in the community. Opeeka's technology connects to multiple electronic systems and securely pushes relevant information (with proper release) from one electronic system to the next, organizing all the information about a patient from multiple systems into comprehensive 360 degrees whole person visual story map (see Barrier #1 section). With this technology, health care workers of multiple disciplines can work together off a single care plan to best support the patient in care as a whole person. Community health workers can spend less faxing and securely emailing patient reports while waiting for a response and spend more

time working with patients to address their needs, collaboratively with the patient's care team in real time.

Conclusion. Community health workers are an essential part of health access and health equity for traditionally underserved populations. They are a limited and valuable resource that is overburdened by outdated paper processes that do not support their ability to be efficient and effective. Technology can support the existing workforce to serve more people at lower cost while driving better outcomes through automation. Opeeka's technology provides essential automation that capitalizes on existing information to organize it into an easy-to-ready visual story map, augments what is known by easily and automatically gathering additional information from patients, and shares that information across multi-disciplined members of a care team so that a patient can be served as a whole person from a single care plan. Opeeka's technology allows community health care workers and providers make greater and more successful impacts on community health, individual wellness, and health equity.

Dr. Alondra Nelson
Deputy Director of Science and Society
Office of Science and Technology Policy (OSTP) Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information on Strengthening Community Health Through Technology

Dear Deputy Director Nelson:

Thank you for the opportunity to provide input on matters pertaining to technology and health equity. I'm responding on behalf of [the Open Referral Initiative](#), a community of practice dedicated to the development of community resource directory information as a public good.

Resource directory information consists of data about the health, human, and social services that are available to people in need, the organizations that provide these services and the locations at which they can be accessed. These details are constantly in flux. Nonprofit organizations and government agencies are often under-resourced and overwhelmed; they may not have strong incentives to constantly promote this ever-changing information to the public.

There are many third-party referral services — such as call centers, resource directories, and web applications — that collect resource data and use it to refer people in need to services. However, these directories are typically locked in fragmented, redundant silos. Many have tried to build centralized solutions – the fabled 'one stop shop' – but because users have divergent needs, and service providers want (or need) to keep using their own systems, these well-intended efforts tend to repeat the cycle of competing siloes. With each new directory that asks for the same information, providers become less likely to respond at all. In this way, modern technology ironically fuels the proliferation of more sources of less reliable information. As a result of this costly and ineffective status quo:

- People fail to find relevant programs that can improve their health and well-being.
- Service providers spend precious time chasing down information about other services.
- Decision-makers can't 'see' patterns of resource allocation and gaps.
- Innovators lack the data they need to build useful tools for any of the above.

We recognize that efforts to improve health outcomes – especially in marginalized communities – are often inhibited by persistent difficulties involving the inaccessibility and unreliability of this information. We also believe that the provision of this public information as a public good is a matter of community agency and, ultimately, health equity.

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Through Open Referral, we're fixing this market failure – through interoperability.

In collaboration with Code for America, Google.org, the Alliance of Information and Referral Systems (AIRS) and many others, Open Referral developed a format for data exchange – the Human Service Data Specifications (HSDS) and API protocols – to serve as a common language for sharing resource directory information among call centers, mobile applications, and the Web itself. We developed these protocols through years of deliberation, testing, and evaluation, as informed by an array of stakeholders from technologists and subject matter experts to service providers and clients.

HSDS is now officially endorsed by AIRS as an industry standard, and accordingly is used by vendors across the market of call center software and social care referral platforms. HSDS has also been adopted by government agencies and funders as a default method of publishing service information as open data for use across this ecosystem of technologies and organizations. 2-1-1 providers and technology vendors across Canada use and contribute to the development of these protocols – and, just this month, the UK government's Standards Authority Body formally endorsed the localized Open Referral UK specification as an official standard for publishing information about public services. In tandem with this endorsement, the NHS has established policies requiring the use of this standard for service directory data exchange in all procurement processes for "social prescribing" technologies. Here in the U.S., government agencies ranging from Allegheny County's Department of Human Services, the District of Columbia's Department of Health Care Finance, and the New York City Mayor's Office of Opportunity are using HSDS to aggregate and publish open data about services funded by public agencies. The federal Administration for Community Living (ACL) has required the use of HSDS as a condition for participation in its Social Care Referrals innovation challenge.

Open Referral is also advising the Gravity Project – in dialogue with the Office of the National Coordinator for Health Information Technology – to support alignment of these social service industry standards with HL7's FHIR standards for healthcare information exchange. We have also piloted alignment of HSDS with schema.org's standardized web markup to improve search results for information about services on major internet platforms like Google, Yelp, and so on. This enables HSDS to be a common tool for data translation of service information from health information exchange to the World Wide Web.

Given these advances, we believe the federal government has an opportunity to take transformative action that catalyzes this shift to open, reliable directory data infrastructure.

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The federal government can take various actions (several of low or no-cost) that can yield cascading systemic benefits – making it easier for people to find and use services, and easier for policymakers to make data-driven decisions that promote health equity.

First, the federal government can establish trustworthy open data registries containing verified information about the services that agencies provide and/or fund.

A 'register' is an official list, and open data registers – as described by [the UK Government's General Digital Service](#) – serve canonical data to the public. A 'service register' would contain directory data about all services provided and/or funded by a given agency – made openly available for use across an ecosystem of third-party tools and referral systems. Some federal agencies have recently upgraded the data they publish about services in their domain (such as the VA's health facilities); by adopting interoperability standards, this service registry model can be scaled up as infrastructure shared across the health, human, and social service sectors.

Some federal agencies also produce directories of services in their domains (such as [ACL's Eldercare Locator](#)); the content thereof can be published through interoperable web services, enabling third parties to leverage this data rather than maintaining it duplicatively.

This would save time for both referral providers and service agencies, improve search results on the web, and lower the barrier to entry for innovations that can improve service deliverability. Furthermore, by enabling every information system to access the same data, we can enable agencies to receive real-time feedback from those systems — about data quality, as well as patterns of service referral – establishing a 'smart' view of the service landscape over time.

Finally, federal funds are often used to procure technology through which various stakeholders might aggregate resource data. Procurement policies can ensure interoperability by requiring the use of open standards as a condition of contracting – and, furthermore, can require any public information aggregated through such contracts to be published as open data.

On behalf of the Open Referral Initiative, I welcome opportunities to work with OSTP along with public and private stakeholders across the nation to build a service information supply chain fit for a 21st century safety net. I can be reached at ███████████████ with any questions.

<div align="center">

Sincerely,

Greg Bloom
The Open Referral Initiative

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ORACLE   Oracle America, Inc.   500 Oracle Parkway   █████████████
                                    Redwood Shores, CA 94065

February 25, 2022
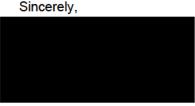
To Whom it May Concern:

On behalf of Oracle America, Inc., thank you for the opportunity to respond to The White House Office of Science and Technology Policy's (OSTP) Request for Information (RFI).

The COVID-19 pandemic uniquely highlighted gaps where US public health systems were already weak or nonexistent and provided an opportunity, not just for elucidation of the needs, but for rapid innovative solutions to enable response and mitigation efforts. As the pandemic has worn on, two years of excess burden on patched systems has also clarified the need for long-term, sustainable, and scalable solutions that will address current health needs and increase capacity for future change. Technology that addresses the health of all Americans must be equitably accessible, secure, and informed by those actually using the systems in order to be usable and effective. Using digital recruitment, secure monitoring, and pathogenic surveillance, Oracle was uniquely suited to meet these demands.

There are some extremely unique strategies and responses that Oracle outlines herein. We haven't responded to every question in the RFI, but our feel our input should be very interesting to OSTP. Please feel free to contact me if you have any questions or would like further information. I can be reached at ██████████████, or via email at █████████████████████.

Sincerely,

███████████████████
███████████████████
███████████████████
███████████████████

Gindy Feeser
Strategic Client Director

1. Successful Models within the US

Oracle responded quickly to the immediately pressing needs at the beginning of the pandemic with the rapid development of systems to manage vaccine trials, patient cases, and vaccine allocation, as well as genomic surveillance efforts for SARS CoV2, partnering and codeveloping with CDC, HRSA, Oxford University, and others to ensure that the results would meet the needs of users. These offerings, hosted on Oracle's secure cloud, ensured the scalability necessary to meet the challenges presented by increased spread and the demand for vaccines and treatments.

3. Trends from the Pandemic – A Need to Quickly Recruit Participants for Vaccine Trials

As the US started developing vaccines, NIAID began to express concern that when vaccines were ready for clinical trial, the one million volunteers needed to fill the initial trial groups would not be readily available. In addition, candidates needed to represent a diverse spectrum of risk, social, and demographic factors. Americans needed to easily obtain information on clinical vaccine trials, self-register for participation, and submit basic information used to triage candidates for full screening. In partnership

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with the Fred Hutch Cancer Center and NIH, Oracle rapidly built a system that directed the public from an NIH Coronavirus Prevention Network website (covpn.org) to a solution that allowed for self-registration, consent, and pre-screening. The overall metrics were visible in a deidentified form to central CoVPN project management teams and clinical trial sites could view and filter candidates within their region, then schedule the right candidates for full eligibility screening, ensuring geographic and demographic representativeness of the sample group. One of the main concerns with trial enrollment was education around clinical trial participation, but this solution provided a clear mechanism for the public to connect and volunteer, without the time and resource limitations of a call center or in-person recruitment. Messaging campaigns, endorsements by Dr. Fauci and President Trump, and PSA activities targeted hard-to-reach markets and resulted in ~600K volunteers registering in the solution within the first 6 weeks of launching. This created a pool of possible candidates for consideration by the trial sites and was critical in quickly filling the clinical vaccine trials.

The success of this effort demonstrates that digital recruitment will continue to play a significant role in equitably connecting patients and community members to opportunities and activities using a frictionless and secure user experience that encourages participation and allows the implementer the flexibility to target their specific community. The functionality that supported the CoVPN effort is now being evaluated and applied to support a variety of healthcare, research, and public health activities.

Data for decision making

Policy and intervention must be informed by accurate and representative data, and as the pandemic progressed, there was an increasing need to collect real-world person-level data. Oracle created the Patient Monitoring System for CDC to send daily surveys to participants through email or SMS, gathering information on key metrics and patterns related to the pandemic and allowing federal and state agencies to form data driven response. PMS was used to support a variety of studies and data collection efforts during various stages of the pandemic.

The CDC launched a significant investigation with nearly 70K consented individuals across several states to understand symptom patterns, exposure outcomes, social distancing and PPE compliance, and collect data from at-home antibody test results. HHS-ASPR included the use of PMS into a pilot activity to understand the experience of administering COVID-19 Monoclonal Antibody Infusions in non-traditional clinical settings, including scheduling and mobile data collection modules to allow the direct capture of infusion information at the time of the event, while surveys collected data related to patient experience and outcomes. This solution supported real time data collection to reflect the human experience across various communities, providing insights into as-yet poorly understood trends, such as the role of asymptomatic transmission, correlation of mitigation efforts with infection and transmission rates, and later patterns related to vaccination and sociodemographic indicators. This allowed for informed policy and equitable resource allocation, underscoring the value of technology to collect current, real-world data in research, clinical monitoring, and public health. This functionality is now being evaluated for opportunities to create new or supplement existing approaches to improve healthcare, research, and public health beyond the pandemic.

4. User Experience: *Enabling Resource Procurement*

A solution must take user needs into account to be functional; the Health Partner Ordering Portal (HPoP) was designed in conjunction with ASPR and HRSA for vaccine ordering. HPoP is used by federal agencies, pharmacy partners, dialysis centers, and jurisdictions (primarily states) to order vaccines, therapeutics, and diagnostics. With the introduction of diagnostics, in December 2021, HRSA took a leading role in

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helping to define diagnostic requirements and became the primary partner for all diagnostic orders, working closely with both ASPR and Oracle, to facilitate fluid diagnostic ordering practices. HRSA has also been working very closely with distributors for N95 masks, allowing HPoP to make masks available for ordering in February 2022.

5. Tool and Training Needs: *The Importance of the Cloud*

OHMS is currently being implemented at no cost for a period of ten years in several lower- and middle-income countries, including Senegal, Albania, and Côte d'Ivoire, where user education and varying levels of digital literacy make the implementation of digital health technologies difficult. Governments are often wary of storing data on the cloud, since most current solutions in LMICs are on-premises. To address these concerns, Oracle engaged in user training around the benefits of cloud technology and data security. Further training on QR codes and Covid-19 Digital certificates took place in-country with key government stakeholders.

6. Proposed Government Actions: *Genomic Surveillance to Identify and Respond to Disease*

In addition to making clinical trial recruitment and health efforts equitable, the government must focus on preventing disease spread in the first place with real-time data and prediction. Oracle teamed up with Oxford University to create the Global Pathogen Analysis System (GPAS) to provide a rapid and standardized method of analyzing SARS CoV2 genomic sequences and understand data trends. GPAS was built using Oxford's SP3 Platform with Oracle's APEX and Cloud Infrastructure to provide a unified standardized system for analyzing raw outputs from genomic sequencing machines. Viewed in dashboards, it serves as an early warning system for global pandemic response, and provides an up-to-date view of how SARS CoV2 variants are spreading globally. This enables informed public health policy decisions to limit exposure and transmission risks and allows localities to prepare for future spikes in disease incidence or severity. Organizations on nearly every continent are now utilizing GPAS, including the Institute of Public Health Research of Chile, United Kingdom Health Security Agency, and Oxford Nanopore Technology. Organizations have control over which data they share with other users.

7. Achieving Health Equity: *The SMART Health Card*

OHMS collaborates with The Commons Project and is a technical enabler of the SMART Health Card as a digital COVID-19 Certificate, which can be downloaded digitally, saved as a pdf, or printed as a pdf hard copy, enabling equitable and flexible access to a patient's own health records, without reliance on device access. Online trainings were offered to enable health professionals to import existing Covid-19 vaccination records, monitor data input and quality, and use Oracle Analytics Cloud to produce real-time reports and insights on vaccine uptake and coverage, informing policy and response efforts.

The challenges faced in LMICs are not so different from some of the challenges presented in low income and rural American communities, where limited digital literacy, socioeconomic hardship, and lack of transportation limit the opportunities for equitable access to existing solutions. Offline capabilities, a range of options for health record formats, education, and the secure storage of health information on the cloud address these challenges.

8. International Models

With the advent of the COVID-19 vaccine, an easy and quick solution was needed to manage a two-dose vaccine and ensure uptake. Oracle created and deployed the Health Management System (OHMS) in lower- and middle-income countries, ensuring health equity around digital COVID-19 vaccine credentials, and providing tools and training so that these governments could better access technology.

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The Oregon Health Leadership Council (OHLC) is pleased to submit these comments in response to the Strengthening Community Health Through Technology RFI released by the White House Office of Science and Technology Policy. (Comments submitted by Liz Whitworth, MPH, Managing Director, OHLC, March 31, 2022.)

Background

The Oregon health care community has a history of collaboration around strategic initiatives, including efforts to reduce early elective newborn deliveries, advanced care planning education and conversations, reducing ineffective and low value care, and administration simplification efforts. The Oregon Health Leadership Council (OHLC) has facilitated many of these initiatives with the support of its members, which include the major commercial, Medicare, and Medicaid health plans, acute care hospitals, and health systems across the state. With the advent of Oregon's Medicaid reform in 2012 and the development of the Coordinated Care Organization (CCO) model (akin to ACOs for Medicaid), physical, behavioral, and oral health providers developed new models of care delivery to improve health and maintain cost growth for the Medicaid population. Leveraging the federal Health Information Technology for Economic and Clinical Health (HITECH) Act funding from 2009-2021, Oregon initiated a series of health information technology (HIT) investments to support broader health care transformation, which led in part to the creation of a HIT funding "utility model." This model, developed to launch a statewide hospital event notification system, evolved into a formal public/private partnership to advance HIT across the state. The partnership known as "HIT Commons" is permitted by Oregon statute and jointly managed by the Oregon Health Authority (OHA, the state's Medicaid and Public Health agency) and OHLC (a private sector, voluntary statewide collaborative organized as a 501c(6)). In 2019, HIT Commons initiated exploration of social determinants of health (SDOH) technology strategies and emerging tools to facilitate "community information exchange" (CIE)—to enable care coordination across health care and social service providers.

Investing in Social Care Infrastructure

As the COVID-19 pandemic emerged, OHA workgroups, task forces, and other advisory bodies not directly related to the pandemic were suspended to allow resources to be dedicated to COVID response. HIT Commons, given its partnership with OHA, formally suspended its development work in CIE technology systems and structures. As was the case nationwide, social needs in Oregon skyrocketed in the early days of the pandemic. Oregon's 211info call center experienced a tripling in call volumes overnight, with high volumes persisting throughout the pandemic and during Oregon's historic wildfire season of 2020. As OHA and front-line providers were head-down on COVID response, the private sector health plans—led primarily by those plans with Medicaid CCO lines of business—accelerated their interest in addressing social needs, and recognized the value of statewide alignment as a strategy for reducing change management burden on community-based organizations (CBOs).

At the request of its members, OHLC facilitated a process to review, vet, and select a technology vendor to implement closed-loop referrals. Given the pace of efforts to address SDOH at the national, state, and local levels, and in recognition of a quickly developing CIE footprint in Oregon, OHLC and its partners leveraged existing resources and efforts in its selection of a technology vendor. These included the HIT Commons 2019 CIE environmental scan, the HIT Commons CIE Advisory Group—2020 Preliminary Report, OHLC member organizations' CIE vendor selection processes (including Samaritan Health Services/IHN CCO and Kaiser

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Permanente), input from the OHLC Board, OHLC Council and the HIT Commons Governance Board, and various one-on-one stakeholder meetings as requested.

Further, OHLC facilitated six "CIE Whiteboard Sessions" (in person, and then virtually) from October 2019-October 2020 for discussion, engagement, and continual feedback on CIE systems and vendors. The objectives of the CIE Whiteboard sessions were to:

- **Coordinate engagement and discussion on CIE systems** among health care partners interested in funding implementation;
- **Develop an initial statewide pricing model** (modeling previous statewide HIT utility approaches) to achieve savings across health care partners and offer the system at no-cost to CBOs, while preserving the ability for organizations to contract on their own timelines; and
- **Develop an initial governance structure** to guide early CIE efforts.

The year-long process led to health care partners contracting directly with Unite Us in 21 out of 36 Oregon counties as of the launch date for "Connect Oregon" in October 2020. As of March 2022, contracting is in place to spread Connect Oregon to all 36 counties by the end of 2022. Hundreds of CBOs have joined the network, more are onboarding each week, 211info serves as a Coordination Center in multiple counties, and individuals in Oregon are served every day by closed-loop referrals. OHLC and its members view this aligned investment as "social care infrastructure" akin to existing statewide "health care infrastructure," and see this work as an initial investment in addressing SDOH and health equity at scale in Oregon. As of March 2022, an initial governance structure is in place for Connect Oregon which includes two formal statewide bodies (balanced by health care and CBO representation) and multiple, regional bodies (some which leverage existing tables) to support the planning and implementation of Connect Oregon in counties across Oregon. As the network matures, development of a mature governance structure is contemplated to include more formal roles for state agency partners, philanthropy, and others.

Leveraging Infrastructure for Community Health
Oregon continues its journey of health care transformation through submission of the next Medicaid 1115 Waiver, implementation of a statewide Sustainable Health Care Cost Growth Target, and public and private sector innovation in value-based payment and care delivery models. In 2022, Oregon legislators passed a "CIE bill" (HB 4150) to study existing Oregon efforts and make recommendations for future legislation to strengthen and expand CIE systems in the state. Connect Oregon partners are actively supporting these efforts and have made engaging state agencies (health, human services, education, housing, etc.) in CIE systems a key priority for 2022. Evolving the discussion from "advancing CIE" to "supporting social care" is also a priority, in recognition of the need for more than simply a technology platform. Connect Oregon partners envision a future with social care payment models, CBOs supported with capacity training and funding, investments and training in a new community-rooted workforce (including Traditional Health Workers, Community Health Workers, Doulas, and Peer Support Specialists), evolving community benefit strategies to use a data-driven and health equity approach, and robust metrics and ongoing evaluation to track progress and identify areas for improvement.

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With Connect Oregon entering its second year of implementation, several lessons learned have emerged:

- **Trust and collaboration built over years of effort** show their value during emergencies.
- **The COVID-19 pandemic created a unique moment** for alignment and acceleration toward decision-making.
- **Building new systems and models of care takes a "learn as you go approach."** Begin the work, learn from successes and challenges, and continue moving forward.
- **Alignment and scale of social care infrastructure supports long-term social needs fulfillment and creates a nimble and widespread network** to leverage for future public health emergencies, wildfire response, and other emergent situations.
- **While data and scale matter, it is crucial to remember the power of helping one person at a time.** Over the last year, Connect Oregon has generated many powerful success stories—a few are highlighted below:

*"During one of my first experiences with Connect Oregon, I was working with a member who was part of a large family. **This member was the sole provider for the family but lost his job due to layoffs around COVID 19.** I decided to try out Connect Oregon and was able to get this family the support they needed and watched it happen in real time. **I was able to secure food, clothing, utilities, and rent assistance for them and all in 2 days! When I followed up with the family a week later to check in they were so happy and thankful that they cried happy tears."** – Member Support Specialist, PacificSource Health Plans*

*"At **Mosaic Medical a dietician sent a referral** to see about getting their patient baking pans to roast vegetables. **They referred the patient to Furnish Hope via Connect Oregon** and Furnish Hope promptly called the patient, going through a checklist of every item they had available to see if the patient might need it. The patient has lived in their home for quite a few years and didn't have hardly any furniture, has never owned a dresser, or a coffee table had two knives to cook with and a pan. **After an easy assessment process, Furnish Hope is delivering a truckload of furniture to the patient in early January. The patient was in tears** and said they couldn't believe anyone would do that for them!" – Lindsey Stailing, Mosaic Medical (FQHC)*

*"**A family all tested positive for COVID-19 while their father was on a long-haul truck job.** He was unable to return home because he was the sole provider for the family and they could not risk exposing him to COVID-19. **We were able to refer this family for wrap-around support through Unite Us,** and we were also able to temporarily house the father in a free shelter with food provided until the family was through their isolation period." – Isabel Dreyfus, Human Services Coordinator, Clackamas County Public Health Department*

March 28, 2022

Submitted electronically to ██████████████████████████

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Otsuka America Pharmaceutical, Inc. (Otsuka) appreciates the opportunity to respond to the Request for Information (RFI) on Strengthening Community Health Through Technology from the Office of Science and Technology Policy (OSTP).

Otsuka and its' affiliates oversee research and development and commercialization activities for innovative products in North America. At Otsuka, our driving philosophy is to defy limitation, so others can too. We seek to serve those with unmet medical needs in the central nervous system which lead to mental illness. We respect the value within every mind—whether it's a grand idea that changes the world, a simple human connection that changes someone's life, or something in between.

Otsuka fully supports the RFI's stated goal of supporting the initiative Community Connected Health, an effort that will explore and act upon how innovation in science and technology can lower the barriers to access quality healthcare and lead healthier lives by meeting people where they are in their communities. Specifically, our comments here will focus on 4 key areas of the RFI:

- *Trends from the pandemic*: Impressions or data reflecting how the use of digital health technologies (including the use of telemedicine) has changed over the course of the pandemic;

- *Barrier*s: Specific descriptions of the current barriers faced by individuals or organizations to the use of digital health technologies in community-based settings;

- *Health Equity*: Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity.

- *Proposed government actions*: Opportunities for the Federal Government to support the transformation of community health settings through the uptake of innovative digital health technologies and telemedicine at the community level.

Otsuka has been at the forefront of digital innovations in mental health, including through the company's 2017 launch of ABILIFY MYCITE® (aripiprazole tablets with sensor), the first FDA approved drug with a digital medicine system. Otsuka continues to break ground in innovative digital treatments through our development of prescription digital therapeutics (PDTs). These innovative products have the potential to expand the ability of health care professionals to interact with and monitor their patients remotely. We believe PDTs have the ability to offer an additional and complimentary treatment option to a patient's regimen and address unmet need. Otsuka has been proud to be at the vanguard of such innovations, and we remain committed to ensuring access to them. Otsuka strives to make a difference in the lives of every patient we treat and is committed to helping patients gain access to the care they need.

These principles and goals inform our comments below.

Trends & Barriers Highlighted by the Pandemic

While we appreciate OSTP's assertion that the attention to concerns about mental health have been "illuminated" by the pandemic, many of the challenges to patient access to care in the behavioral healthcare system pre-date the pandemic. Patients with mental health conditions have long encountered significant barriers when seeking behavioral health treatment and accessing appropriate services and care. This access has been even more limited during the widespread lockdowns and social distancing measures to reduce the spread of COVID-19.

These patients need the same care during a public health emergency that they always need—consistent access to high-quality treatment—even if they cannot see a provider face-to-face. We therefore encourage the Administration to take steps to reduce barriers to access to mental health services or treatment more broadly, including through (1) support for expanded coverage of telehealth services but also (2) expanded support for remote patient monitoring and remote therapeutic monitoring services, including support for the development and use of digital technologies such as prescription digital therapeutics (PDTs). Lastly, we would ask the Administration to develop strategies to address pre- and post-pandemic issues plaguing the mental health system including lack of parity with physical conditions and workforce shortages across the treatment continuum.

Specific to the pandemic, Americans experienced a significant rise in mental health conditions, as evidenced by self-reported symptoms and a dramatic increase in overdose deaths.[1] Mental Health America (MHA) reports a significant increase in signs of anxiety and/or depression and suicidal ideation during the pandemic, as measured by the number of individuals taking one of MHA's online screening tests during the pandemic compared to before:[2]

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[1] *See* Mark E. Czeisler et al., *Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic – United States, June 24 – 30, 2020*, 69 Morbidity & Mortality Wkly. Rep. 1049 (Aug. 14, 2020), *available at* https://www.cdc.gov/mmwr/volumes/69/wr/mm6932a1.htm; Anjel Vahratian et al., *Symptoms of Anxiety or Depressive Disorder and Use of Mental Health Care Among Adults During the COVID-19 Pandemic – United States, August 2020 – February 2021*, 70 Morbidity & Mortality Wkly. Rep. 490 (Apr. 2, 2021), *available at* https://www.cdc.gov/mmwr/volumes/70/wr/mm7013e2.htm; Sameer Imtiaz et al., *The impact of the novel coronavirus disease (COVID-19) pandemic on drug overdose-related deaths in the United States and Canada: a systemic review of observational studies and analysis of public health surveillance data*, 16 Substance Abuse Treatment Prevention Pol'y 87 (2021), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8628272/.

[2] Mental Health America, *Number of People Reporting Anxiety and Depression Nationwide Since Start of Pandemic Hits All-Time High In September, Hitting Young People Hardest*, (Oct. 20, 2020), *available at*

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- There has been a **634 percent increase in anxiety screens** in September 2020 compared to January 2020.

- There has been an **873 percent increase in depression screens** in September 2020 compared to January 2020.

- **Thirty-seven percent of those who took a screening reported suicidal ideation** on more than half the days in September 2020.

While the specific policy recommendations on how to address this public mental health crisis vary, Otsuka's primary goal is the same—ensuring that Americans with mental health conditions have access to evidence-based professional, pharmaceutical, and institutional supports when and where they need them, even in the midst of a public health emergency. Unfortunately, the pandemic revealed and compounded many of the challenges that people living with mental illnesses face in accessing appropriate treatment.

Continuity of care is critical for positive patient outcomes related to virtually all chronic diseases, including mental health conditions, during a pandemic or otherwise.[3] Providers should not need to dramatically change their models of care during a crisis, but they must have the tools to provide accessible, high-quality services in the midst of a public health emergency or whenever patients are facing barriers to accessing treatment. The pandemic spurred unprecedented but temporary expansion of coverage for telehealth services, allowing patients to more easily access care when in-person visits were restricted and also expanding access to previously underserved communities. Much of the expanded coverage was authorized through waivers enabled by CMS's expanded authority during the COVID-19 public health emergency and will terminate once the pandemic is over. If the Administration wishes to see access to these services continue, where appropriately prescribed by a patient's health care professional, it will need to support the modification of the existing telehealth statutes, including ensuring that the Federal Medicaid Assistance Percentage (FMAP) is appropriately matched for such services.

Expanding coverage of telehealth alone, however, is insufficient to meet the needs of patients with mental health conditions. The Administration's recent efforts to expand coverage of digital but non-telehealth services, including remote patient monitoring and remote therapeutic monitoring services, has helped to bridge this gap by helping give patients access to mental health services in between appointments with mental health workers.[4] This expansion in coverage coincided with the growth of products like drug/device combinations that include a digital component and of Food and Drug

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https://www.mhanational.org/number-people-reporting-anxiety-and-depression-nationwide-start-pandemic-hits-all-time-high

[3] *See, e.g,* Kam-Suen Chan et al., *Effects of continuity of care on health outcomes among patients with diabetes mellitus and/or hypertension: a systematic review*, 22 BMC Fam. Prac. 145 (2021), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8254900/; Margaret T. Lee et al., *A Performance Measure for Continuity of Care After Detoxification: Relationship with Outcomes*, 47 J. Substance Abuse Treatment 130 (2014), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4096006/; Dinci Pennap et al., *Continuity of Care and Mental Health Service Use Among Medicaid-enrolled Youths*, 58 Med. Care 199 (2020), *available at* https://journals.lww.com/lww-medicalcare/Abstract/2020/03000/Continuity_of_Care_and_Mental_Health_Service_Use.3.aspx; Natasha Tyler et al., *Interventions to improve discharge from acute adult mental health inpatient care to the community: systematic review and narrative synthesis*, 19 BMC Health Serv. Rsch. 883 (2019), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6876082/pdf/12913_2019_Article_4658.pdf.

[4] 86 Fed. Reg. 64,996, 65,116 (Nov. 11, 2021) (describing the agency's decision to finalize the proposed adoption of remote therapeutic monitoring codes).

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Administration (FDA) regulated PDTs, i.e., digital therapies prescribed by health care professionals to help treat a patient's illness.

PDTs have the potential to positively impact the treatment of a variety of diseases including mental health conditions. PDTs have the ability to improve access to care as well as address areas of unmet need in terms of complimentary treatment options for patients suffering from mental health conditions.

PDTs are a promising new treatment option that could give patients additional tools that they can use within their own home, on their own schedule to complement their existing treatment plan. Examples of PDTs include cognitive and behavioral therapies, brain training, and psychological treatment delivered via digital applications (apps). PDTs also have the ability to enable health care providers (HCPs) to provide more optimal care for their patients, particularly those who might not otherwise be able to access in-person therapy; to provide care remotely; and to monitor patients in-between visits as necessary.

PDTs have the potential to improve the overall treatment of mental health conditions, could improve access to care, and offer greatly needed alternative treatment options:

- PDTs are clinically validated, US Food and Drug Administration (FDA) approved or cleared digital treatments prescribed by a physician or other health care professional, on their own or as an adjunct to other therapies, to treat a health condition.

- They are a promising new treatment for patients with mental health disorders that could give patients the tools they need to take charge of their own health, placing the responsibility for mental well-being in the hands of the patient. Examples of PDTs include cognitive and behavioral therapies, brain training, and psychological treatment delivered via apps.

- PDTs could also enable physicians and other health care professionals to provide more optimal care for their patients, particularly those who might not otherwise be able to access in-person therapy; to provide care remotely; and to monitor patients in-between visits as necessary.

Despite the value proposition PDTs deliver, they are not currently covered under Medicare or Medicaid and there is no applicable benefit category for PDTs. A new benefit category for PDTs would allow the Centers for Medicare and Medicaid Services (CMS) to establish terms of coverage for PDTs that are appropriate to these innovative and novel therapies and help ensure that patients can access them. This approach would avoid trying to mold PDTs into some other preexisting benefit category, where the coverage and reimbursement provisions for which may not be appropriate for PDTs. Additionally, commercial payers are more likely to adopt a new technology once CMS has established a reimbursement pathway.

Additionally, as part of its efforts to develop comprehensive, sustainable solutions to address the underlying social determinants of mental health, Otsuka also encourages the Administration to ensure that efforts in this space are used, in part, to come up with strategies and best practices to address workforce shortages in the mental health space. The country is already facing a mental health

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workforce shortage, which is particularly acute in rural areas.[5] Moreover, the current workforce does not reflect the country's racial and ethnic diversity.[6] Inadequate staffing can delay patients' diagnoses and appropriate treatment, and these shortages have been exacerbated by the challenges of providing mental health services during the COVID-19 pandemic as workers burnout in response to already low wages and fear of COVID-19.[7]

Sustainably expanding the workforce will require investments in education, infrastructure, and the behavioral health care system, to ensure that there are sufficient training programs and wages to support this population. This investment will depend on adequate, sustainable funding streams, including the grant funding discussed previously. Separately, however, the Administration and CMS should also take steps to ensure that there is sufficient reimbursement for mental health services to help support sustainable and adequate wages for the mental health workforce over time. For example, Medicaid is the nation's largest payer of behavioral health care services, but reimbursement rates for behavioral health services are consistently low, even when compared with Medicaid payments for other types of health services.[8]

Health Equity

Otsuka applauds the Administration's focus on reducing disparities by addressing the underlying social determinants of health to improve patient outcomes. Many health care conditions are tied to inadequate resources, including those related to economic stability, access to education, access to high quality health care, safe neighborhoods and housing, and access to social community supports.[9] This lack of resources is a significant contributing factor to poor mental health and, in, an increased risk of depression.[10] The issues have only been exacerbated during the pandemic, with four in ten adults reporting anxiety or depression.

Health disparities have been a significant issue for those living with mental illness where homeless, incarceration and lack of basic medical access have plagued this field for decades. We are heartened to see the Administration look at these issues and encourage cross-functional efforts across government programs and Agencies to put forth solutions that can help address these issues. We would also encourage the Administration to partner with state Medicaid programs and encourage innovative approaches at the state level to address these needs of those living with mental illness.

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[5] Ryan K. McBain et al., *How to Transform the U.S. Mental Health System: Evidence-Based Recommendations*, RAND at Recommendation 9 (2021), *available at* https://www.rand.org/pubs/research_reports/RRA889-1.html (hereinafter "RAND Report").

[6] *Id.*

[7] *See, e.g.,* Bureau of Lab. Stat., *The Employment Situation – January 2022*, U.S. Dep't of Labor, *available at* https://www.bls.gov/news.release/pdf/empsit.pdf (last accessed Feb. 7, 2022) (describing reductions in the number of employees in the health sector, including but not limited to those employed at residential mental health facilities); Lauren Weber, *Nursing Homes Keep Loosing Workers*, WALL STREET JOURNAL (Aug. 25, 2021).

[9] Off. of Disease Prevention & Health Promotion, *Social Determinants of Health*, https://health.gov/healthypeople/objectives-and-data/social-determinants-health (last visited Feb. 3, 2022).

[10] *See* Am. Psychiatric Ass'n, *Resource Document on Social Determinants of Health* (June 2020), *available at* https://www.psychiatry.org/psychiatrists/social-determinants-of-mental-health-task-force.

Otsuka supports the goals of regulatory and legislative efforts designed to modernize and diversify clinical trials, and we welcome Administration efforts to drive the FDA forward in this area. As a data-driven company, Otsuka is constantly striving to develop and improve on clinical trial designs, including by incorporating digital technologies, decentralized clinical trials, and adaptive trial designs. Guidance from the FDA in these areas would serve the interests of patients as well as innovative pharmaceutical manufacturers like Otsuka. A critical element of the guidance process proposed by the draft legislation is collaborative engagement between FDA and industry stakeholders through the public notice procedures. The guidance process will also allow for input from other critical stakeholders in the clinical research ecosystem, including academia, state agencies, research sites and community health partners.

The past two years have underscored the need for critical thinking about best practices in clinical trial design and use of digital health tools to improve data collection, as well as the recruitment, protection, and retention of clinical trial subjects. In particular, digital health tools and decentralized clinical trial designs can help improve equity and representation in clinical trials for diverse and underrepresented demographic subgroups and patient populations, including communities of color and patients living in rural and underserved areas. Decentralized clinical trials and adaptive clinical trial designs allowing for greater efficiency will ultimately permit research and development of novel therapeutic products to reach patients more quickly.

Otsuka is committed to addressing disparities in healthcare outcomes through improved diversity, equity, and inclusion of underrepresented patients in its clinical trials, including communities of color. We have undertaken a thorough and systematic review of our company-wide clinical trial programs to establish a framework for improving diversity performance across all Otsuka clinical trials. FDA guidance on modernizing clinical trials would be welcome support for these goals.

Proposed Government Actions

The Administration should support the continued development of innovative technologies and ensure that the agencies have the authority they need to protect and expand patient access to remote digital services. Further, Otsuka believes the Administration should support both agency and Congressional efforts to fully fund and diversify the healthcare workforce, promote diversity and decentralization of clinical trials

Specifically, Otsuka urges the Administration to support:

- ***Amending the Medicare telehealth statute***, by expanding coverage of access telehealth services in the home for more patients, where deemed appropriate in the judgment of a health care professional.

- ***Require CMS to issue guidance to states to clarify FMAP funding is available to services offered via telehealth,*** even if such coverage was not provided by the state before the public health emergency.

- ***Expand and promote access to remote digital services and innovative digital therapies, such as PDTs.*** The Administration should support the growth of patient access to remote patient monitoring and therapeutic monitoring services and PDTs, including the establishment of a benefit category for PDTs under both Medicare and Medicaid.

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- ***Require federal agencies to fully fund healthcare workforce grant funding with an emphasis on diversification of the workforce.*** For too long, equity in the healthcare workforce has been ignored leading to dramatic underrepresentation of underserved populations. The Administration can and should require its agencies to ensure diversification be a pillar of any efforts to increase and improve the healthcare workforce.

- ***Require FDA to issue guidance on the diversification and decentralization of clinical trials.*** While current guidance provides helpful guardrails for such policy, further detail and direction is necessary to meet the Administration and Otsuka's goals of clinical trial diversity.

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Advancing policy solutions to improve mental and behavioral health in this country is a priority for Otsuka. We will continue to lead within this area in our industry and welcome opportunities to work with you and your colleagues. Should you have any questions, please contact Otsuka's Senior Director, Health Policy and Reimbursement, Molly Burich at █████████████████████

Sincerely,

█████████████████

Debra Barrett
Vice President, Corporate Affairs
Otsuka America Pharmaceutical Inc.

From:	Adam Hutchinson ████████████
Sent:	Monday, January 10, 2022 8:54 PM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI

| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

| **Categories:** | Green Category |

Submitter: Adam Hutchinson, Founder/CEO, oVRcome
Type: Organization
Stakeholder: Technology Developers

To whom it may concern,

Our goal is to make behavioral healthcare more accessible through innovative use of technology and believe that we have insight which might be helpful.

80% of people with an anxiety disorder receive no treatment, with the main barriers being cost, location, stigma often due to cultural issues and a lack of trained psychologists **(Barriers) (Health Equity)** to deliver treatment. There are significant downstream issues with leaving an anxiety disorder untreated, with a 2-3 x higher chance of developing a more serious condition such as alcoholism, substance abuse and even suicide when left untreated. We have recently completed our clinical trial to show that we can deliver behavioral healthcare with the same results, yet reach a larger number of people at 1/28th the cost of regular treatment.

By providing a treatment that's more accessible to people and without the barriers mentioned above, we can reduce the amount of downstream issues that occur when leaving an anxiety disorder untreated. Through a combination of virtual reality and smartphone technology, we can make treatment far more accessible.

Regards

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![Palladium — MAKE IT POSSIBLE]

Strengthening Community Health Through Technology

White House Office of Science and Technology Policy (OSTP)

Submitted by
Palladium International, LLC
1331 Pennsylvania Avenue NW, Suite 600
Washington, DC 20004
DUNS: 186295239
TIN: 26-1509671

Submitted to White House Office of Science and Technology Policy (OSTP)

March 31, 2022

Authorized Representative/Signatory

Ruth Berg, PhD

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Palladium welcomes the opportunity to contribute to the Request for Information on Strengthening Community Health Through Technology issued by the White House Office of Science and Technology Policy (OSTP). With decades of experience implementing health programs in low- and middle-income countries, we are pleased to share lessons learned from community digital health programming for consideration when designing and implementing programs that support community health models in the United States through technology. Accordingly, we limit our input to Topic #8, International Models.

About Palladium

Palladium is a diverse organization that supports communities in over 40 low- and middle-income countries to engage in the design and assessment of health interventions that affect them. As part of our commitment to social justice, since 2019 we have been working to translate our international community engagement approaches to digital health technology, healthcare delivery, and health policy to the United States. Efforts point towards a common goal: transformation and demonstration of the capability of public health to advance health equity and address health disparities in meeting the evolving and complex needs of communities, whether in the U.S. or around the world.

We lead health systems strengthening programs and work across all levels of public health systems from national to community level to effectively align resources and information, ultimately leading to improved access to quality care. A critical element to enable this system level change has been the infusion of digital technologies into health systems to provide health information, access to services, and generate data that can be analyzed for improved healthcare delivery. We have pioneered the integration of electronic medical records and other digital health technologies. While the efforts started small, they have scaled into national digital health systems that enable information and care to be delivered and reported seamlessly across facilities and in communities. For example, in the early 2000s in Kenya, we implemented one of the first electronic medical record systems for HIV care that eventually scaled to over 1,000 health care facilities and now extends HIV testing and treatment services into communities. Further, we conducted research on community health information systems globally, leading to best practices and toolkits for implementing digital technologies in community health contexts.

Community Health Challenges Domestically and Abroad

While the context for community health programs differs by community and country, there are many similar challenges that community health programs encounter broadly, especially when considering the integration of technologies into programs. For example, community health programs are often delivered through a patchwork of providers, with varying services offered across different geographies. Frontline or community healthcare workers are effective in providing entry points into the healthcare system, but the programs with which they are associated are often not continuously funded or institutionalized. Around the world, including the U.S., broadband internet connection is not universal, which creates barriers to internet access for patients and healthcare workers. While there are many information or data collection systems implemented at the community level, they are often siloed or not interoperable with the medical record systems in use, making it hard to deliver care in the community and facility and creating difficulties in monitoring and measuring the impact of community services. In some cases, care is delivered informally or outside of the institutionalized healthcare system and is therefore not effectively tracked or reported.

Given the similar challenges community health programs face in the U.S. and internationally, we share below several examples of how the international digital health community has worked to overcome these for consideration in the U.S. community health context.

International Guidance at the Intersection of Health and Technology

The global digital health landscape has evolved over the last 30 years, during which time donors, implementing partners, and other key stakeholders came together to discuss the challenges impacting the

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successful utilization of digital health solutions. Given the many siloed systems that often were abandoned after an unsuccessful pilot program, the global digital health community recognized that a change was needed. This led to the formation of the Principles for Digital Development, a set of guiding principles to help drive the successful integration and implementation of digital solutions within the international development and health programs. This helped to embed industry best practices into technology-enabled community programs. Endorsed by more than 280 organizations, the Principles provide a common set of standards to help align and unite organizations developing and implementing technologies. They directly articulate recommendations to address challenges related to the interoperability goals for digital solutions, designing for sustainability from the conception of a digital initiative, and promoting the understanding of the surrounding ecosystem of infrastructure, policies, governance, and other technologies that influence how a digital initiative can be implemented.

In the context of global community health programs, the Principles helped to position technology implementation through a user-centered perspective to ensure that any technology programs were relevant to the users and their needs, whether it be community health workers or community members themselves. The Principles also notably set guidelines for standards that, when implemented, prevent siloed systems and allow data to be exchanged across systems and service delivery points. Given the patchwork of providers and fragmented community health systems in the U.S., stakeholders agreeing on a common set of principles to guide implementation can improve the implementation of technologies to meet user needs and ensure viable long-term operating models that can be adapted by different programs and providers.

Beyond the Principles, there are additional global goods that provide useful perspectives and vocabularies used by global health practitioners that could be valuable if similarly applied to U.S. community healthcare and digital solution application. The World Health Organization developed the Classification of Digital Health Interventions as a tool to provide a mutually understandable language for the many global digital health stakeholders to use when explaining the functionality of the variety of tools that are implemented. This resource classifies both the types of users as well as use cases of digital health interventions and is meant to help align practitioners with standard language across different digital health interventions. Given the wide variety of uses for digital technology within community programs, understanding and agreeing on the specific use cases and the problems they seek to solve within health programs is needed to ensure the correct technology is identified and configured to meet the need. Further, as the OSTP continues exploring the use of digital technologies in community programs, the Classifications can be used to demonstrate the wide variety of the types of users, system functionality, and the use case they fulfill.

Models for Integrating Technology for Community Health Programs
Below we share two models for utilizing digital technologies within community health programing based on our experience implementing international community health programs with input from community-based partners here in the United States. These include 1) Utilizing digital tools to facilitate CHWs to monitor patients, deliver care, and report data; and 2) Interoperating systems and data between programs within the community and formal healthcare settings.

(1) Utilizing digital tools to facilitate CHWs to monitor patients, deliver care, and report data

Community health workers in the U.S. have no shortage of digital tools at their disposal. However, the digital tools they often access are designed to be used directly by the patient, rather than by the CHWs themselves to standardize and deliver care. This presents an opportunity to rethink how technologies can center CHWs as the primary end user and enable them to deliver tasks and services through job aids, while simultaneously collecting data that can be used for reporting and analysis. In this shift, human-centered design can be used to research and incorporate needs of the CHWs' operating context. This includes considerations for offline functionality to address inconsistent broadband connection, digital literacy of

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CHWs to use digital tools, and additional supportive supervision functions that allow for workforce and job aid support from managers.

As the global community for community and digital health looked to understand why many technology programs failed at the community level, it became clear that it was not the technology that failed, but rather that the community health program or operating model had not been adequately institutionalized within the community or health system, often due to a lack of engagement directly with the communities on the design of the program. We conducted research across several community digital health models, leading to a set of case studies that provide lessons learned for how mobile health implementations moved beyond the pilot phase into sustained models. The case studies demonstrate the importance of engaging those who the technology is intended to support in its design and assessment in order for it to be fully integrated within a program and supported, rather than considered a siloed add on to the program. This ensures that resources and the proper governance is in place to support the program.

(2) Interoperating systems and data between programs within the community and formal healthcare settings

In the early years of global digital health implementation, a common phenomenon termed 'pilot-itis' persisted, wherein many digital solutions were piloted and then subsequently failed to scale or continue to be used. A parallel phenomenon, given the abundance of patient-facing apps is currently occurring in the U.S. Both of these challenges reflect a larger, foundational challenge -- many digital health technologies exist without a connection to the established community or healthcare system, which misses an important opportunity for a more equitable design that is relevant to the needs of the community. It's often the case that they are not designed to link or align with a health delivery program, and even when they are, the use of data standards needed to facilitate interoperability and data exchange is absent. This leads to digital technologies remaining separate, siloed, and often not evolving with the programmatic needs over the long term.

In the model described above where the CHW uses the digital technology to monitor their patients, provide care, and collect data, there is an opportunity to better design digital technologies to support interoperability and the requisite data structures and standards needed for data to flow across systems, such as electronic medical records, surveillance systems, and other health management information systems. Through Palladium's leadership in strengthening community-based information systems (CBIS), we developed a CBIS framework that provides a structure and framework, connecting and aligning the disparate components and actors within community health programs and digital technologies. Please note that our reference in the framework to "civil society" includes community-based organizations.

In the U.S. context, OSTP could consider developing a similar model that identifies the leadership and governance structure, the user model, data sources, and data use cases to guide the design and application of community digital health programs in the U.S. Such a framework could mutually reinforce the abilities of the CHWs to use digital technology as a job aid, while collecting data for reporting that can be used to quantify the impact of the CHW social and healthcare services to justify the need to institutionalize and fund such efforts. Further, establishing a CBIS framework could also help standardize the types of tools and systems that are used across communities, not only creating a more consistent and stable link between community-level service delivery and the healthcare systems, but also introducing the necessary interoperability requirements to facilitate use of data across geographies and locations.

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From:	Sophia Yen <███████████████████>
Sent:	Friday, January 7, 2022 12:54 AM
To:	MBX OSTP Connected Health
Subject:	[EXTERNAL] Connected Health RFI

Follow Up Flag:	Follow up
Flag Status:	Flagged

Categories:	Green Category

As a doctor and CEO of a telemedicine company and as an academic doctor in an academic center, I write to comment on the Connected Health RFI

Access
pandiahealth.com @PandiaHealth has brought birth control and expert care by expert doctors to women wherever you have internet and a mailbox. (We deliver to all 50 states, and write the Rx in 14 states) limited by funding & laws requiring doctors be licensed in EVERY state)

Decreasing cost
For ONLY $20 ONCE a year, you have unlimited access to follow up questions with our expert birth control doctors about birth control. We are the ONLY Doctor-Led, the ONLY Women-Founded AND Led, the ONLY Majority Women-Owned birth control delivery company.

Decreasing Barriers
There is public humiliation to being seen at the pharmacy getting your birth control.
There are doctors in conservative areas that won't write for birth control.
There are doctors in silicon valley that don't feel comfortable writing for birth control for teenagers because they are pediatricians and haven't done much of it.

Barriers to Uptake
1. Startups don't want to deal with insurance companies, getting contracts, billing them.
For every 1 doctor at Stanford, there are 4 full time billers and even then Stanford only gets back 70% of what it bills.
A startup doesn't have the time/money to go after that.

2. Requiring doctors to be licensed in EVERY state. Doctors take national exams. We don't take state exams. Medicine should be practiced the same throughout the US, and the world. Doctors shouldn't have to be licensed in every state. EVERY state should be forced to join the IMLCC or similar. We're OK paying the fees, just don't make us fill out the forms over and over and get our fingerprints done over and over.

3. internet speed: we've had a few appointments messed up by internet speed. But surprisingly most patients rich/poor have been able to use the telemedicine option!!

4. Insurance companies and PBMs. They have an oligopoly. PBMs should be eliminated or at least required to pay all pharmacies and NOT require the pharmacy to take any losses.

Health Equity: I think of most of the innovative telemedicine is for the rich people and people who can afford it. e.g. ADHD, menopause, depression. They all take cash b/c it's hard to take insurance.

Ideas for Government Action
1. Allow US doctors to be licensed in ALL states via 1 mechanism. Check out the IMLCC.
2. Grants to Woman-Founded or Doctor-Led or minority-founded telemedicine companies. Because there are so few and Canada has LOTS of government subsidies for Woman-Founded/Led companies.
3. find a way to help startups take insurance so that everyone can access the new technology.

Sincerely,
Sophia Yen, MD, MPH
CEO & Co-Founder

pandia health

[Pandia Health](#)
Expert, Evidence-based Care. Convenience. Confidentiality.
The Online Health Brand Women Trust
The ONLY #DoctorLed, #WomenFounded and Led birth control delivery company.

Improving the health and well-being of Native Hawaiians

Request for Information (RFI) on Strengthening Community Health Through Technology

Agency: Office of Science and Technology Policy (OSTP)

Document Citation and Number: 87 FR 492 ; 2021-28193

Respondent: Papa Ola Lōkahi, the Native Hawaiian Health Care Systems (Hoʻōla Lāhui Hawaiʻi, Hui Mālama Ola Nā ʻŌiwi, Hui No Ke Ola Pono, Ke Ola Mamo, Nā Puʻuwai), and the Native Hawaiian Health Care Scholarship Program

Respondent Type: Community health worker (CHW) organization

Introduction

Papa Ola Lōkahi, the Native Hawaiian Health Board authorized by the federal Native Hawaiian Health Care Improvement Act, is charged with raising the health status of Native Hawaiians to the highest possible level, which we achieve through strategic partnerships, programs, and public policy.

Response to RFI

The following feedback corresponds to the prompts provided by OSTP, copied for reference.

2. Barriers: **Specific descriptions of the current barriers faced by individuals or organizations to the use of digital health technologies in community-based settings. It would be very helpful for respondents to indicate how these barriers may align to the following broad categories: Technical (including broadband access), training, costs, reimbursement/policies, buy-in across organization or community, user education/comfort, or other. In the case of barriers that include user comfort/willingness to use the technology, it would be useful for respondents to detail any concerns users might have such as privacy, security, discrimination, the effectiveness of the technology, or other such concerns.**

Technical. Broadband access in Hawaiʻi is a continuing challenge that has come to the forefront during the pandemic. To date, the ability to facilitate telehealth operations remains dependent on existing broadband infrastructure and emergent broadband increase, which is particularly difficult

in Hawai'i due to geographical isolation, the state encompassing an archipelago of islands, and other natural features. When and where broadband availability is present, the costs of a reliable connection remain a considerable barrier as well, which was temporarily addressed through the implementation of the Emergency Broadband Benefit. Although there have been concerted efforts to increase public access through programs and projects that have looked to perform activites like hosting wireless connections in parking lots, the context of Hawai'i broadband infrastructure remains a hard ceiling for the success of innovative programs and future plans.

The opportunities that Hawai'i organizations were able to utilize to facilitate increased access to digital health services remained fraught with administrative barriers. For example, issuing hardware like tablets, phones, and accessories to allow Medicaid patients the means to access telehealth is difficult because there are longstanding rules that do not allow Post Office (PO) Boxes to be used for receiving such items. However, Hawai'i has significant rural areas in which PO Boxes are the recipient's only means of receiving mail because carriers do not deliver directly to homes. Administrative structures that are not flexible enough to address these types of local issues discourage community organizations from competing for federal grant opportunities.

Costs. In addition to broadband costs, communities in need continue to have low or no access or ownership of the hardware needed to utilize digital health technologies. As pandemic concerns have continued to escalate the use of videoconferencing and other digital platforms across health and education, it has become unrealistic that a single smartphone, tablet, or computer can serve the needs of an entire family. Although there have been marked advances in flexibility to allow hardware purchase and distribution to those in need, community partners continue to report a noticeable "digital divide" that indicates more sustainable programs are required to support clients in the new context of digital health technology.

3. Trends from the pandemic: **Impressions or data reflecting how the use of digital health technologies (including the use of telemedicine) has changed over the course of the pandemic by individuals, community-based organizations, and in community-based health settings. This includes impressions of what is likely to continue, or not, after the end of the public health emergency or COVID-19 pandemic.**

Despite challenge, telehealth utilization in Hawai'i has undoubtedly risen over the course of the pandemic. Community-based organizations continue to work towards increasing access to digital health technologies for their clients. The expectation from community health providers is that some extent of telehealth increase will be sustained. However, COVID-19 precipitated an unprecedented need for more language services in health (translated materials and interpretation), which typically is not offered. Though the expectation is that those funds will be stopped, the need for consistent language services in health is an important consideration for community health organizations.

5. Tool and training needs: **Information about the current technological tools, equipment, and infrastructure needs of community health workers and other community-based health providers. Descriptions about what is needed to train and/or certify community health organizations and workers on the use of digital health technologies for their work are also welcome.**
Community-based organizations seek additional tools or resources regarding education for older adults on how to recognize phishing scams, inaccurate health information, and cyber security (banking, online purchasing). Although some resources exist, more comprehensive tools and

materials are needed to keep users informed as scams get more elaborate and thus more difficult to identify. In addition, the movement of many health education and training offerings to digital platforms rather than in-person formats has driven the need for more training and resources to teach community health workers and any staff that participate or support health events to facilitate trainings, webinars, etc. online. Basic trainings on operating videoconferencing are available widely, but more intermediate offerings on tools and features to facilitate more participation through digital platforms in lieu of being able to do in-person activities are helpful.

6. *Proposed government actions:* Opportunities for the Federal Government to support the transformation of community health settings through the uptake of innovative digital health technologies and telemedicine at the community level. Please specify whether these opportunities could take place in the immediate future (*i.e.,* 0-2 years), in the next 5 years, in the next 10 years or beyond.

The Federal Government may find that community health settings are impacted by State context. In States with a high degree of readiness to adope innovative digital health technologies (the existence of a State Chief Data Officer and or Chief Information Officer, centralized State data office/unit to administer and maintain State datasets and perform other activities, active and progressive State laws on data governance, use, disaggregation, etc.) have the most capacity and infrastructure to apply for competitive federal funding opportunities and leverage them accordingly. However, the Federal Government may support communities across the United States by ensuring that federal funding opportunities are awarded to a variety of States so that all States are supported to develop the structure needed for robust digital health technologies. This support, through policy, could begin in the immediate future but would likely come to fruition in the next 5 years or in 10 years and beyond.

7. *Health Equity:* Information about how digital health technologies have been used, or could be used, in community-based settings to drive towards a reduction in health disparities or achieving health equity. This could include any concerns about the health equity impacts of digital health technologies.

Health equity as it pertains to digital technologies is a topic of wide interest in the State of Hawai'i due to unique challenges in broadband, as the entire state is dependent on a limited number of aging undersea cables. During the pandemic, the increase of telehealth was limited by the capacity of broadband infrastructure, availability, and affordability. This meant that although there were opportunities in federal health grant funding designed to increase telehealth access through activities such as purchasing approved software, new or additional hardware, and other accessories, the access to services for rural communities in Hawai'i faced additional challenges due to contextual issues. The context of broadband is a long-term issue in which the health sector has limited influence or levers to drive change, so states that are not positioned to compete for relevant federal funding in federal infrastructure opportunities will face additional health disparities in digital health technologies.

1188 Centre Street, #3
Newton, MA 02459

February 28, 2022

Dr. Alondra Nelson
Acting Director of the Office of Science and Technology Policy
Executive Office of the President
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson,

Thank you for the opportunity to provide input to the White House Office of Science and Technology Policy (OSTP) on how digital health technology can revolutionize American healthcare. Technology can usher in a pro-consumer healthcare system that increases access, reduces prices, improves quality, and advances equity. Specifically, OSTP can empower technology innovators to deliver actual, upfront healthcare prices to Americans via consumer-friendly web applications, putting patients in the driver's seat of their healthcare decisions. When Americans can easily access actual, upfront healthcare prices – not estimates, they can enjoy dramatic healthcare savings through choice and competition. Binding prices can provide consumers easy recourse if the final bill doesn't match, holding hospitals accountable.

The Biden Administration, including the White House OSTP and the Centers for Medicare & Medicaid Services (CMS), can empower technology innovators to bring these prices to Americans' fingertips by:

1. Strengthening the hospital price transparency rule and ensuring full compliance.

2. Issuing clear technological disclosure standards to accelerate and ease price aggregation.

When all hospitals comply with the price transparency rule and disclose their prices according to clear technological standards, Americans will be able to access actual prices via easy-to-use web applications similar to Kayak and Expedia. Such online marketplaces will allow all Americans – especially traditionally underserved populations – to shop seamlessly for the best care at the lowest prices. Technology will make upfront healthcare prices accessible and actionable to patients.

PatientRightsAdvocate.org is a 501(c)(3) nonprofit, nonpartisan organization seeking to provide a voice for healthcare consumers – patients, employees, employers, and taxpayers – to access upfront price and quality transparency in healthcare and their complete health information. Empowered consumers will be able to make the best healthcare decisions to improve their outcomes, and patients and employers will shop in a functional, competitive marketplace, greatly reducing the costs of care and coverage.

The Covid-19 pandemic has exacerbated the American healthcare system's equity, access, and affordability fault lines. It has illuminated the long-running American healthcare pricing epidemic that will continue long after the pandemic ends. In today's healthcare system, consumers are blind to prices, then blindsided by massive bills that arrive weeks and months after care. As a result, two-thirds of Americans avoid care each year for fear of financial ruin, and one-third carry medical debt.

This opaque pricing status quo results in pervasive upcoding, overcharging, and even billing fraud. Healthcare spending has doubled, adjusted for inflation, since 2000 and now makes up 19.7 percent of Gross Domestic Product. Johns Hopkins University research published by Axios finds that hospitals, on average, charge seven times their cost of care. Hospital prices regularly vary by ten times – even at the

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same hospital -- depending on the payer. For instance, the price of a C-Section at one California hospital ranges from $6,000 to $60,000.

Hidden healthcare prices disproportionately affect minorities. According to the Urban Institute, 17 percent of people of color have medical debt in collections vs. 13 percent of white people. Skyrocketing coverage costs mean that Black Americans are far less likely to have access the healthcare system. Price opacity has created a two-tiered healthcare system where vulnerable Americans often can't attain treatment. These same people also regularly see their wages suppressed because their employers divert potential wage increases to cover runaway health coverage costs.

Healthcare price transparency will arm consumers with the information they need to reduce their healthcare and coverage bills through choice and competition. When actual prices are known upfront, patients can avoid price gouging providers and choose quality, less expensive alternatives. When prices are known, consumers will not tolerate paying ten times more for the same procedure as the person in the bed next to them. Actual prices prevent overcharging and protect consumers' health and wealth.

On January 1, 2021, a hospital price transparency rule took effect requiring hospitals to publish their real prices, including their discounted cash and all contracted rates by insurance, employer, and union plan. The rule requires these price disclosures to be easily accessible online. It implements a critical provision in the Affordable Care Act that requires hospitals to reveal their standard charges.

Unfortunately, this rule has been marred by widespread noncompliance. New research by PatientRightsAdvocate.org finds that only 14.3% of American hospitals are complying. Our study finds 85.7% of hospitals have not published a complete machine-readable file of standard charges, with most not posting all payer-specific negotiated charges clearly associated with the names of each third-party payer and plan as required by law.

Three of the nation's largest hospital systems, whose combined 2021 revenues approached $120 billion, have negligible compliance of just 0.5%. (HHS estimates the compliance cost of this rule is only $12,000 per hospital.) Hospitals are blocking consumers from price comparisons and obstructing those seeking a fair market price.

The Biden Administration, including OSTP and CMS, can achieve its goal of ushering in a competitive, equitable, and 21st-century healthcare system by robustly enforcing the price transparency rule so all hospitals comply and issuing clear technological standards so tech innovators can easily aggregate them for consumers. The administration can accomplish this goal by pursuing the following recommendations:

Recommendations for Improving Hospital Price Transparency and Increasing Compliance

1. Increase penalties for non-compliant hospitals.
2. Enact meaningful and robust compliance and enforcement extending beyond fines.
3. Do not delay enforcement of complementary regulations such as the Transparency in Coverage rule.
4. Eliminate the use of the price estimator tool and require a consumer-friendly data file actual prices for shoppable services.
5. Remove all barriers to consumers' access to price information.
6. Build public awareness of hospitals' obligations to provide upfront prices to patients.
7. Apply price transparency requirements to ambulatory surgical centers and all hospital-affiliated entities.
8. Include benefits to individual and employers in *all* economic analyses of regulations requiring price transparency.

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9. Prohibit hospitals from suing patients over bills they cannot plan for due to hospital noncompliance with price transparency law.
10. Require hospital management to provide annual attestation that their price lists are complete, accurate, and will match the prices billed to patients.

Recommendations for Technical Standards for Hospital Price Disclosures

1. Require that the machine-readable pricing files be disclosed in ONE (1) Standard File Format, e.g. JSON, in addition to a human-readable price file disclosed in ONE (1) Standard File Format, e.g. CSV.

2. Require disclosure of the full payer and plan name and provide hospitals with a uniform, nationally applicable set of abbreviations for the most common payers and plans.

3. Mandate that plan specific rates be disclosed in the machine-readable file and updated in real time.

4. Define a standard schema for machine-readable file disclosures, including all names and data types.

5. Require that all pricing data also be provided for free via application programming interfaces (APIs).

6. Provide a safe harbor or require that the use of CPT or DRG codes be made available without royalty, copyright, or other fees for the purpose of price transparency including by any downstream software.

7. Require that explicit billing codes, such as CPTs or DRGs, be identified for each procedure, and require separate files or tabs for each billing code type, including CPT, DRG, HCPCS and NDC.

8. Require that the pricing file can be found with just a single click from the hospital's homepage.

9. Require all hospitals to post a machine-readable file with actual prices (discounted cash prices and insurance-negotiated rates) for the 300 shoppable services, whether or not they have a price estimator tool.

10. Implement a standard for representing where there is no data for a particular field, or provide a legend to help users understand the meaning of a dash or "N/A," or another symbol or acronym that we have observed on these pricing files.

11. Require all descriptions, codes, and standard charge information to be separated by rows, and items and services to be separated by columns.

12. Require all hospitals to post a list of insurers, payers, and specific plans accepted, so patients will know in advance whether the hospital is in-network.

By pursuing these actions, the Biden Administration will bring actual healthcare prices to consumers' fingertips, empowering patients to reduce their healthcare costs through their choices and ushering in a more accessible, affordable, and equitable healthcare system that works for all Americans. American healthcare can follow in the footsteps of the airline industry, whose prices declined by 50 percent, adjusted for inflation, while quality, access, and equity improved following pricing deregulation in 1978. American healthcare consumers of tomorrow can enjoy the same power, access, and equity as flight consumers do today.

Sincerely,

Cynthia A. Fisher
Founder and Chairman
PatientRightsAdvocate.org

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Barriers: Specific descriptions of the current barriers faced by individuals or organizations to the use of digital health technologies in community-based settings. It would be very helpful for respondents to indicate how these barriers may align to the following broad categories: Technical (including broadband access), training, costs, reimbursement/policies, buy-in across organization or community, user education/comfort, or other. In the case of barriers that include user comfort/willingness to use the technology, it would be useful for respondents to detail any concerns users might have such as privacy, security, discrimination, the effectiveness of the technology, or other such concerns.

Current Barriers To The Use of Digital Health Technologies

The healthcare and pharmaceutical industries have lagged behind when it comes to embracing and implementing digital initiatives in terms of patient involvement and experience. However, with the global pandemic of COVID-19 spreading, digital healthcare transformation is accelerating and the need for ongoing digital health advancements is increasing. It's one of the advantages of healthcare's cutting-edge technologies. Telehealth, telemedicine, AI-enabled medical devices, mHealth, remote monitoring, and blockchain-based electronic health records are just a few examples of how digital transformation is completely reshaping how we interact with healthcare professionals, how we share our personal health data with providers, and how treatment plans and overall health outcomes are determined. Despite the growing industry trend towards transformation, the healthcare system is constantly confronted with barriers to technology adoption such as interoperability, cybersecurity, privacy and challenging misinformation.

The COVID-19 pandemic has accelerated the development of digital health technology (DHT) and healthcare systems and policy makers have emphasized DHT as a way to flatten the COVID-19 curve, and provide care to those who need it (Whitelaw et al., 2021). Whitelae et al. (2021) mentioned that despite several advancements in DHT, adoption outside of telecare has been modest. Cost, effectiveness, and safety issues could all be roadblocks and current healthcare system processes may not readily facilitate the digital transformation. Based on research the current barriers faced by individuals or organizations to the use of digital health technologies include the lack of access to health information, inadequate information, limited usefulness and usability of the technologies, and other technical problems.

Stardust in their article "The Digital Transformation Trends and Challenges Within Healthcare" mentioned that the processing and analysis of health data is one of the major challenges in the healthcare industry. Hospitals, clinics, and other health professionals collect huge amounts of health data on a daily basis through in-person visits, virtual visits, wearable devices, and various health trackers and apps. It is challenging for health organizations to deliver better and more personalized care to patients without analyzing those data by using robust AI systems. Collecting and synchronizing health data from various sources is not an easy task. So, it has been crucial for the healthcare industry to create a strategic way to record and update all healthcare data obtained from different sources without violating the data protection rules and regulations such as HIPAA and GDPR. Like in every other industry, cyber threats are a challenge to healthcare organizations. Based on the study revealed by IBM, healthcare organizations had the highest costs associated with data breaches, which were three times higher than in other industries. The most common vulnerabilities in healthcare are user authentication deficiencies, endpoint leakage, and excessive user permissions. Taking the appropriate steps to reinforce these areas has been critical to the healthcare industry's security. After all, patient care must always come first, rules and processes must be in place to ensure that high standards are maintained across the industry.

Another barrier in regard to the use of digital health technologies from the both patients and providers perspective is lack of user-friendly devices and applications. While designing new products or services, it is very important to consider the end users' needs because at the end patients and medical professionals are the one who use digital devices/ applications to record health data. An uncomfortable or poorly designed product/ services can taint a patient's experience and limit the overall willingness to use or prescribe the technology to others. While considering changing or adding new technology or work methods, it is important to understand user needs and their experience, as it relates to intertwining with their daily lives. It can result in the waste of time and cost to both providers and patients.

References

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March 5, 2022

Dr. Alondra Nelson
Director
White House Office of Science and Technology Policy (OSTP)
Eisenhower Executive Office Building
725 17th Street NW
Washington, D.C. 20504

Dear Dr. Alondra Nelson,

Pear Therapeutics, Inc. (Pear) appreciates the opportunity to provide comments to the White House Office of Science and Technology Policy (OSTP) in response to the Request for Information (RFI) on *Strengthening Community Health Through Technology*. Pear is a leading developer of Prescription Digital Therapeutics (PDTs), which are software-based medicines self-administered by the patient that treat serious disease as part of a standard of care prescribed by a physician. Pear believes that one of the most promising aspects of PDTs is their potential to improve community health and wellness and promote health equity. Our PDTs are developed in compliance with the Food and Drug Administration's (FDA) quality management system (GMP-compliant manufacturing), evaluated in randomized controlled trials using standard endpoints, and have marketing authorization from the FDA with a label that describes the therapeutics' safety and efficacy.

In response to this RFI, please see our comments below on the following four solicited topics: (1) *Successful Models within the U.S.*, (2) *User Experience*, (3) *Proposed Government Actions*, and (4) *Health Equity*.

Successful Models within the U.S. Pear's PDTs have demonstrated improved health outcomes in notoriously challenging disease areas such as substance use disorder (SUD) and opioid use disorder (OUD) under a care model where the patient receives treatment in their home instead of straining limited provider resources that can be better applied to more severe patient cases.

Our PDTs reSET and reSET-O (together "reSET/O") provide cognitive behavioral therapy (CBT) as an adjunct to contingency management, and, for reSET-O specifically, medication-assisted therapy (MAT). reSET/O improves patient retention in treatment and overall health outcomes. Results from a randomized clinical trial funded by the NIH and National Institute of Drug Abuse (NIDA) CTN-044 show that patients with SUD using reSET had a rate of abstinence during the last 4 weeks of treatment of 40% compared to 17% in control patients and improved retention in treatment over the 12-week treatment duration. Similarly, a randomized clinical trial evaluating patients with OUD, who were taking buprenorphine (as

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MAT), found that patients using reSET-O had improvements in retention.[1] Retention in therapy after 90 or 84 days is an FDA-approved indication for both reSET and reSET-O, allowing approximately 15% more patients to reach this important milestone in their recovery journey. Retention after 90/84 days is a recognized priority of treatment,[2] and is associated with better patient outcomes, reduced ER visits and hospitalizations, and lower costs.[3] Importantly, greater retention in therapy improves outcomes.[4] Previous analyses have also shown that patients prescribed reSET-O mainly had reduced emergency department, inpatient, and intensive care unit utilization compared to controls starting at 6 months. Net cost reductions for inpatient and outpatient services of $2,708 per patient were observed over 9 months compared to controls, despite similar levels of buprenorphine adherence. reSET and reSET-O may help clinics shift their time, investment, and focus towards counseling, reinforcing positive behaviors, and improving care.

The clinical promise of reSET and reSET-O is reflected not only in the high rates of retention, but also in the number of prescriptions that have been filled. To date, there have been over 30,000 prescriptions filled for reSET and reSET-O across more than 900 providers across 34 states. Public payer coverage is crucial, particularly following Massachusetts' state Medicaid program electing to cover reSET and reSET-O for all of its Medicaid beneficiaries, but there remain some challenges as discussed further below.[5]

User Experience. PDTs provide tailored, patient-centric care via patients' own smartphones or tablets; patients do not need to acquire additional devices, nor do they have to travel to receive care. A clinician must prescribe PDTs for patient use and the patient receives a digital access code to unlock the application on their smartphone or tablet. Patients interact with treatment modules that deliver cognitive behavioral therapy (CBT), contingency management (CM), and fluency training to reinforce proficiency. Notably, unlike a doctor's office, patients have 24/7 access to their treatment through the reSET and reSET-O applications, which provides them with access to care during critical moments they may have in the middle of the night and weekends. Additionally, patients treated with reSET and reSET-O receive counseling and remain under the care of their health care practitioner and/or recovery team; patients can take CBT lessons (which take 10-20 minutes each) and CM at any time of day. Treatment and telehealth clinics can focus on counseling and monitoring, which is further facilitated by reSET and reSET-O's Clinician Decision Support (CDS) system, "Pear.md."

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[1] Christensen et al. Adding an Internet-delivered Treatment to an Efficacious Treatment Package for Opioid Dependence. *J Consult Clin Psychol* 2014. 82(6): 964-972.

[2] NIDA. (2018, January 17). Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition). Retrieved from https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition on Feb. 1, 2020.

[3] Wakeman SE, Larochelle MR, Ameli O, et al. Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder. *JAMA Netw Open.* 2020;3(2):e1920622. doi:10.1001/jamanetworkopen.2019.20622

[4] *Id.*

[5]
https://peartherapeutics.com/pear-therapeutics-announces-inclusion-of-reset-and-reset-o-on-the-november-2021-masshealth-drug-list-summary-update-and-masshealth-non-drug-product-list/.

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Proposed Government Actions. Given that the Medicare and Medicaid federal healthcare programs are two of the country's largest payers, the federal government can substantially contribute to the development and adoption of PDTs by providing coverage, coding, and payment for PDTs. Not only does this provide access to beneficiaries of these programs, but it also supports the creation of an infrastructure that commercial payers can leverage to further expand access to PDTs. However, with respect to the Medicare program, which is a defined-benefit program, there are significant legal questions of whether or not Medicare can cover and pay for PDTs in light of the program's rigid governing statute that did not contemplate digital technologies which can directly deliver therapeutic interventions to patients.

Health Equity. PDTs have the potential to improve health equity because they are accessible to various patient groups and populations. For instance, research shows nine out of 10 Hispanic Americans living with SUD are unable to receive the treatment they need at a specialty facility,[6] and those who receive treatment have poorer outcomes when compared to non-Hispanics.[7] Both reSET and reSET-O are available in Spanish, which can help address unmet health needs for communities where language has been a barrier to care. Because these technologies rely on software, they can easily be adapted and updated to meet the demographic needs of a given patient population.

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PDTs are a new therapeutic class that uses software to treat disease, and in the case of Pear's PDTs, deliver the relevant therapeutic intervention to the patient in the comfort and security of their home and community. Like traditional medicines, PDTs are developed in a GMP-compliant environment, tested in randomized controlled trials demonstrating safety and effectiveness, evaluated and authorized by regulators like FDA, and used under the supervision of a prescribing clinician. Unlike traditional medicines, PDTs collect real world data for use by prescribing clinicians and for population health management by payers and health systems. PDTs such as reSET, reSET-O, and Somryst have demonstrated improved health outcomes while supporting community-based care addressing health inequities in access to care.

We would be pleased to discuss any of these topics in greater detail at your convenience. Please do not hesitate to contact me at ▮▮▮▮▮▮▮▮▮▮ with any questions.

Very truly yours,

Corey McCann

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[6] Substance Abuse and Mental Health Services Administration. (2019). *2018 National Survey on Drug Use and Health Detailed Tables*.
[7] Chartier, K.G., Carmody, T., Akhtar, M., Stebbins, M.B., Walters, S.T., & Warden, D. (2016). Hispanic Subgroups, Acculturation, and Substance Abuse Treatment Outcomes. Journal of Substance Abuse Treatment, 59, 74-82.

Project ECHO at Penn State response: Strengthening Community Health Through Technology

From: Jennifer Kraschnewski, Medical Director
Project ECHO at Penn State College of Medicine
90 Hope Drive - Suite 1103
Hershey, PA 17033

We are writing in response to the White House OSTP RFI on Strengthening Community Health Through Technology. Project ECHO at Penn State is led by Dr. Kraschnewski, a primary care provider and clinician investigator, and comprised of academic and public health researchers and educators. Project ECHO introduces an innovative approach to leveraging digital health technologies to optimize community health outcomes and improve equitable access to healthcare across the United States. We provide detailed information on the ECHO model and respectful recommendations for collaborative opportunities with the White House below.

1. Successful models within the U.S:

Project ECHO (Extension for Community Health Outcomes) aims to improve the quality of care and reduce health disparities in underserved areas by utilizing technology to facilitate the transfer of specialized knowledge. The model leverages digital health technologies to create unique learning networks that connect community providers with a team of experts at academic medical centers. Learning is facilitated through in-depth, interactive presentations, and real-time case-based discussions of de-identified patients via videoconferencing networks. Through repeated exposure to virtual learning facilitated by Project ECHO, participants become experts in their specialized fields and can provide prompt and high-quality care to patients in their communities.

Project ECHO was initially developed at the University of New Mexico (UNM) to enable rural providers to address specialty conditions within their communities, eliminating barriers such as lengthy referral waits and long drives to academic medical centers. Several studies have documented the success of Project ECHO, including a study published in the New England Journal of Medicine showing the quality of Hepatitis C care provided by Project ECHO-trained, rural clinicians commensurate to that of university-based specialists.[1] Since then, Project ECHO training centers have been replicated in 491 institutions in 53 countries. Project ECHO at Penn State was established in 2018 and has since engaged in the implementation and evaluation of this platform for 25 different clinical disease topics for clinicians and 9 topics for school personnel, Community Health Workers/Organizers (CHWs/CHOs), and community-based organizations. Participant evaluation findings highlight 93% reporting an increase in knowledge, 89% reporting an improved ability to care for patients, and 75% making changes in their practice. Importantly, during a time of high provider burnout and concern for mental health, especially in rural and underserved communities, 84% of ECHO participants report decreased professional isolation.

At Penn State, Project ECHO is the recipient of research and engagement awards from six federal agencies including the NIH, HRSA, SAMHSA, CDC, AHRQ, and PCORI. These awards have allowed us to address top health issues in PA, spearheading projects that aim to address the opioid

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[1] https://www.nejm.org/doi/full/10.1056/nejmoa1009370

epidemic through expanding medication-assisted treatment, reducing COVID-19 infections in nursing homes, advancing health literacy to enhance equitable community responses to COVID-19, combat vaccine hesitancy, and more. Further, Penn State leads the Impact Collaborative for all ECHO institutions, fostering partnerships to advance the operations, evaluation, and scholarship of the ECHO movement. Penn State's engagement in statewide community-based health initiatives and federal research paired with its lead role in the ECHO Impact Collaborative uniquely positions us to expand our use of the ECHO model to strengthen community health and disseminate evidence-based practices nationally.

3. Trends from the pandemic:

The COVID-19 pandemic ushered in the rapid global adoption of the video conferencing platform, Zoom. Once an innovative use of digital technology and a key differentiator of the ECHO model in community medical education, the Zoom platform saw 2,900% growth during the pandemic to 350 million daily users.[2] With over 40 billion annualized webinar minutes, we firmly believe that the widespread use of Zoom will continue after the end of the COVID-19 pandemic, enabling the extensive adoption of Project ECHO. The uptake of this platform has reduced the barriers to participating in educational opportunities, enabling providers and community members alike to easily join sessions from their computers or cellphones.

COVID-19 limited opportunities for in-person learning and further highlighted the need for innovative systems to disseminate health communication and information in a rapid and accessible manner. In an immediate response to this need and recognizing that successful engagement of health systems and communities in CDC guideline-concordant practices had the potential to save lives, Project ECHO at Penn State launched a COVID-19 ECHO series in March 2020 with multiple sessions occurring each week. This COVID-19 series was developed and fully launched within one week of the COVID National Emergency Declaration on March 13, 2020. In line with our goal of providing individuals with the appropriate information to advance community health, Project ECHO also launched a community-facing COVID-19-related ECHO series as well as a COVID-19 series for long-term care facilities and offered culturally tailored sessions to local Nepalese and Spanish-speaking populations. Additionally, through our partnership with the PA Department of Health, we collaborated statewide with 200 CHWs and CHOs in nearly all 67 PA counties to reduce COVID-19-related health disparities, including disparities in case counts, death rates, and vaccine hesitancy among Black, Latino, and rural residents.

Feedback provided by participants highlighted that "there is a comfort in knowing weekly we have an educated and knowledgeable group of professionals to seek advice or clarify the situations that have developed due to the pandemic." Topics offered during these series varied widely yet remained relevant in an ever-changing environment. In total, we offered 41 sessions covering timely topics of interest, reaching 1,350 participants from 6 countries and 31 states, and specifically, 47 of 67 PA counties.

6. Proposed government actions:

We respectfully propose the following governmental actions to support Project ECHO:
(1) Identification of potential stakeholders:

Developing strong community-based stakeholder relationships allows Project ECHO to understand the unique needs of each community. Unfortunately, many federal funding

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[2] https://www.businessofapps.com/data/zoom-statistics/

opportunities allow limited time for stakeholder identification and development and more frequently require these partnerships to be established before proposal submission. Additionally, reaching and cultivating partnerships with rural and underserved communities most in need, such as healthcare professional shortage areas, introduces specific challenges. Federal funding for ECHO training centers to identify potential stakeholders in the immediate future will allow Project ECHO to continue providing relevant and timely resources to underserved communities.

(2) Promotion of community health needs assessments:

Similarly, needs assessments empower community members to identify and prioritize the needs of their community. Wide dissemination of a needs assessment is difficult yet would provide Project ECHO with valuable information to appropriately tailor the educational model. While non-profit hospitals/health systems are required to analyze the needs of their community, the effort is often fragmented across competing health systems. The allocation of federal funding in the next 5 years to promote the coordination of these efforts would help optimize response rates and provide statewide cohesion. This action would allow Project ECHO to continue to provide the most pertinent knowledge to community health workers and health care providers across multiple health systems.

(3) Support for ECHO data collection:

Outcome data is an integral measure to prove effectiveness and is further necessary to ensure that the needs of our community are being met. These measures also highlight areas of improvement and support the utilization of best practices. Ultimately, outcome data would illustrate the value of Project ECHO to support sustainability. Unfortunately, widespread outcome data collection is often time-consuming and requires significant funding and effort. Immediate federal funding for ECHO data collection will further promote the adoption of Project ECHO to enhance knowledge sharing among providers in communities of need.

7. Health Equity:

The barriers and health equity challenges facing individuals who reside in rural and underserved areas when accessing care are multifaceted. The severe shortage of specialists across the state results in patients with chronic and complex conditions often having to forego or delay medical care. Project ECHO serves as a unique digital health technology solution, in which the capabilities and capacity of clinicians and professionals in a variety of community settings to provide equitable, evidence-based care are increased through the "tele-learning" network provided in ECHO sessions. The content and curriculum of our ECHO series are designed to meet people where they are in their communities, and the learning network created connects participants across geographic areas.

Demonstrated by our translation of key COVID topics and recruitment of Nepalese and Hispanic and Latino populations, Project ECHO at Penn State aims to promote equitable care across the state. Appropriate information dissemination plays an integral role in ensuring equitable health outcomes, which motivated the framework for this ECHO series. This ECHO series is just one example of the many that Project ECHO at Penn State has launched to promote equitable care across the state. We envision Project ECHO at Penn State as being a leader in using digital health technologies to reach and collaborate with underserved communities to address key health needs facing providers, community workers, and residents themselves to improve community health, individual wellness, and health equity.

March 30, 2022

Ms. Jacqueline Ward
Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave., NW
Washington, DC 20500

Re: Connected Health RFI

Dear Ms. Ward:

The Pharmacy Health Information Technology Collaborative (PHIT) appreciates the opportunity to submit comments on behalf of its members for the *Connected Health RFI* on digital health technologies.

PHIT has been involved with the federal agencies, including the Office of the National Coordinator (ONC), the Centers for Medicare & Medicaid Services (CMS), and the Food & Drug Administration (FDA), developing the national health information technology (HIT) framework since 2010. PHIT also works with national standards setting organizations, such as the National Council of Prescription Drug Programs (NCPDP) and Health Level 7 (HL7).

Pharmacists provide essential services to patients and are users of digital health technologies, such as e-prescription (eRx), consolidated clinical document architecture (C-CDA), clinical decision support systems (CDSS), electronic health records (EHRs), and telehealth. PHIT supports the use of these systems, which are important to pharmacists in working with other health care providers to provide needed medications and transmit patient information related to overall patient care, transitions of care, immunization (historical and administered), immunization registry reporting, medication lists, medication allergies, allergy reactions, patient problem lists, smoking status, reporting to public health agencies, clinical decision support services/knowledge artifacts, and drug formulary checking.

Comments

PHIT supports the use of interoperable health information technology (IT) to improve patient safety and outcomes, provide better and more timely access to health information needed by patients and providers, and integrate pharmacy health IT into the national health IT infrastructure. To achieve the latter, PHIT developed *The Roadmap for Pharmacy Health Information Technology Integration in U.S. Health Care*.

Successful Models within the U.S.

PHIT encourages OSTP to examine the Pharmacist eCare Plan initiative. The newly developed eCare Plan "is an interoperable standard that allows for pharmacy technology providers to have a common method of exchanging

Pharmacy Health Information Technology Collaborative
|2215 Constitution Ave. NW| Washington, DC. 20037| www.pharmacyHIT.org|████████████ |

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information related to care delivery, including patient goals, health concerns, active medication list, drug therapy problems, laboratory results, vitals, payer information, and billing for services."[1] Care planning is an essential part of patient-centered care services provided by pharmacists. The eCare Plan allows pharmacists to identify a patient's health care barriers.[2]

Barriers

Although health IT has advanced, barriers exist and affect adoption, access by patients and providers, security, and privacy. The following are just a few examples.

Adoption

The government has spent millions of dollars over the years to get medical and other health professions to adopt EHR[3], including providing incentive programs established in 2011 (e.g., CMS Incentive EHR program), and yet, inconsistencies in various rules and interpretations by the agencies and departments involved are contributing to EHRs not living up to their potential. Consistency in all aspects, especially with definitions, is critical to the success of EHRs. Additionally, the current "health care ecosystem does not fully support connection or data sharing with patient-facing applications" (patient portals), which is also impeded by security concerns.[4] Interoperability is also not where it needs to be, including issues with data at the point of care. EHR systems must be able to share information between systems, which is not fully the case.

Pharmacy also has been slow to fully adopt EHR, in part, because of the cost involved. Ironically, as one of the most accessible health care providers in the country, pharmacists were deemed ineligible for the CMS EHR Incentive Program (now called Medicare Promoting Interoperability Program) because they are not defined as health care providers under Section 1171 of the Social Security Act; the governing law used for CMS programs. This oversight needs to be corrected and pharmacy given provider status by the federal government.

Access

In some instances, identity verification can be a burden for providers, as well as for individuals exercising the right to access their records, particularly when needing to share information with another provider or caretaker. Ensuring security and protect privacy could be done easily through the electronic systems used by covered health care providers and health plans if set up to reduce identity burden. Such systems, ideally, should be certified EHR technology (CEHRT) through the ONC HIT and CMS Certification Programs and adhere to those standards. Pharmacist should be included in identity verification and not left out, as is often happens.

An often overlooked aspect is an individual's access to the electronic tools needed for accessing digital health information. Not all people own smartphones and computers or have access to adequate online connections. This is particularly true for many seniors, low income individuals, and those living in rural areas. Only 69% of people 65 and older have cellphones, while 59% of those have smartphones; that drops to 49% of those

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[1] https://www.ecareplaninitiative.com/

[2] Wilda, Marie, "The Pharmacist eCare Plan: Expanding Patient-Centered Care." April 30, 2020. https://www.pharmacyowners.com/the-pharmacist-ecare-plan

[3] Muchmore, Andrew, "Government rules led electronic records astray. It's time to reimagine them." STAT Health Tech. March 27, 2020. https://www.statnews.com/2020/03/27/government-rules-led-electronic-health-records-astray-its-time-to-reimagine-them/

[4] Ghafu, Saira and Eric C. Schneider, "Why Are Health Care Organizations Slow To Adopt Patient-Facing Digital Technologies. *Health Affairs*. March 6, 2019. https://www.healthaffairs.org/do/10.1377/forefront.20190301.476734/full/

between 70-74 years old, 31% in the 75-79 age range, and 17% of those 80 and older.[5] Pew Research reports, as of 2021, 27% of adults in households earning less than $30,000 a year are smartphone-only internet users.[6] There is an inequity to access.

Security, Privacy

Cyber security is a major concern that must be addressed. The U.S. is lagging behind other countries in this area from federal and state governments to the private sector. Health care is the number one and biggest industry experiencing cyberattacks. Cyberattacks on health care organizations hit an all-time high in 2021.[7] Health care data is valuable; worth a lot of money to attackers.[8] On March 8, 2022, FDA published a cybersecurity alert from the Cybersecurity and Infrastructure Security Agency (CISA) about the vulnerabilities identified in medical device software components.[9] Also on March 8, NBC News posted are report from The Associated Press that "hackers working on behalf of the Chinese government broke into computers of at least six state governments in the United States."[10]

Trends from the Pandemic

The value of pharmacy during the COVID-19 pandemic emerged as one of the more notable "trends," and as noted previously, strengthens the case for the government to give pharmacists provider status. Pharmacists were able to quickly implement telehealth to provide pharmacy services and continue delivering patient-centered care to their patients. Although telehealth was allowed by CMS programs under emergency provisions, telehealth provisions must become permanent. In many communities, particularly rural and underserved areas, pharmacists are the first point of contact by patients and their caregivers. The role of pharmacists in telehealth is expanding. In instances when telehealth is used by pharmacists, they are able to connect with established health care management teams and patients, particularly when questions arise concerning medications prescribed or changes to medications, independent of geography. PHIT urges OSTP to continue leveraging pharmacists' telehealth services and recognize pharmacists in decisions related to telehealth-approved digital technologies.

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The Pharmacy HIT Collaborative comprises the major national pharmacy associations, representing 250,000 members, including those in pharmacy education and accreditation. The Collaborative's membership is composed of the key national pharmacy associations involved in health information technology (HIT), the National Council for Prescription Drug Programs, and 12 associate members encompassing e-prescribing, health information networks, transaction processing networks, pharmacy companies, system vendors, pharmaceutical manufacturers, and other organizations that support pharmacists' services.

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[5] "People Over 65 – Left Behind and Left Out." Office on Aging, Knoxville-Knox County Community Action Committee. https://www.knoxseniors.org/people-over-65-left-behind-and-left-out/#:~:text=The%20only%20people%20that%20are,the%20further%20behind%20they%20are.&text=Only%2069%25%20of%20people%2065,with%20cell%20phones%20have%20smartphones.
[6] Vogels, Emily A., "Digital divide persists even as Americans with lower incomes make gains in tech adoption," June 22, 2021. https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/
[7] Landi, Heather, "Healthcare data breaches hit all-time high in 2021, impacting 45M people." February 1, 2022. https://www.fiercehealthcare.com/health-tech/healthcare-data-breaches-hit-all-time-high-2021-impacting-45m-people
[8] "9 Reasons why healthcare is the biggest target for cyberattacks." Swivel Secure. https://swivelsecure.com/solutions/healthcare/healthcare-is-the-biggest-target-for-cyberattacks/
[9] "Cybersecurity Alert: Vulnerabilities identified in medical device software components: PTC Axeda agent and Axeda Desktop Server." U.S. Food & Drug Administration. March 8, 2022. https://www.fda.gov/medical-devices/digital-health-center-excellence/cybersecurity
[10] "China hacked at least six U.S. state governments, report says." NBC News. March 8, 2022. https://www.nbcnews.com/tech/security/china-hacked-least-six-us-state-governments-report-says-rcna19255?cid=referral_taboolafeed

As the leading authority in pharmacy health information technology, the Pharmacy HIT Collaborative's vision and mission are to ensure the U.S. health IT infrastructure better enables pharmacists to optimize person-centered care. Supporting and advancing the use, usability, and interoperability of health IT by pharmacists for person-centered care, the Collaborative identifies and voices the health IT needs of pharmacists; promotes awareness of functionality and pharmacists' use of health IT; provides resources, guidance, and support for the adoption and implementation of standards-driven health IT; and guides health IT standards development to address pharmacists' needs. For additional information, visit www.pharmacyhit.org.

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On behalf of the Pharmacy HIT Collaborative, thank you again for the opportunity to comment on the *Connected Health RFI*.

For more information, contact Shelly Spiro, executive director, Pharmacy HIT Collaborative, at

Respectfully submitted,

Shelly Spiro, RPh, FASCP
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March 31, 2022
Dr. Alondra Nelson
Director
Office of Science and Technology Policy
White House
1600 Pennsylvania Avenue NW
Washington, D.C. 20201

Re: Request for Information (RFI) on Strengthening Community Health Through Technology (Connected Health RFI)

Dear Dr. Nelson:

Phreesia appreciates the opportunity to submit comments to the White House Office of Science and Technology Policy (OSTP) for the Request for Information (RFI) on Strengthening Community Health Through Technology.

Phreesia is a health care technology company that supports healthcare services organizations by automating the patient outreach and intake process, including operational services and clinical tools such as patient-reported outcomes (PROs), social determinants of health (SDOH), and outreach to close gaps. Phreesia's growing network of more than 2,000 provider organizations includes federally qualified health centers (FQHCs), single-provider practices, regional and national provider groups, and health systems. The Phreesia technology platform has integration capabilities with about 80% of the electronic health record market and covers 100 million visits per year. Phreesia supports the Administration's efforts to advance community health and health equity through technology. We are pleased to share what we have learned in our 17 years of experience to help the Administration reduce disparities in community-based settings.

Our detailed comments follow.

Successful models within the U.S., barriers, and health equity

It is important to accurately collect standardized, encoded race, ethnicity, and language (REL) data, sexual orientation and gender identity (SO/GI), and SDOH data to better identify, understand, and eliminate specific disparities. However, when health care providers are responsible for identifying and inputting REL, SO/GI, and SDOH data, they face challenges in translating verbally collected data to EHR systems, and collecting sensitive data without bias, which often results in incomplete or inaccurate data. Below, we outline specific elements of screenings that ensure the collected data is as accurate and complete as possible.

Digital collection of self-reported data: NCQA and other national leaders consider self-identification the gold standard for race and ethnicity data collection.[1] This extends to other types of sensitive data such as SO/GI and SDOH. Sensitive data are most accurate, reliable, and complete when self-reported by patients and collected through digital means. A digital self-reported tool is also more efficient and consistent as screenings can be built into existing digital intake workflows. Phreesia has extensive experience supporting providers in collecting self-reported race, ethnicity, and SDOH-related data. Specifically, Phreesia has years of experience

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[1] https://www.ncqa.org/wp-content/uploads/2022/01/GIH-Commonwealth-Fund-federal-data-report-part-2-1.pdf

supporting data collection in safety net providers such as FQHCs, which provide needed care to underserved populations and are key to achieving health equity. The Phreesia platform and digital intake system collects self-reported data at every visit on race, ethnicity, preferred language, and other demographic data key in understanding and addressing disparities.

Removing bias and staff burden: We have also seen that digitizing screening, especially for SDOH and SO/GI data, increases collection rate because automation removes both the bias of staff selecting who needs screening and the workflow burden to staff associated with verbal screening. Furthermore, digital screening reduces the stigma of acknowledging social needs to the care team, and therefore reduces bias in who is reporting related needs. As such, we have found that converting to digital data collection prevents many oversights and errors which have the potential to erode trust in the healthcare system among minority groups whose trust is already significantly low.

The need for implementation science: Ensuring successful deployment of digital collection technologies will require a commitment to an implementation science-based approach to discern which approaches to self-reported data collection work best for different providers and patient populations. Phreesia has found that such an iterative and deliberate approach yields important findings along the way. Most recently, Phreesia is continuing this work through partnerships with leading third-party quality assurance entities to collaborate on ways to improve digital collection of demographic and social needs data.

Too often we're told that the problem is that patients don't know how to or don't want to use technology. But Phreesia has found that the opportunity to improve data capture lies more squarely in our ability to create an experience that makes it easy for patients to provide it.

Trends from the pandemic

Over the past two years, Phreesia has collected over 3.6 million SDOH patient screenings as more organizations incorporate SDOH data collection into their care models. In light of inequities exacerbated by the COVID-19 pandemic, [2] many health systems are now initiating or scaling SDOH screening programs. While many use a resource manager or staff to initiate verbal screenings and referrals, limited staff time limits uptake. Practices that convert existing verbal screening to universal digital screening of all patients see significant increases in screening rates, enabling providers to better manage their patient population. This has been evident in the number of telehealth and home visits Phreesia has started to support, for which accurate, self-reported data is even more crucial to have readily available for clinicians. Many rural clinics have used Phreesia during the COVID-19 pandemic for this purpose and are to this day.

User experience

The patient experience is essential to consider and assess when implementing digital health technologies. For example, patients are more likely to report social needs via a secure digital format than disclosing needs face-to-face with a provider. [3] It is also critical to assess the patient experience when seeking to address disparities and measure health outcomes. Federal agencies

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[2] https://aspe.hhs.gov/sites/default/files/documents/53fc356858b67f5e9810d107f09ce169/sdoh-covid-19-scoping-review-report.pdf
[3] Groves RM. Survey methodology. 2nd ed. Hoboken, NJ: J. Wiley; 2009

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such as the Centers for Medicare & Medicaid Services (CMS) and the CMS Innovation Center (CMMI) are working to measure outcomes that are meaningful to patients, such as patient-reported outcomes (PROs). One PRO that provides particularly insightful and actionable information about the patient experience is patient activation.

Patient activation refers to the patient's ability to manage their own health care. It differs from other patient-reported measures on satisfaction with care in that patient activation refers to how active a patient is in their health care experience. Increased patient activation is associated with fewer readmissions, lower levels of unmet care needs, and improved mental and physical health across all socio-economic groups.[4, 5] Research also suggests that increased patient activation mediates the impact of SDOH on outcomes, meaning that higher activation is associated with greater capabilities for overcoming the challenges posed by barriers to basic needs.[6] In sum, measuring and improving patient activation is essential to patient-centered and personalized care, improving outcomes,[7] building patient resilience, and lowering the cost of care.[8]

Phreesia is also the steward of the Patient Activation Measure® PAM®, the only NQF-endorsed performance measure for gains in patient activation. PAM® is a patient-reported outcome which can be deployed at the point of care or in the community by providers, plans, and community-based organizations (CBOs) and is used in several Medicaid, Duals, and CMMI programs. Using the PAM® in safety net populations has led to increases in activation and higher rates of self-management behaviors, which are important for improving health outcomes.[9,10,11] For example, increased activation has led to patients more often seeking out preventive services (e.g., cancer screenings)[12] as well as asking proactive questions during medical visits.[13]

Phreesia is grateful for the opportunity to share our expertise and help inform the Administration's important work to strengthen community health through digital health technologies. If you have any questions, please do not hesitate to contact Hilary Hatch, Chief Clinical Officer, at ██████████████████████████████ or Jennifer Sisto Gall, MPH, Director of Policy and Clinical Programs, at ███████████████████████████.

Sincerely,

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Hilary Hatch, Ph.D.   Jennifer Sisto Gall, MPH
Chief Clinical Officer   Director of Policy and Clinical Programs
Phreesia   Phreesia

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[4] http://www.hschange.org/CONTENT/1019/1019.pdf
[5] https://www.cdc.gov/healthliteracy/researchevaluate/patient-engage.html
[6] https://s3.amazonaws.com/insigniahealth.com-assets/PAM®-Research.Social-Determinants-of-Health.20210405.pdf?mtime=20210405175002&focal=none
[7] https://doi.org/10.1377/hlthaff.2014.0452
[8] https://doi.org/10.1007/s11606-018-4657-6
[9] https://doi.org/10.1353/hpu.0.0350
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[11] https://doi.org/10.1177/0145721709335004
[12] https://doi.org/10.1158/1055-9965.EPI-11-0815
[13] https://doi.org/10.1353/hpu.2014.0110

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From: Reza Sanai MD (CoCEO, Founder of PicassoMD)

PicassoMD: Digital Health Technology Platform, Telehealth Service, Healthcare Providers

Agency: White House OSTP: Community Connected Health RFI

Applicable Topics

1. *Successful models within the US*
2. *Health Equity*

The Problem

Two of the major inefficiencies negatively impacting care coordination between primary care providers (PCP) and specialists are that of avoidable healthcare and the fragmented PCP-specialist referral process.

Barriers in PCPs accessing specialists in a timely manner is a significant driver of overutilization in the United States. Research from the Medical Expenditure Panel Survey demonstrated that spending on inpatient services, specialty care and prescriptions accounted for roughly two-thirds of US healthcare increased expenditure from 2002 to 2016. Subspecialty care specifically was the highest outpatient and office-based category representing $266 billion of total spend in 2016.[1]

A second major hurdle involves the barriers a patient faces when being referred from a PCP to a specialist. A few of the many problems include patients having limited access to quality specialists, PCPs lack of transparency on where the patient is in the referral journey and a lack of specialist visibility into incoming requests from paper and verbal referrals. These barriers are especially evident in rural and underserved medical communities. A recent survey of community health center medical directors in nine Medicaid expansion states and DC demonstrated that approximately 60% reported difficulty obtaining new specialist visits for their patients.[2]

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PicassoMD's solution

At [PicassoMD](#), our platform is addressing health inequity by: 1) reducing waste in the form of unnecessary specialist and ER utilization (estimated to be $50B annually), 2) enabling real-time PCP access to +30 specialities for patient triage, and 3) facilitating seamless transitions of care and collaboration between local PCPs and specialists. PicassoMD has already partnered with multiple Community Health Centers via ACOs and commercial insurers across the United States to provide these benefits.

Our solution is a mobile and web based platform which enables both real-time digital curbside consults and referral management.

Our real-time digital curbside consults instantly connect primary care providers (PCPs) with specialists to provide real-time clinical input while the patient is still in the office. The average time for a PCP to connect with a specialist is <1 minute. In essence, our technology immediately transforms any primary care provider office into a "virtual multispecialty clinic".

The result is higher-quality care and less unnecessary care. To date PicassoMD has significantly reduced waste by eliminating the need for 45% of scheduled specialist visits, and 90% of all ER visits. On average, every 3 curbside consults removes $900 in unnecessary utilization and opens up one additional specialist visit system-wide. The ability for any provider to download the application and within minutes have instant access to quality specialty care has fundamentally redefined how medical providers practice medicine.

PicassoMD's second major feature is to facilitate transitions of care through our EMR-agnostic referral management solution. PicassoMD referrals are dynamic documents which provide full transparency to patient referrals both at the PCP, specialist, and administrative levels. The referral system allows for direct , synchronous, "Slack-like" collaboration among care teams. This streamlined communication simplifies and speeds up transitions of care between the PCPs and specialists. To date, we have improved patient access by facilitating thousands of referrals which have an average time to consultation that is 75% faster than the national average.

Ultimately, our collaboration tools strengthen local relationships among community PCPs and community specialists. However, in many underserved populations, there is not enough specialty access to serve the community's needs. To address this inequity, PicassoMD provides a national "safety net" network of dozens of high-quality specialists from 20+ disciplines to ensure access. Specialists in our national network are available to answer curbside consults instantly from providers in any clinical setting.

Our platform is simple, scalable, and easily deployed to any clinical setting regardless of legacy information technology (IT) infrastructure. Users can access PicassoMD from the web or by downloading our native iPhone and Android applications..   Additionally, PicassoMD is SOC-2 certified and has been evaluated by security programs across a multitude of care settings including large insurance brokers and healthcare systems.

User experience to date has been overwhelmingly positive as measured by our NPS score of 78 (Reference: NPS scores >70 are considered world class). We work closely with providers and provider groups across all clinical settings to address their specific needs and pain points. Each provider has a direct contact for technical support, onboarding and training.

We would be honored to have the opportunity to share our story with the OSTP on how PicassoMD works to create a community of providers that seamlessly collaborates to optimize patient outcomes.

References

1. Sara Martin, MD, MSc[1]; Robert L. Phillips Jr, MD, MSPH[2,3]; Stephen Petterson, PhD[4]; et al JAMA Intern Med. 2020;180(7):1019-1020. doi:10.1001/jamainternmed.2020.1360

2. Justin W. Timbie, PhD, Ashley M. Kranz, PhD, Ammarah Mahmud, MPH, Cheryl L. Damberg, PhD. The American Journal of Managed Care, March 2019, Volume 25, Issue 3

Planned Parenthood Federation of America, Inc.

February 28, 2022

Eric Lander, Ph.D.
President's Science Advisor and Director
Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave NW
Washington DC, 20500

Re: Request for Information on Strengthening Community Health Through Technology

Dear Director Eric Lander,

Planned Parenthood Federation of America (PPFA), on behalf of Planned Parenthood Affiliates across the country, is pleased to submit these comments in response to the "Request for Information on Strengthening Community Health Through Technology" (notice), released by the Office of Science and Technology Policy (OSTP) and published on January 5, 2022. As a trusted health care provider, educator and advocate, Planned Parenthood takes every opportunity to weigh in on emerging health care issues that impact our health centers and the communities we serve across the country.

Planned Parenthood is the nation's leading sexual and reproductive health (SRH) care provider and researcher, and a trusted, nonprofit source of primary and preventive care for people of all genders in communities across the United States. Planned Parenthood's 49 affiliates provide affordable birth control, lifesaving cancer screenings, testing and treatment for sexually transmitted infections (STIs) and other essential care to 2.4 million patients annually. Planned Parenthood health centers also provide abortion services and ensure that all people have accurate information about all of their reproductive health care options. One in five women in the United States has visited a Planned Parenthood health center, more than one-third of Planned Parenthood patients identify as people of color,[1] and the majority of Planned Parenthood patients have incomes at or below 150% of the federal poverty level. At Planned Parenthood, we actively strive to center the experiences of our patients and the communities we serve and advocate for, in both our service delivery model, educational materials, research and community outreach.

Planned Parenthood supports the Administration's efforts to extend significant telehealth flexibilities throughout the COVID-19 pandemic. During these unprecedented times, affordable and reliable telehealth services are vital to address current challenges to accessing care, such as provider shortages, limited in-person service hours, stringent social distancing, and economic instability.[2] Temporarily easing

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[1] PPFA, *The Irreplaceable Role of Planned Parenthood Health Centers* (Jan. 2020), *available at* https://www.plannedparenthood.org/uploads/filer_public/d2/a3/d2a3053e-237d-4e28-a1ac-7c4f43b6e238/191230-irreplaceable-role-factsheet-p01.pdf.
[2] Laura Lindberg et al., *Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences,* Guttmacher Institute (Jun. 2020), available at https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health; Hilary

federal and state restrictions on telemedicine has laid the foundation for expanding telehealth use nationwide after the public health emergency. This has created an opportunity to address previous barriers to health care and now many patients have come to rely on telehealth as an option for care. The Administration should continue to encourage expanded telehealth use after the pandemic. As states, health care providers, and other key stakeholders weigh the benefits and challenges of telehealth, it is vital that the administration prioritize equitable access to telehealth and other forms of digital health technology for all people, not just those who can afford it or who live in regions with better technologies, internet access, health care facilities, or insurance coverage.

Planned Parenthood applauds OSTP for their timely request for input about how digital health technologies are "used, or could be used in the future, to improve community health, individual wellness, and health equity."[3] Our comments are in direct response to the following issue areas: *Barriers* (area 2), *Trends from the Pandemic* (area 3), and *Health Equity (area 7).* Planned Parenthood strongly urges OSTP to work with key federal and state policymakers to eliminate common barriers to telehealth, including reducing costs, improving broadband access, and increasing access to translation services for telehealth. Additionally, we encourage OSTP to invest in research and data to explore patient comfort with using telehealth and other digital health technologies for SRHh services. Finally, telehealth can be a valuable tool in ensuring equitable access to vital and time sensitive care, like abortion care, gender affirming care, and HIV/STI services.

I.   **Barriers: Costs, Broadband Access, and Language Barriers are still significant barriers to Widespread Use or Adoption of Telehealth and Other Digital Technologies (Area 2).**

To ensure an equitable telehealth experience, Planned Parenthood urges OSTP to work with Federal agencies, state, insurers, and health care providers alike to eliminate key barriers to telehealth access. There are emerging and persistent disparities in telehealth utilization, particularly among people with low incomes, LGBTQ+ people, and people of color. This is due in part to limited coverage of telehealth services, low provider reimbursement, lack of broadband or computer access, limited availability translation services, and other barriers.

- *Limited Coverage Telehealth and Other Digital Technologies:* At Planned Parenthood, even during the pandemic, we have found variation in telehealth use among people of color and people with low incomes using Planned Parenthood telehealth services. For example, in Washington, our telehealth services were used more by people who identified as Hispanic than Black and non-hispanic white patients. Additionally, in Illinois, patients with commercial insurance had the largest share of telehealth visits and in Montana self-pay patients represented the largest share of telehealth visits. We suspect the trends we see in telehealth utilization for SRH services are occurring across the health system writ large (Please see below for more information about patient attitudes toward SRH services via telehealth).

- *Low Provider Reimbursement:* Low reimbursement rates from both public and private payers is a key barrier for health care providers to use telehealth, with insurers often citing cost savings as their justification for the difference in payment between in-person and virtual services. Under the public health emergency guidance, many health care providers are being reimbursed for

Brueck, *STD Rates Appear to be Quietly Skyrocketing across the US, as Fewer People Get Tested and Treated during the Pandemic*, Business Insider (May 18, 2020), available at https://www.cdc.gov/std/stats18/minorities.htm; see also *Health Equity Considerations and Racial and Ethnic Minority Groups,* Centers for Disease Control & Prevention (last updated Jul. 24, 2020), available at https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html.
[3] 87 FR 492

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telehealth visits at the same rate as in-person visits.[4] This has incentivized more health care providers to adopt telehealth services because they receive similar payment rates regardless of how services are delivered. However, once the state of emergency ends, these providers may face a reimbursement rate decline unless there is a permanent policy put in place in their state.

- Inequitable Broadband Access: Telehealth services remain inaccessible for those who already face significant barriers to care, like people without smartphones, computers and/or internet access. For instance, a 2019 Pew Research Study estimates that over a quarter of households who earn less than $30,000 a year do not have access to a smartphone or smart device and about four in ten adults with lower incomes do not have home broadband services (43%) or a desktop or laptop computer (41%).[5] For people living in rural communities and people of color, the disparities in high speed internet access are stark. For example, a report shows that less than half the population in 22 counties in Alabama's "Black Belt" have internet access, and two of these Alabama counties — Perry and Chocktaw — have no internet access at all.[6]

- Limited Translation Services: Language barriers between patients and providers have adverse impacts on access to and quality of care, and often result in poor understanding of diagnoses, treatment, and medication instructions; a limited understanding of and compliance with recommendations for treatment and follow-up; significantly greater likelihood of a serious medical event; and low scores for patient satisfaction. Despite U.S. federal and state laws that require the provision of language services to persons with limited English proficiency, the significant lack of financial resources prevents adequate provision of language services. Further, limited translation services for those with hearing disabilities makes it difficult for those who are hard of hearing to use telehealth because alternative means of communication like video relays (on-screen sign language interpreters), closed captioning, telephone typewriters may be unavailable. To advance health equity, OSTP should work with Congress and the Centers for Medicare and Medicaid (CMS) to invest in translation and interpretation services provided via to people with Limited English Proficiency (LEP) and patients with hearing disabilities.

- Privacy Concerns/Unique Considerations for SRH Providers: Telehealth presents a number of privacy concerns that may manifest as barriers for patients. An increase in health data breaches may cause skepticism for patients who may be required to share Protected Health Information through digital technologies.[7] Patients also may not have the same level of privacy or comfort disclosing health information from their homes via telehealth that they would in a health center. SRHcare providers must be mindful of the potential patients experiencing interpersonal violence or use shared devices with family members who would not approve of their visit given the nature of the services they provide. Often, SRHis often met with stigma which can be particulary difficult for Black and Latinx patients have a history of racial discrimination in health care. Providers may find it difficult to build trust with their patients during a virtual visit.

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[4] *North Carolina Department of Health and Human Services Memo: Coronavirus Disease 2019,* NCDHHS (Jul. 6, 2020), available at *https://files.nc.gov/covid/documents/guidance/healthcare/COVID-19-Provider-Guidance-Final.pdf.*

[5] Emily Vogal, *Digital Divide Persists Even As Americans With Lower Incomes Make Gains In Tech Adoption*,
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https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/

[6] Eddie Burkhalter, *Alabama's Black Belt Lacks Quality Internet Access, Report Finds*, Al. Pol. Reporter (Oct. 2020), available at
https://www.alreporter.com/2020/10/20/alabamas-black-belt-lacks-quality-internet-access-report-finds/

[7] See Clemens Kruse et al., *Cybersecurity in healthcare: A systematic review of modern threats and trends*, 25 Technology and Health Care 1, 1-10, (2017) available at https://content.iospress.com/articles/technology-and-health-care/thc1263

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II. Trends from the Pandemic: Research Suggests that People Want to Receive SRH Care via Telehealth (Area 3).

The COVID-19 pandemic posed unprecedented challenges to healthcare access, including provider shortages, limited in-person service hours, stringent social distancing, and economic instability.[8] In some states, this has led to significant health care provider shortages, with numerous clinicians managing almost triple the patient caseload in-person and virtually.[9] Sexual and Reprodive health have faced unique challenges

Although unintended pregnancy rates are falling, communities of color and people with low incomes continue to face disproportionately high rates and limited access to contraception. For example, our colleagues at the Guttmacher Institute conducted a study in three states between May 2020 and May 2021, examining access to contraceptives and other SRHcare among almost 1,500 patients at more than 50 publicly funded clinics in Arizona, Iowa and Wisconsin.[10] Over half of respondents in Arizona (57%), 38% in Iowa, and 30% in Wisconsin indicated that they were either unable to access SRH care or a contraceptive method because of the COVID-19 pandemic.[11] Additionally, STD/STI rates are increasing and continue to disparately impact people of color and LGBTQ people.[12]In fact, a survey conducted by the National Coalition for STD Directors found that 66% of STI clinics reported a decrease in sexual health screenings and testings.[13] These new infections are concentrated among LGBTQ people[14] and people of color,[15] which contributes to the existing health inequities in reproductive care.

Planned Parenthood health centers have also felt the weight of the strain that COVID-19 placed on the health care system, with several health centers still operating at reduced clinic hours in an effort to mitigate their current staff shortages. To meet the needs of patients during this time, Planned Parenthood affiliates expanded or launched telehealth services to meet the high demand for remote care. In an effort to understand telehealth attitudes, Planned Parenthood conducted two studies exploring patient perceptions and use of telehealth for SRH before and during COVID-19.

PPFA administered an two electronic surveys[16] on telehealth[17] among the Planned Parenthood Research Advisory Panel (PPRAP). PPRAP is a group of over 600 participants[18] recruited from and in partnership

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[8] Lindberg et al., *supra note 2*; Hilary Brueck, *STD Rates Appear to be Quietly Skyrocketing across the US, as Fewer People Get Tested and Treated during the Pandemic*, <u>Business Insider</u> (May 18, 2020), available at https://www.cdc.gov/std/stats18/minorities.htm; see also *Health Equity Considerations and Racial and Ethnic Minority Groups,* <u>Centers for Disease Control & Prevention</u> (last updated Jul. 24, 2020), available at https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html.

[9] See Reed Abselom, *Covid Overload: U.S. Hospitals Are Running Out of Beds for Patients,* <u>N.Y. Times</u> *(Sep. 22, 2021), available at* https://www.nytimes.com/2020/11/27/health/covid-hospitals-overload.html

[10] Meghan Kavanaugh et al., *Financial Instability and Delays in Access to Sexual and Reproductive Health Care Due to COVID-19*, <u>Guttmacher Institute</u> (Feb. 2022), available at https://www.guttmacher.org/article/2022/02/financial-instability-and-delays-access-sexual-and-reproductive-health-care-due

[11] Ibid.

[12] *CDC Fact Sheet: Reported STDs in the United States, 2018,* <u>Centers for Disease Control & Prevention</u> (Oct. 2019), available at https://www.cdc.gov/media/releases/2017/p0926-std-prevention.html.

[13] *COVID-19 and the State of the STI Field*, <u>National Coalition of STD Directors</u> (2020), available at https://www.ncsddc.org/wp-content/uploads/2020/05/STD-Field.Survey-Report.Final_.5.13.20.pdf

[14] Ibid.

[15] *STDs in Racial and Ethnic Minorities,* <u>Centers for Disease Control & Prevention</u> (last updated Jul. 2019), available at https://www.cdc.gov/std/stats18/minorities.htm.

[16] Hannah Simons & R. Passman, *Patient perceptions and use of telehealth for sexual and reproductive health (SRH) services before and during COVID-19*. <u>American Public Health Association Conference</u> (Oct 2021).

[17] Planned Parenthood defines "telehealth" as any technology used to deliver health care, including apps, video-conferencing, phone calls, and texts.

[18] PRAP members were recruited through patient portals and research studies and may have higher digital literacy and comfort using technology than the general patient population

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with Planned Parenthood health centers across the country to participate in research and act as study advisors. Overall, our research suggests that women are interested in and are comfortable receiving SRH services via telehealth before and during the COVID-19 pandemic.

A. *Part 1: Patient perceptions and use of telehealth for SRH services before and during COVID-19 May-June 2020: Nearly two-thirds of respondents were comfortable using telehealth during the pandemic*

PPFA administered the electronic survey from May-June 2020 to reproductive-aged individuals who visited a Planned Parenthood health center in the last two years (n=333). The vast majority of the respondents identified as female (96%). Our survey received 203 responses (61% response rate). Sixty-nine percent of respondents reported using telehealth services before the pandemic. Of that group, 65% of survey respondents had used telehealth since the start of COVID-19 pandemic. Of the 15 health care services listed in the survey, mental/behavioral health, birth control supplies, and birth control counseling were the most frequently reported telehealth services used both before and during the pandemic. When evaluating responses by race, Asian/Pacific Islander (32%) and Latino/a/x respondents (38%) reported lower telehealth use during COVID than white (43%) and Black respondents (52%).

Respondents were most interested in birth control supplies or prescription (75%), birth control counseling (68%), and behavioral health/mental health services (59%). When broken down by race/ethnicity, interest in future telehealth services generally was lower among Black respondents and Latino/a respondents, and higher among multiracial and white respondents. Additionally, our survey asked respondents if they prefer telehealth via video (39%), phone call (29%), text (14%) or no preference (18%). When asking respondents about the benefits and concerns regarding telehealth use, the majority of our respondents identified general ease and convenience (91%), speed (80%), comfort obtaining care from home (74%) and cost savings (64%) as the biggest benefits to telehealth use. In contrast, the largest concern about telehealth services was quality of care, including a higher likelihood for misdiagnosis.

Respondents were also concerned about the privacy and security of the telehealth engagement with health care providers. In particular, respondents were concerned that the connection to the telehealth provider might not be secure, and that their data might get released. When accounting for race/ethnicity, Black respondents were less likely to select comfort obtaining care from home than white respondents (Prev. Ratio=-0.5, 95% CI 0.3-0.9). Cost and insurance coverage were also the most commonly reported barrier to using telehealth.

B. *Part 2: Patient perceptions and use of telehealth for SRH services during COVID-19: majority of respondents are comfortable receiving SRH via telehealth*

Nearly one year later, the PPRAP administered a second electronic survey on telehealth use and preferences from July-August 2021 to reproductive-aged individuals who visited a Planned Parenthood health center in the last two years (n=203) and had responded to a previous telehealth survey administered earlier in the pandemic (Spring 2020). Again, the Planned Parenthood Research team analyzed data on telehealth use, future interest in use, perceived benefits /concerns, patients' WiFi access, and perceived quality of telehealth visits. For this analysis, we restricted the population to females only (n=169; 83%).

Seventy-six percent of survey respondents have used telehealth over the past year, a six percent increase from last year. Mental/behavioral health was the most frequently reported service received via telehealth (36%), followed by birth control supplies (30%) and birth control counseling (21%) respectively.

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Similar to the previous survey results, interest in future telehealth services was highest for birth control supplies (65%), mental/behavioral health (62%), birth control counseling (62%), and urinary tract infection treatment (53%). Additionally, similar to the 2020 survey, survey respondents found that the biggest benefits to telehealth are general ease and convenience (89%), speed (85%), and comfort obtaining care from home (77%). A higher percentage of respondents reported preferring video for telehealth visits (43%) and text (24%) and less reported 18% reported preferring a phone call (18%).

In our second survey, we asked new questions about our respondents' ability to access WiFi or high speed internet and which platforms they prefer using for telehealth visits. Roughly one-third (35%) reported never/rarely/sometimes having access to high-quality internet/WiFI. Video and a mixture of video/audio were the most frequent modalities used for telehealth visits among the survey respondents. Our survey also asked respondents who had used telehealth within the past year to rate the quality of their visits on a scale of 1-10 (higher numbers indicate higher quality). Perceived quality was high for both video (mean=8.8, SD=1.4 ; median=9) and audio-only visits (mean=8.9, SD=1.5; median=10).

Overall, in both surveys we found substantial use and interest in SRH services by telehealth in both surveys. Additionally, telehealth service use and the perceived benefits of telehealth differed by race/ethnicity. As the Department of Health and Human Services (HHS) works to expand telehealth, policymakers must be attentive to differing needs, preferences for service use, and structural barriers that could impact access to and experiences with women's health via telehealth. These findings offer a 'window' into telehealth service use and needs of former and current patients, most of whom have previously engaged in telehealth care at Planned Parenthood health centers or elsewhere. Researchers, family planning providers and policymakers can use the findings from this survey and others to inform their efforts to increase the reach of digital health technologies and ensure that strategies center patient needs and ensure equity in access to and experiences with telehealth.

Planned Parenthood encourages more research and data to explore these questions around telehealth needs and preferences among men, women, transgender and non-binary people in order to use digital health technologies to eliminate disparities in SRH.

III. Health Equity: Using Telehealth to Advance Health Equity and Alleviate Health Disparities (Area 7)

While it is not a "cure all" for the short-comings of our health system, telehealth and other forms of health technology foster more patient choice and convenience by removing unnecessary visits and travel time to a healthcare facility. Digital technologies can provide life saving services to those who may not have access to health care providers. Specifically, telehealth and other digital technologies will play an important role to ensure equitable access to SRH. Partisan attacks on the safety and availability of SRH services in addition to the strains on the health care system from state and federal policymakers have limited the availability of timely SRH services. Now more than ever patients are still in need of timely abortion care, birth control, HIV/STI screenings and treatment, gender affirming hormone therapy (GAHT), and much more.

- *Medication Abortion:* Telehealth represents a key opportunity to expand access to medication abortion, particularly for those living in rural areas or places with limited abortion providers. Medication abortion is a safe and effective way to end an early pregnancy. A medication abortion uses two different pills, mifepristone and misoprostol, to safely terminate an early pregnancy up to 70 days of gestation. In states where telemedicine abortion is legal, patients pick up their abortion

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medications "curbside from the clinic and take these pills after they get home."[19] After taking the medication, the patient will have a follow-up visit via telehealth. Medication abortion gives patients the option of a more private method of ending a pregnancy — in a setting in which they feel most comfortable — while still providing them with the necessary medical support and information. The use of medication abortion is very common. In 2022, medication abortion accounted for over half of all U.S. abortions.[20] Globally, medication abortion is approved in more than 60 countries.[21]

Although people in all 50 states have the constitutional right to safe and legal abortion, many states have laws and restrictions that make it nearly impossible to get timely access to a preferred method of abortion. In 19 states, there is some form of ban or burdensome requirement that prohibits using telehealth for medication abortion.[22] Some states ban telehealth abortions specifically, while other states either ban the mailing of medication abortion pills or have other in-person requirements related to abortion care that effectively prohibit the delivery of medication abortions via telehealth.

Legal and policy barriers to federal health programs and abortion care coverage disproportionately harm Black, Indigenous, Latinx, Asian, Pacific Islander, and other communities of color who historically face barries to health care. This harm is further exacerbated for individuals who face compounding barriers and discrimination from health care providers and systems when accessing care, like people with low incomes, people who speak languages other than English, and people living in rural areas.[23] In order to ensure equitable access to abortion care via telehealth, restrictions on medication abortion care that are based in politics rather than science should be removed, and insurance coverage of abortion must be expanded.

- _Gender Affirming Care:_ Gender affirming care[24] is health care that makes a person feel more like their authentic self and represents a range of services, including medical, surgical, and mental health services. Unfortunatey, there is a limited number of clinicians that provide gender affirming care, which results in transgender and nonbinary patients forgoing care out of fear of stigma or discrimination. Transgender and nonbinary patients undergoing hormone therapy must have timely access to their health care providers. During the COVID-19 pandemic, telehealth enabled patients to continue to access gender affirming hormone therapy (GAHT)[25] treatment, as providers were able to offer visits and counsel patients on self-administering hormone care.[26]

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[19] Amrutha Ramaswamy et al., _Medication Abortion and Telemedicine: Innovations and Barriers During the COVID-19 Emergency_, Kaiser Family Foundation (Jun. 2021), available at https://www.kff.org/policy-watch/medication-abortion-telemedicine-innovations-and-barriers-during-the-covid-19-emergency/#:~:text=The%20Telehealth%20for%20Medication%20Abortion%20Protocol&text=If%20eligible%2C%20patients%20pick%20up.phone%20call%20 (Figure%201).

[20] _Medication Abortion Now Accounts for More Than Half of All US Abortions_, Guttmacher Instutute (2022), available at https://www.guttmacher.org/article/2022/02/medication-abortion-now-accounts-more-half-all-us-abortions.

[21] _Questions and Answers on Mifeprex_, Food and Drug Administration (Dec. 16, 2021) available at https://www.fda.gov/drugs/postmarket-drug-safety-information-patients-and-providers/questions-and-answers-mifeprex

[22] Emma Anderson et al., _State Restrictions on Telehealth Abortion_, Kaiser Family Foundation (Dec. 2, 2021) available at https://www.kff.org/womens-health-policy/slide/state-restrictions-on-telehealth-abortion/

[23] Ibid.

[24] What do I need to know about trans health care?, Planned Parenthood, available at https://www.plannedparenthood.org/learn/gender-identity/transgender/what-do-i-need-know-about-trans-health-care.

[25] Gender affirming hormone therapy (GAHT) as a form of gender-affirming care is when the patient is prescribed either testosterone or estrogen to either feminize or masculinize themselves. These hormones are injectable and can be given to the patient to self inject.

[26] _Letter to Public: Offering GAHT Care,_ Planned Parenthood League of Massachusetts (2020), available at https://www.plannedparenthood.org/uploads/filer_public/95/e1/95e1b22c-bd47-4a3d-8aec-082314873c68/telehealth_gaht_welcome_letter.pdf

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Although more research needs to be done, initial studies[27] show that access to GAHT via telehealth is important to patients as it allows for privacy and removes possible transportation barriers they would face going into a clinic. GAHT via telehealth also provides access in areas where services are currently unavailable due to issues of discrimination or stigma, lack of providers, or medically unnecessary restrictions to gender affirming care. For instance, 10 states[28] currently prohibit Medicaid from covering transgender health coverage and care, making it more difficult for patients with low or limited incomes to access care. Additionally, several states place age restrictions for transition-related medical care services making it difficult for minors to access gender affirming care.[29] Planned Parenthood encourages OSTP to commit to improving the way transgender people receive health care in the U.S., including working with key stakeholders to eliminate barriers to gender affirming care via telehealth.

- *Innovating HIV and STI Care:* Providing remote HIV and STI care via telehealth can bolster access to quality testing and treatment for patients. STI rates[30] are increasing and continue to disparately impact people of color and LGBTQ+ people. Stigma remains a major barrier to preventing HIV and STI, and is often linked to low testing and treatment rates, particularly among young people. For patients that may have privacy concerns about their status, self-testing for HIV and certain STIs allows patients to find out results within their own home or other chosen location. HIV[31] and STI[32] self-testing kits are[33] reliable, accurate and cost efficient if administered properly by the patient. Unfortunately, there is only one[34] FDA-approved rapid self-testing HIV kit. Additionally, although mail-in self-testing services are available online for retail purchase, they may not be covered by insurance or accepted for analysis at a nearby health care facility for some patients.

<div align="center">************</div>

After the public health emergency, telehealth will continue to be a critical tool to help people access safe and quality care no matter where they live. Planned Parenthood strongly urges OSTP to work with key federal and state policymakers to eliminate common barriers to telehealth by reducing costs, improving broadband access, and translation services. Additionally, we encourage OPST to invest in more research and data to explore patient comfort with using telehealth and other digital health technologies for SRH services. Finally, telehealth can be a valuable tool in ensuring equitable access to time sensitive care, like abortion care, gender affirming hormorne therapy, and HIV/STI services. We look forward to working with you and other CMS officials to assist in your efforts to increase access to SRH care via telehealth after the public health emergency.

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[27] Erin Inman et al, Patient Preferences for Receiving Gender-Affirming Hormone Therapy, Transgender Health (Feb. 19, 2021), available at https://www.liebertpub.com/doi/abs/10.1089/trgh.2020.0125.
[28] Healthcare Laws and Policies, Movement Advancement Project (Sep. 16, 2021), available at https://www.lgbtmap.org/equality-maps/healthcare_laws_and_policies.
[29] Criminalizing Gender Affirmative Care with Minors, American Psychological Association, available at https://www.apa.org/pi/lgbt/resources/policy/issues/gender-affirmative-care.
[30] STDs at record high, indicating urgent need for prevention, Center for Disease Control (Sep. 26, 2017), available at https://www.cdc.gov/media/releases/2017/p0926-std-prevention.html.
[31] Danielle Dresden, How to test for HIV at home using a kit, Medical News Today (Sep. 24, 2020), available at https://www.medicalnewstoday.com/articles/316316.
[32] Carly Vandergriendt, Everything You Need to Know About At-Home STI and STD Tests, Healthline (Jun. 18, 2019), available at https://www.healthline.com/health/healthy-sex/at-home-std-test.
[33] Danielle Dresden, How to test for HIV at home using a kit, Medical News Today (Sep. 24, 2020), available at https://www.medicalnewstoday.com/articles/316316.
[34] Facts About In-Home HIV Testing, Food and Drug Administration (Jun. 25, 2020), available at https://www.fda.gov/consumers/consumer-updates/facts-about-home-hiv-testing#:~:text=The%20OraQuick%20In%2DHome%20HIV,a%20sample%20to%20a%20lab.

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Sincerely,

███████████████████

Karen A. Stone
Vice President of Government Relations
Planned Parenthood Federation of America
Planned Parenthood Action Fund

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February 28, 2022

Request is [here](#).

Submit via Email to ████████████████████████ *include "Connected Health RFI" in the subject line.*

Re: Request for Information on Strengthening Community Health Through Technology

In response to your request for information about using digital health technologies to improve community health and health equity, we write to offer our perspective from Podimetrics, a virtual care support company dedicated to preventing diabetic amputations, one of the most debilitating and costly complications of diabetes.

According to the Centers for Disease Control and Prevention, more than 34.2 million Americans have diabetes and that number is increasing yearly -- costing an estimated $327 billion a year. One of the costliest and most devastating complications of diabetes is amputations. As it stands, a single diabetic amputation costs as much as $100,000, while the five-year mortality rate for someone who's had a diabetic amputation ranges from 52 to 80 percent.

Underserved populations, especially Americans with diabetes and multiple other comorbidities, as well as veterans, are at an increased risk of developing a diabetic foot ulcer that could ultimately lead to amputation. In fact, diabetic amputations are one the largest markers of health inequity. The complication is three times more prevalent among Black Americans and has an outsized impact on lower-income populations. As such, the end-user of Podimetrics tends to be lower-income, in a racial minority group, and lack access to proper preventive care. This lack of access to preventive solutions allows the problem to persist despite the fact that these complications, when detected early, are often avoidable with simple interventions, like staying off one's feet for a day.

The problem has been throughout the COVID-19 pandemic, when people with diabetes were forced to defer or even forgo their regular care regimen, either for their own safety or because their provider doesn't have the resources. This led to a significant increase in diabetic amputations, which a recent study found were 10-times more likely during the initial COVID-19 lockdown.

We encourage the Office of Science and Technology Policy (OSTP) to focus on the current barriers and opportunities that are the most relevant for bringing technology-driven, preventive solutions to vulnerable populations in underserved areas, and which new federal policies could facilitate the success of technology-driven solutions for aging populations.

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The issue is especially urgent considering that diabetic amputations can lead to subsequent health problems and the fact that at least half of patients who've had a diabetic amputation die within five years. Recent research published in *Diabetes Research and Clinical Practice,* the journal of the International Diabetes Federation, found that during a diabetic-foot-ulcer episode of care, individuals are 50 percent more likely to die and nearly three times more likely to be hospitalized, often for issues not commonly associated with diabetic foot complications, like heart failure or COPD. This demonstrates the wide-ranging impact of diabetic foot complications and illustrates the importance of developing proactive solutions to allow for individuals to maintain their independence and overall health.

Podimetrics works through an easy-to-use, two-part solution that catches signs of diabetic foot complications weeks before they would present clinically – all from the safety of the patient's home. Not to mention, we've designed our solution to rely on just a cellular-connected device, called the SmartMat™,with telephone check-ins through our nurse care support team to offer targeted and timely support for these patients most in need.

Our approach has been proven to be effective and beneficial for our patient population. For instance, recent research published with Kaiser Permanente's Mid-Atlantic Permanente Medical Group looked at the impact of once-daily foot temperature monitoring with Podimetrics for patients with recently healed diabetic foot ulcers. We found that our virtual care management system leads to outstanding outcomes for our target problem and it also has impressive spillover effects, helping patients stay healthier at home overall--in terms of results, use of the remote foot monitoring solution was linked to a 71 percent reduction in all major amputations, while all-cause hospital admissions dropped by 52 percent.

This approach is effective in large part because it was designed with engagement in mind. The SmartMat is cellular connected and does not require an app or WiFi, and it can even be used sitting down, a critical factor for the many individuals using the mat who have existing vision or mobility issues.

These considerations have proven effective. Past research published in *Diabetes Care* has shown that 88 percent of patients evaluated the ease of use of the SmartMat as 5/5, and according to research published in *Federal Practitioner,* 75 percent remained engaged after one year of use, representing substantial improvements over other similar solutions.

For an issue like diabetic foot complications, where 75 percent of ulcers are preventable with proper monitoring and timely action, increasing engagement can be especially impactful. However, the aforementioned populations might never get the chance to engage due to accessibility and affordability issues, both of which should not be barriers to receiving timely and necessary care.

We encourage the Office of Science and Technology Policy to support the expansion of models like this by supporting reimbursement for prevention. While diabetic amputation prevention and detection technology has been quick to develop over nearly two decades, arguably the more difficult barrier to solve has been reimbursement. Despite the science on prevention, outcomes

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and savings that would be most beneficial to patients. (especially those on Medicare given higher diabetic foot ulcer prevalence in that population), Medicare has not reimbursed or covered these related services. The first companies pursued DME reimbursement and the one code that made it through the process (HCPC A9279) had a set reimbursement of $0. Medicare would not cover the device. More recently released Remote Patient monitoring codes may provide a path to partial reimbursement, however, in a roundabout and slow way if technology companies must partner and bill through providers. Without a path for reimbursement in Medicare Fee for Service, ~60 percent of Medicare patients are essentially precluded from accessing the benefits of this effective and recommended technology. On the Private Medicare Advantage side of Medicare, payors have more latitude to cover these services, however, the evaluation cycle is long (often 12-24 months to reach a decision about pursuing a new technology and another 12-24 months to evaluate it).

This creates structural barriers to scaling in the private insurance market. We see value in the approach CMS took with Diabetes Prevention - first in setting reimbursement for the program grounded on the value established in peer reviewed clinical research, and second in allowing reimbursement for that program to be delivered digitally. A similar approach could be taken with thermometry and diabetic foot ulcer prevention.

The home remains the best setting for the regular management of chronic diseases, especially for aging populations, low-income individuals, and those living in rural areas. Together with improved remote monitoring capabilities and expanded access to timely and targeted virtual care, we can help identify potential health risks and bring better outcomes to more people.

Best regards,

Jon Bloom, MD, Chief Executive Officer, Podimetrics

Simon Salgado, Vice President, Enterprise Health Services, Podimetrics

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February 28, 2022

Dr. Alondra Nelson
Acting Director of the Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Dear Dr. Nelson:

On behalf of the thousands of Americans who stand behind our efforts at Power to the Patients[1], a national, nonpartisan, nonprofit organization committed to bringing affordable health care to all, I would like to thank you for this opportunity to present our ideas for how digital health technologies could transform community health, lower health-care costs and barriers to care, and improve access and thus health equity, so all Americans can lead healthier lives.

We believe the answer is at hand. Digital technology plays a critical role. The answer lies in The Hospital Price Transparency Rule[2], which the Dept. of Health and Human Services issued last year, and which enjoys wide bipartisan support.

The rule requires all hospitals to post their standard charges online in both a consumer-friendly and a machine-readable format. The posted charges must include the hospitals' discounted cash prices, charges by payer and plan, as well as gross (or chargemaster) prices, in a way that's *easy to access online without barriers*. That is, visitors to a hospital's website should not have to provide any personal identifying information, including their name, email address, a password, or insurance information, which could lead to a breach of their privacy.

The hospital price transparency rule's aim is clear and laudable: By allowing anyone who has access to a mobile device or laptop to have health-care prices at their fingertips, consumers will be able to shop, compare prices and choose the lowest cost, best value health care.

This will let patients know the price of care before they get it and before they get blindsided by a financially devastating bill. It will let them see that the cost of health care for the same test or procedure can vary by 10 times. That is an MRI could cost $300 or $3,000 depending on where you go. Or that the charge for a C-section[3] could be $6,000 or $60,000 depending on your plan. The benefits don't stop there. The ability to see real prices would not only empower patients, but also all purchasers of health care, including employers and unions. All have been forced for too long to shop for health care in the dark.

Although the digital technology and the rule are here, unfortunately, the majority of hospitals are not following the rule. A hospital compliance report[4] released this month found that *only 14.3 percent of hospitals were following the law.*

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Before we discuss how your office can help increase compliance, let's discuss how digital technology combined with government policy are the keys to this revolutionary change. Once fully enforced and in effect, the Hospital Price Transparency Rule, especially when coupled with its companion, The Transparency in Coverage Rule[5], set to take effect July 1, 2022, would create a powerful combination of rules that would create the systemwide price transparency our system badly needs.

Properly applied and enforced, these two hard-won rules would dramatically lower health-care costs, empower patients, help businesses, and create equity in our health-care system. Barriers to care will go away. Access to care will improve as costs plummet. Communities will become healthier.

As background, The Hospital Price Transparency Rule, which has its roots in the Affordable Care Act, was introduced by President Trump through an executive order[6], and reinforced[7] by the Biden Administration. National surveys[8] have found that 90% of Americans believe hospitals should post their prices. And still, those profiting by keeping consumers in the dark — hospitals and insurers —are resistant. This is where your office can help. If the rule were properly enforced and applied through digital technology, consider the impact:

Costs will go down: Under today's opaque system, hospitals can and do charge a range of prices for the same services depending on the payer. Uninsured and underinsured patients often get charged the highest rates. Price transparency will close price gaps by exposing outlandish prices and force those charging them to bring them in line. As consumers choose best-priced care, they will steer the market toward lower-cost, higher-value providers. The resulting competition will eliminate price disparities, create greater equity, and reduce the cost of care and coverage for all.

Access will improve: The core reason so many Americans lack access to health care is not for lack of insurance, it's because health care costs too much. At nearly 20 percent[9] of our nation's gross national product, the cost of health case consumes nearly one out of every five dollars Americans earn. That is financially crippling families and hurting businesses. When health-care costs come down, which will happen when prices are transparent and accessible to all through digital technology, competition will drive prices down making both coverage and care more accessible.

Barriers to care will fall away, and health equity will improve: High-tech innovators are eagerly waiting for hospitals to fully post their standard prices in a universal machine-readable format so they can aggregate the data and create online tools to allow consumers to see, compare and shop prices on their mobile devices or laptops. Once hospitals and insurers comply with the rules, these technology companies will race to create the next Expedia, Amazon, or Uber for health care. Consumers will have the tools at their fingertips to shop for care the way they shop for airline tickets, cars, houses or appliances.

Knowing cash prices would be especially helpful to the growing number of workers and their families who have high deductible health plans or are uninsured. It will empower them to control their health-care spending, and knock down the biggest barriers to care: cost and unknown prices. *We achieve equity when everyone has access to prices and those prices are the same.* Transparency will put the power into the hands of consumers, where it belongs. Thus, digital health technologies would help reduce health disparities and achieve health equity.

Communities will become healthier: Studies show that half of all U.S. adults[10] reported that they avoid needed health care because they are afraid of the cost. Price transparency aided by digital technology would create price certainty, removing that significant barrier to care. Knowing prices up front would

allow consumers to seek both needed and preventive care before their health issues worsen, thus improving the nation's overall health and wellbeing.

Small businesses would thrive: The Fortune 100 companies, because of their market power, get the most favorable health benefits plans, while small and mid-size companies, the mom-and-pop businesses, get saddled with the highest employer premiums, which go up every year. This stifles new startups, and the ability for many U.S. businesses to add jobs, increase wages, or even to succeed. Once businesses can see the true costs of care, they can negotiate for better premiums. As market competition causes prices to level out, business competition would flourish.

Your office can help transform community health through the use of innovative digital health technologies by creating policy that fortifies the transparency rules and by proposing government actions that would do the following:

- **Strengthen, expedite and enforce the Hospital Price Transparency Rule** and the Transparency in Coverage Rule without delay.
- **Encourage actions that would significantly enforce compliance** through close monitoring, hospital accountability, and stronger financial penalties on insurers and hospitals who refuse to show their prices.
- **Require that all hospitals and ultimately insurers, post their prices in the same standardized format,** so consumers can easily compare prices not only between plans at one hospital, but also across hospitals, and so data aggregators can easily capture prices to create consumer tools.
- **Require all hospital CEOs and CFOs to submit annual attestations** confirming that their posted prices are current and accurate.
- **Eliminate the option for hospitals to provide estimator tools** in lieu of prices. These non-binding prices do not protect patients and create yet another way for hospitals to overcharge patients and mask real prices. Further, price estimator tools discriminate against the uninsured because they typically don't show cash prices.
- **Create a clearinghouse for consumers** to use to resolve payment disputes swiftly.
- **Use the fines collected to create public awareness campaigns** to educate Americans of their right to know prices.
- **Champion policy** that would put these transparency rules unequivocally in place, and health-care prices in consumers' hands where they belong.

Thus, on behalf patients, unions, workers, employers and all purchasers of health care, I strongly urge the OSTP to employ the above measures and apply digital health technologies to lower health-care costs, improve access to care, remove barriers to care, achieve greater health equity, help employers and unions, and strengthen community health, by putting real prices in the hands of all Americans.

To achieve these ends, I would gladly assist your office in any way I can. Thank you again for this opportunity, and for your service to our country.

Most Sincerely,

Marni Jameson Carey
President, Power to the Patients
www.powertothepatients.org

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1. https://www.powertothepatients.org/
2. https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-E/part-180
3. How Much Does a C-Section Cost? At One Hospital, Anywhere From $6,241 to $60,584. - WSJ
4. Semi Annual Compliance Report 2022 — PatientRightsAdvocate.org
5. https://www.cms.gov/newsroom/fact-sheets/transparency-coverage-final-rule-fact-sheet-cms-9915-f
6. https://www.cms.gov/newsroom/press-releases/trump-administration-announces-historic-price-transparency-requirements-increase-competition-and
7. https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/
8. https://www.patientrightsadvocate.org/survey; https://harvardharrispoll.com/wp-content/uploads/2019/06/HHP_May19_vF.pdf? Americans Want Healthcare Price Transparency (lugpa.org)
9. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical
10. Americans' Challenges with Health Care Costs | KFF

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March 31, 2022

White House Office of Science and Technology Policy (OSTP)
Washington, D.C.

Re: Request for Information on Strengthening Community Health Through Technology
Submitted electronically: ███████████████████

Dear Ms. Ward,

Premier Inc. is a leading healthcare improvement company, uniting an alliance of more than 4,400 U.S. hospitals and health systems and approximately 225,000 other providers and organizations to transform healthcare. On behalf of our members, we are pleased to submit these comments in response to your Request for Information (RFI).

Premier, a 2006 Malcolm Baldrige National Quality Award recipient, plays a critical role in the rapidly evolving healthcare industry, collaborating with members to co-develop long-term innovations that reinvent and improve the way care is delivered to patients nationwide. Premier supports efforts to encourage value-based healthcare delivery that emphasizes integrated and coordinated care for patients, as well as to make the administrative aspect of healthcare delivery, such as information exchange for treatment, payment, or healthcare operations purposes, more efficient. Premier also advocates for meaningful privacy and security of the protected health information (PHI) of our patients. The primary goal is to ensure provider access to accurate health information at the point of care to inform healthcare decisions and achieve best patient outcomes. This must be accomplished in a manner that minimizes administrative burdens on providers.

Premier appreciates OSTP's attention to leveraging digital technologies to improve community health, individual wellness, and health equity. Below we offer our comments.

<u>Ensure an Innovative and Competitive Digital Health Technology Market</u>. The 21st Century Cures Act (Cures) and implementing regulations made significant progress toward nationwide interoperability but barriers remain hindering innovation. We urge actions to ensure a dynamic, competitive, and innovative healthcare information technology (IT) ecosystem, including electronic health records (EHRs), third-party [mobile] applications, wearable technologies, remote monitoring devices, health trackers, and other digital health approaches (machine learning, natural language processing and artificial intelligence) and tools. **EHR platforms need to be accessible and open so that healthcare and community-based providers and organizations can improve care delivery, ensure patient safety, and drive operational efficiencies.**[1] However, the marketplace remains dominated by a few health IT

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[1] Ritchie J, Welch B. Categorization of Third-Party Apps in Electronic Health Record App Marketplaces: Systematic Search and Analysis. JMIR Med Inform. 2020 May 29;8(5):e16980. doi: 10.2196/16980. PMID: 32469324; PMCID: PMC7293052.

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technology companies and EHRs.[2][3] Additionally, user centered design is essential for all technologies. Providers must be able to easily use any third-party app of their choosing. Ensuring privacy and security of protected health information is critical.

<u>Nationwide Interoperability.</u> Ongoing efforts to achieve nationwide interoperability are stymied by health information technology challenges and gaps in community-based settings, and in post-acute and long-term-care organizations. The healthcare eco-system needs to integrate data from disparate sources and for multiple use cases. Patient care coordination requires accessing and aggregating information from different EHRs, health IT applications and across multiple facilities and care settings and with community-based organizations. **OSTP should recognize the need for enhanced and accelerated development and adoption of harmonized data, transmission, and interoperability standards.** OSTP should consider how to address gaps in interoperability between healthcare, community-based care, and public health.

<u>Pandemic Preparedness</u>. The COVID-19 pandemic illuminated numerous challenges to the healthcare eco-system and the need to strengthen and modernize our public health and healthcare data and information technology infrastructure. One of the greatest challenges is exchanging data between healthcare providers, community-based organizations and providers, and public health authorities. The pandemic also heightened the awareness of the nation's lack of modernized infection prevention capabilities, infectious disease data collection and analytics. Infection prevention management and oversight is a challenge that is compounded by lack of interoperable health information technology and limited functionality, with many organizations still using manual processes. **We urge government to support the use of electronic infection control and management technology within post-acute settings.**

<u>Social Determinants of Health.</u> Premier appreciates the need to address social determinants of health and improving health outcomes. Reducing disparities in care and achieving health equity across communities requires a holistic approach to care, shifting the incentives in our health system from sickness-based to wellness-based. Successfully addressing a key driver of disparities in care, social determinants of health, requires (1) data collection and monitoring of key outcomes and health equity measures and (2) shifting the payment system to account for a more comprehensive set of services that address disparities. Community-based providers need access to data to understand where individuals are in their community, how they interact with the healthcare system and with community-based organizations, and what gaps and factors are exacerbating health conditions. **As we learn more about the care delivery implications of social determinates of health, it is imperative that information be tied to provider reimbursement.**

<u>Maternal Health and Health Disparities</u>. Improving the well-being of mothers, infants, and children is an important public health goal for the United States. However, when it

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[2] https://klasresearch.com/report/us-hospital-market-share-2021-emr-purchasing-continued-despite-covid-19/1839
[3] https://www.definitivehc.com/blog/most-common-inpatient-ehr-systems

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comes to maternal health, our nation is at an impasse with significant disparities in outcomes across racial and ethnic groups. Premier works with the U.S. Department of Health and Human Services (HHS) Office on Women's Health (OWH) to implement the HHS Perinatal Improvement Collaborative (HHS PIC). These efforts are aimed at understanding the key drivers of preventable harm and death, the link between maternal and infant outcomes, and insights into health disparities by sharing evidence-based best practices and working together to develop coordinated care across the continuum. **We urge OSTP to consider adapting and/or growing this type of initiative, to further reduce disparities.** This work is providing science-based information on which to identify scalable performance improvement opportunities to address the maternal health crisis and help make America the safest place to give birth.

<u>Strategy for Patient Identification and Matching</u>. There is an ongoing need for a national strategy and approaches to improve patient identification and matching to support patient care and facilitate more accurate data exchange. Without this capability, it is difficult to track patients across the care continuum and within communities.

<u>Digital Technology Innovation and Telemedicine Expansion</u>. It is critical to continue to evaluate the important role digital tools and telehealth play in safely expanding access to care during the pandemic and options to extend telehealth capabilities into the future. Telehealth has provided a lifeline during the pandemic for individuals in all geographic areas who still need access to healthcare when traditional care delivery approaches are interrupted. Greater flexibility is needed around the types of technology that can be used to explore additional telehealth flexibilities. **Government payers should, at a minimum, immediately provide full flexibilities and pay for the use of telehealth for providers in alternative payment models.**

CONCLUSION

In closing, the Premier healthcare alliance appreciates the opportunity to share our recommendations with White House Office of Science and Technology Policy. We look forward to continuing to work with you to help transform care delivery and improve patient outcomes. OSTP's work is especially important as the U.S. health system transitions to value-based care and payment and embraces innovations for health information technology and personalized healthcare, and discovers new cures, therapies, and products. If you have any questions regarding our comments or need more information, please contact me at ██████████████████████████████ or Meryl Bloomrosen, Senior Director Federal Affairs at ███████████.

Sincerely

████████████████████

Blair Childs
Senior vice president, Public Affairs
Premier healthcare alliance

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Response to the White House Office of Science and Technology Policy Request for Information (RFI) on Strengthening Community Health Through Technology

Name: Sanjeev Arora, M.D., Founder and Director of Project ECHO
Organization: ECHO Institute at the University of New Mexico Health Sciences Center
Stakeholder type: Healthcare provider; national and global tele-mentoring model

The pandemic exposed what we all knew long before the first COVID cases were diagnosed. *We need to fundamentally reorient our healthcare system.* Instead of placing the burden on patients in rural and urban underserved communities to find us – the medical experts who can treat and often cure them – we need to bring the right care to them, when they need it, where they live. Technology can help us get there. It can't do it all – but, increasingly, it's a critical underpinning to our work in medicine.

In 2003, working with colleagues, I created Project ECHO a tele-mentoring model centered on health equity that's now being used by more than 250 partners in all 50 states across the U.S. – and reaching providers in more than 180 countries around the world.

ECHO was born from my own experience of treating patients with hepatitis C in New Mexico. At the time, there were 28,000 patients with the disease in the state and only 1,500 had been treated. There was an eight month wait to see me, and I knew that no matter how hard I worked, alone, I would never be able to help them all. People were dying of a treatable and curable disease because they could not access timely treatment.

And this story is repeated around the country and around the world. Every year, millions of people die of diseases that are preventable, treatable and even curable because the health care providers in their communities don't have the knowledge and support needed to address their conditions.

The ECHO model leverages technology, including videoconferencing platforms such as Zoom, to ensure that clinicians on the ground in rural and urban underserved communities have the latest best practices, mentoring and support they need to provide the right care to their patients when they need it and where they live.

We know the model works. In my own clinic in New Mexico, by empowering 21 teams of community providers across the state, my wait times dropped from eight months down to just two weeks. A rigorous study published in the New England Journal of Medicine and funded by the Agency for Healthcare Research & Quality (AHRQ) focusing on hepatitis C in New Mexico showed that patients treated by an ECHO-trained community provider got the same quality care they would get if they went to a specialist. There are now more 400 published papers on different aspects of the model around the globe.

COVID-19 underscored the urgent need to quickly move new medical knowledge and emerging and evolving best practices to health professionals on the frontlines in communities.

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When COVID hit, the ECHO network in the U.S. and around the world was uniquely positioned to respond. We had long believed that the ECHO model could be put to work in a meaningful way in a pandemic, and in 2020 we were put to the test. ECHO projects from Alaska to Maine and in between pivoted their work to support pandemic response efforts in their communities.

Launched in October 2020, the National Nursing Home COVID-19 Action Network was the nation's most comprehensive effort to reduce and prevent the spread of COVID-19 in nursing homes. At the time, COVID-19 was surging across the country – disproportionately affecting people living and working in nursing homes (accounting for nearly 40% of all deaths). Despite the terrible pressures under which they were operating, more than 9,000 of the nation's 15,000 nursing homes joined the Network, a partnership of the Agency for Healthcare Research and Quality (AHRQ), Project ECHO, and the Institute for Healthcare Improvement. More than 30,000 healthcare workers were mentored as part of this initiative.

ECHO also partnered with the Assistant Secretary for Preparedness and Response (ASPR) at HHS to run a national program serving EMS and other emergency frontline workers focused on COVID-19. And it continues to this day. With new best practices emerging every week, the ASPR ECHO gets knowledge into the hands of frontline health workers across the U.S. Every week, 400 to 1,700 clinicians log on to navigate the challenges of COVID-19 together in real time.

Other ECHO networks active with the Indian Health Service, the Centers for Disease Control and Prevention, and other federal agencies all shifted to get up-to-date, best-practice knowledge about COVID-19 into the hands of the health workers in communities who needed it most.

The experience of COVID-19 – and whatever will follow it – only magnifies the need for ongoing, facilitated virtual learning communities to ensure that the doctors, nurses, public health experts, community health workers, nursing home employees and many others on the front lines of care get the knowledge, guidance and support they need to care for people in their communities.

When it comes to technology and health, much of the U.S. government's focus has been centered on the aims of expanding connectivity (increasing broadband access) and enabling virtual visits between providers and patients (telemedicine). While these efforts should continue, we need to see telehealth not just as a means to advance the current system – but as a way to help us reimagine it.

Often, technology alone is not the solution – it's the enabler that allows us to bridge a divide that was previously unpassable. In the case of telemedicine, as example, physicians cross a geographic divide enabling them to see patients in a way that was once unthinkable. But ultimately, the technology doesn't cure the patient – that's the physician's role.

Technology operates within many of the same constraints as the rest of the healthcare system. In the U.S. and around the world, there's an overall shortage of specialists to provide care for

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complex diseases and conditions, and technology alone can't solve that problem. In other words, there aren't enough hepatologists to do in-person or virtual visits with patients suffering from hepatitis C. And this is true across so many different diseases and conditions.

But technology can help us to unlock the solution in the community. It allows us to quickly move expert knowledge and emerging best practices to the providers already in communities. With guided practice, mentoring and peer-to-peer support – in virtual learning communities enabled by technology – we create new expertise where it previously didn't exist.

If we want to be prepared to move medical knowledge at the speed it will be needed to support us in the next pandemic, we need new models and ways of thinking that leverage technology in this enabling role. We believe tele-mentoring approaches like ECHO need to be a central part of that future.

Currently, there's no consistent payment mechanism for tele-mentoring models like ECHO. Programs around the U.S. are supported through a patchwork of different funding, which includes philanthropic and government grant programs, state funding and some early experimentation of payment approaches through Medicaid and with health plans. We need to create the payment structures that incentivize new approaches like tele-mentoring.

We suggest the federal government consider the following:

- The Department of Health and Human Services (HHS) through the Center for Medicare and Medicaid Innovation (CMMI) should explore different payment pathways for both the specialists/experts and community providers participating in tele-mentoring approaches.
- Tele-mentoring extends the reach of graduate and continuing medical education. It creates ongoing, virtual learning communities responsive to the most pressing needs of providers in rural and underserved areas. The federal government should encourage academic medicine to reimagine its role in medical education and prioritize tele-mentoring as a core education strategy going forward.
- Based on the experience during the pandemic, the Federal government should explore a standard mechanism for funding tele-mentoring approaches like ECHO in times of national health emergency as part of the government's response efforts. This will reward the institutions who have "laid down the railroad tracks" and allow them to quickly and robustly respond in times of national emergency. And it will encourage others to follow.

In healthcare, too frequently those living in rural or urban underserved communities wait months, travel hundreds of miles, or go completely without the care they so desperately need. Let's leverage technology to cross chasms once unpassable to bring the right care to them, when they need it, where they live. That's community health equity.

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From: Stacy Taylor ████████████████
Sent: Monday, February 28, 2022 4:55 PM
To: MBX OSTP Connected Health
Subject: [EXTERNAL] Connected Health RFI

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Green Category

From: Propel creators of the Providers app
To: White House Office of Science and Technology Policy
Subject: Request for Information (RFI) on Strengthening Community Health Through Technology
Date: February 18, 2022

At Propel, we build a smartphone app for SNAP participants. Additional information about our work can be found here. Though not directly related to digital health, we are hopeful that some of the lessons about user experience we have learned while building this tool are applicable. (Topic 4 of the RFI). In brief, we learned that there was substantial--but previously unarticulated--demand for an easy to use mechanism to check outstanding EBT benefits in real time. Users of our app were able to better manage their benefits, extending the length of time their benefits last. By providing a trusted mechanism to do so, we also developed an effective way to communicate changes in various benefit programs to users, an ability that proved extremely valuable during the COVID-19 pandemic (Topic 3). As we consolidated information about multiple nutrition-related benefits (e.g. pandemic-era P-EBT benefits) in a single source, our users were even better able to plan and maximize the value of their benefits. (Topic 4).

No one was asking for an EBT balance checking app, but now 1 in 4 SNAP recipients use one (Topic 4).

When we first launched the Providers app in 2015, not used by over 5 million households, no one asked for it. SNAP participants and state administrators alike told us that participants were accustomed to calling a 1-800 number to check their EBT balance by phone. But when we launched the service, which allows EBT (electronic balance transfer) cardholders to view their benefits balance at any time, participants grew exponentially. Today, 1in 4 SNAP households use Providers every month.

Some of the best customer service solutions come through specialization and choice. But most government benefits service systems must be one size fits all--to serve everyone. By inviting innovation and new players in the government benefits system, these optional supplemental services can build on the strong foundation of government supports and layer on higher levels of customer experience through a specialization that isn't possible for a government agency or contractor. By bringing additional resources, time, funding, and expertise, these technology companies can immediately modernize the client experience of using government benefits without having to overhaul the system.

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Customer experience matters enormously for low-income households, who face severe financial and time constraints. While wealthier households have an array of services and products to manage their financial lives, there are few options for low-income households that are managing complex finances that include government benefits issued through specialized cards and payment systems. Providers is the first app to provide a free debit card, allowing users to view EBT benefits and cash benefits and/or income in one place.

SNAP recipients are more likely to use a smartphone to access the internet than a desktop computer,, so while an app won't necessarily work for everyone, it will work for many and should be an available option, among others.

Making it easier to access information related to government benefits, even if read only, has an enormous impact (Topic 4)

Prior to the Providers app, SNAP recipients had to call a 1-800 number, go through an automated phone system, and enter their 19 digit EBT card number in order to hear their EBT card balance. Despite the inconvenience of the phone call method, Propel found during early research that this is likely the most called number in the country. Because Providers makes it easier, households check their EBT balance more frequently. As a result, benefits last longer. Research conducted since Providers launched found that the app helps users extend the length of time their benefits last. Even just making benefits last one or two more days is impactful when 80% of users spend their benefits within 9 days.

Providers has also proved to be easily adapted to a variety of contingencies because it is a trusted source of information for millions of households, and households visit Providers several times each month. As a smartphone-based service, it can respond quickly and meet people where they are--on their phones--to share information and new programs, often in partnership with nonprofits and other stakeholders. (Most low-income Americans have a smartphone.)

In 2019, when the government shutdown resulted in EBT cardholders receiving two months of benefits at once, Providers quickly created a "vault" that allowed users to hide a certain amount of their benefits balance, helping them make their funds last. When the COVID-19 pandemic led to new or expanded benefits programs, Providers created a feature to communicate these changes to users directly in the app.

Having a trusted platform used regularly offers the opportunity to respond to crisis such a the COVID-19 pandemic (Topic 3)

The COVID-19 pandemic brought new challenges to the social safety net experience. The federal government spent record-breaking amounts on nutritional assistance, bringing much-needed aid to the millions who were left without work or sick. However, the impact of this assistance was limited by its unpredictability. Payments suddenly hit EBT cards, sometimes with each part (regular SNAP amount, maximum allotment, and 15% increase) arriving separately. P-EBT payments arrived on new, separate cards in some places, and on existing SNAP EBT cards in others. P-EBT payments also arrived much later than the time period they were intended for, due to variations in state programs, and were calculated differently by state, and even county, making it extremely difficult for households to check the accuracy of their payments or know the amount to expect. 30% of Providers users said they did not know what or how much they would get each month on their EBT cards and 17% said they worried about having to pay back the extra deposits they received beyond their usual SNAP amount.

This had concrete consequences that limited the impact of this aid: 38% of users said that not knowing how much to expect each month made it harder to plan ahead; 29% said they struggled to pay their other monthly bills; and 19% said they were afraid to spend extra benefits.

Propel quickly recognized the information void SNAP recipients were experiencing and launched a new feature in the Providers app called the Benefits Hub. The Benefits Hub aggregates publicly available information to give users the latest information on SNAP and P-EBT benefits, by state, as well as information on unemployment insurance, rental assistance, and a number of other benefits. We have found that providing information about available nutrition benefits---including current balances and when to expect additional benefits---in one easy to access location makes it much more feasible for recipients to plan their use of these benefits, and accordingly, to maximize their value and enhance the recipient's sense of stability. Further, If a recipient is aware of when additional nutrition-related benefits will arrive, they will be able to make informed purchasing decisions, such as buying more economical bulk products, confident that additional benefits will arrive shortly, or waiting to buy more expensive products if there is a substantial wait until additional benefits arrive.

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Stacy McLoughlin Taylor
Head of Partnerships and Policy, Propel

We're still hiring!**Recent Press**:
How Tech is Helping Poor People Get Government Aid
Propel Routes Money to those Who Need it Most.
The Future of Personal Finance
Helping our Users Navigate this Crisis

March 31, 2022

Dr. Alondra Nelson, Director
White House Office of Science and Technology Policy (OSTP)

BY ELECTRONIC SUBMISSION to ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

On behalf of Propeller Health, we appreciate the opportunity to submit comments in response to the Request for Information from the White House Office of Science and Technology Policy (OSTP). Propeller, a subsidiary of ResMed, is a leader in digital therapeutics for chronic respiratory conditions. Propeller's platform includes FDA-cleared medication sensors, apps, and access to clinical data for healthcare provider (HCP) monitoring throughout the care journey. Propeller works to improve clinical outcomes and healthcare costs across the U.S., Europe, and Asia. Propeller has demonstrated outcomes, including improved medication adherence, reduced healthcare utilization, and high levels of patient satisfaction across diverse settings and patient populations. We hope that the following insights can support OSTP's efforts to better understand how digital health can transform community health, individual wellness, and health equity.

Expand access and improve outcomes for vulnerable and underserved populations through successful U.S. models of digital health technology focused on health equity. Improving community health outcomes for vulnerable and underserved populations — those who are at higher risk for health disparities and who may have limited access to healthcare services based on age, race, ethnicity, gender, socioeconomic status, language, or other factors — is an increasingly urgent issue. Digital health companies, including Propeller, have the potential to help these populations better manage their chronic conditions, improve clinical outcomes, and enjoy a higher quality of life. Yet, to date, many digital health tools have yet to demonstrate substantial impact among high-burden and underserved populations, often because they have not yet focused on them. Where work has begun, gaps in access and coverage of digital health technologies have been identified, which may exacerbate disparities in health outcomes for those who lack access.

With over 10 years of experience implementing 80+ digital health programs across 140,000 users in diverse patient settings, Propeller has begun to address these important issues. Propeller's AIR Louisville program, an innovative community asthma program, demonstrated the potential of cross-sector collaborations among private, public, and philanthropic organizations to improve health outcomes in underserved communities through chronic disease management and public health policy recommendations. Respiratory disease places a significant health and economic burden on Louisville, Kentucky, which is consistently ranked in the top 20 most challenging places to live with asthma in the U.S. Through participation in the AIR Louisville program, participants received Propeller's electronic inhaler sensors that passively monitored use of their inhaled medications without burdening participants with cumbersome medication-tracking. Participants also had access to the Propeller app, which promoted self-management by providing information about their level of asthma control and adherence, learning about environmental triggers, and receiving guidelines-based education. Participants experienced significant improvements in clinical outcomes, better understood their asthma, and felt more confident in avoiding a severe asthma attack. Furthermore, at the community level, the inhaler-use data combined with environmental data, identified several respiratory disease hot spots in Louisville and their environmental correlates, which led to local policy recommendations for improving air quality. Propeller's AIR Louisville program underscores the potential of digital health companies to improve both individual and community health outcomes through innovative digital health technology and meaningful cross-sector collaborations.

As another example, Propeller has also demonstrated success at addressing health disparities in pediatric asthma through a program with Cincinnati Children's Hospital (Lin 2020). This program targeted children from minority, low-income families who face high rates of poorly controlled asthma and significant barriers to

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healthcare access. Propeller's technology was provided to participants along with a comprehensive school-based intervention including medication adherence coaching and regular virtual visits with HCPs. Program participants saw improvements in both symptoms and medication adherence, as well as fewer asthma exacerbations and school absences. This innovative program increased healthcare access at the community level and helped reduce health disparities for minority children from low-income neighborhoods.

Drawing from these two successful programs that have had a real impact on improving outcomes for vulnerable and underserved populations, and the many other programs Propeller has implemented in diverse communities and healthcare settings, Propeller has identified the following best practices for successful implementation of digital health:

- Wrap around care services within a digital health program, such as a care management layer, health coaches, or virtual HCP visits to reach and impact high-risk, vulnerable populations.
- Identify clinical and organizational champions within healthcare and community settings who can help implement and scale programs by clarifying shared objectives for both individual and community needs, securing operational budget and resources, identifying implementation needs, and helping to resolve unforeseen challenges.
- Ensure that HCPs and systems understand both the value of the technology for their patients and how it works through virtual workforce training that covers workflow implementation, identification of patients for recruitment, and talking points.
- Include all potential users of the technology in early program design discussions to determine what clinical workflows will best support program adoption and improve clinical, behavioral, and economic outcomes. For example, successful Propeller programs often utilize front-line care personnel to monitor a digital clinical dashboard of patient data, and then escalate urgent patient cases to the HCP on an as-needed basis.
- Conduct robust peer-reviewed evidence generation to demonstrate effectiveness, build credibility, and garner support across patients, healthcare organizations, and associated stakeholders. Critical metrics include clinical, economic, quality of life, and other patient-reported outcomes, which should be additionally evaluated by stratifying patients by socioeconomic status, race, age, gender, urban/rural and other potential factors.

Barriers to the successful implementation of digital health must be addressed to fully realize its potential to improve community health and address health disparities. Though broader awareness and adoption of digital health has occurred, more work must be done to make it accessible, usable, and effective for many different types of patients. Several barriers to digital health adoption remain:

- Patients from vulnerable and underserved populations face specific challenges in adopting digital health technologies such as limited health literacy and digital technology literacy, unreliable mobile broadband access, lack of smartphone ownership, concerns around data privacy, and psychosocial determinants of health.
- The design of digital health can be prohibitive among diverse populations, including low ease of use, high complexity, advanced reading level and technical jargon, small text and fonts, and visuals that lack cultural resonance for diverse groups of end-users.
- Brief and/or infrequent visits with HCPs, especially in rural areas, and HCP biases in determining patient interest in digital health can negatively impact patient awareness and uptake of such technologies. Unease among HCPs with new technologies also poses a significant barrier.
- Lack of access to affordable insurance coverage and challenging coverage and reimbursement for remote monitoring must be addressed at the policy level to avoid increasing disparities in patient access to digital health.

The impact of COVID-19 on adoption of digital health. COVID-19 has profoundly impacted the landscape of healthcare delivery. Propeller recently conducted a user survey (AAAAI 2022) about the impact of the pandemic. Survey results echoed the recent findings reported by the Office of the Inspector General on how telehealth was critical for providing services to Medicare beneficiaries during the first year of the COVID-19 pandemic.

- Propeller users reported a high level of concern about the pandemic, as well as increased use of video visits, phone calls, and provider messaging services. Users also reported increased adoption of at-home

digital tools, including oximeters, heart rate monitors, and spirometers to support physiological monitoring.
- Over 28 million, or 2 in 5, Medicare beneficiaries used telehealth during the first year of the pandemic. Beneficiaries used 88 times more telehealth services during the first year of the pandemic than they used in the prior year. Yet, during the same time, only 2 million beneficiaries used remote monitoring, accounting for just 1.8% of all telehealth services.
- The pandemic underscored the need for data-driven remote care management and a transition to a more digitized version of care, but also showcased the challenges to adoption.

Proposed government and policy actions. While digital health can help patients achieve better health outcomes, there will be no impact if there is limited access to or coverage for such technologies. Propeller recommends the following federal government actions to improve widespread uptake of digital health:
- Expand health insurance coverage for the millions of Americans who are currently uninsured.
- Increase coverage/reimbursement for remote monitoring by increasing valuations for supplies and professional services, as well as lessening restrictive coding requirements and policies.
- Expand mobile broadband access to outlying suburban and rural areas.
- Integrate health equity expertise into the policymaking process through the creation of a Technical Expert Panel (TEP) composed of beneficiaries with lived experiences, HCPs to review and make recommendations on diversity, equity, and inclusivity as they relate to CMS programs and valuation Practice Expense (PE) methodologies.
- Evolve CMS's current PE methodology to include Software as a Medical Device as Direct PE. Under its current methodology, digital health solutions such as Propeller's may not qualify under direct PE as "medical equipment," which is currently considered indirect PE and not paid.
- Expand CMS's institutional training on digital technologies, the use of Software as a Medical Device in current practice, and the evolving landscape of AI in healthcare.
- Increase collaboration between CMS and AMA to develop code families and associated descriptors that can better inform coverage and payment for practitioner work and supplies to advance technical literacy and awareness.
- Ensure intra-agency collaboration, and knowledge sharing in digital health and AI among FDA, CMS, and ONC.

In closing, we thank OSTP for the opportunity to comment on this RFI. If you have any questions regarding these comments, please do not hesitate to contact my colleague, Meredith Barrett at

Respectfully submitted,

Propeller Health

By:

Larissa D'Andrea
Vice President, Government Affairs & Market Access
ResMed Corp.

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Dr. Alondra Nelson
Office of Science and Technology Policy
Eisenhower Executive Office Building
725 17th Street NW
Washington, D.C., U.S

Dear Dr. Nelson;

Thank you for your leadership in working to ensure all Americans have access to quality health care through innovative technologies, including telehealth. These tools have proven critical for addressing behavioral health issues, which are reaching a crisis point across the country. The situation, which has only been exacerbated by the pandemic, is reaching communities nationwide but especially rural ones.

More than 80 percent of rural counties do not have a psychiatrist, compared to 27 percent of counties in metropolitan areas.[1] Yet at the same time, approximately 20 percent of the rural population experiences mental illness[2] and the rural community is disproportionally impacted by the opioid epidemic.[3] Suicide rates are 40 percent higher in rural areas than in large urban areas and are increasing at a faster rate.[4]

Psychiatric Medical Care appreciates the opportunity to provide recommendations on how the Office of Science and Technology Policy and the Federal government can equip Critical Access Hospitals (CAHs) to better address the behavioral health crisis through technology.

Founded in 2003, and headquartered in Nashville, TN, PMC is a leading behavioral healthcare management company. Focused on addressing the needs of rural and underserved communities, PMC manages inpatient behavioral health units, intensive outpatient programs, and telehealth services in more than 25 states. The company's services provide evaluation and treatment for patients suffering from depression, anxiety, mood disorders, memory problems, post-traumatic stress disorder, and other behavioral health problems.

Our patients have greatly benefited from the COVID flexibilities that have CAHs to provide outpatient hospital services via telehealth during the PHE by leveraging the Center for Medicare

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[1] American Journal of Preventative Medicine, "Geographic Variation in the Supply of Selected Behavioral Health Providers." Retrieved from: https://www.ajpmonline.org/article/S0749-3797(18)30005-9/fulltext
[2] Rural Health Reform Policy Research Center (2014). "The 2014 Update Of The Rural-Urban Chartbook." Retrieved from: https://www.ruralhealthresearch.org/publications/940
[3] Keyes KM, Cerdá M, Brady JE, Havens JR, Galea S. Understanding the rural-urban differences in nonmedical prescription opioid use and abuse in the United States. Am J Public Health. 2014;104(2):e52-e59.
[4] National Advisory Committee on Rural Health and Human Services, "Understanding the Impact of Suicide in Rural America" https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/publications/2017-impact-of-suicide.pdf

and Medicaid Services (CMS) waiver of the provider-based regulations described in "*Hospitals: CMS Flexibilities to Fight COVID-19.*"[5] This flexibility to leverage virtual care to its full potential has proven crucial to meeting surging behavioral health needs during the COVID-19 pandemic.

The response among patients to the provision of behavioral therapy services via telecommunications technology has been extremely positive as patients have expressed relief and appreciation that they can continue their behavioral health therapy notwithstanding the social distancing protocols that help prevent the spread of COVID-19. This flexibility has also brought relief to the patients' caregivers, as many of these beneficiaries reside in nursing homes, which have been particularly and understandably cautious during the pandemic.

Even in the absence of COVID-19, the ability of CAHs to furnish outpatient behavioral therapy via telehealth has improved continuity of care by easing some of the often-challenging transportation requirements in rural settings, which can be exacerbated during the winter months. CAHs serve communities characterized by access to care barriers, and CMS' flexibilities have enabled CAHs to not only maintain access to outpatient behavioral therapy during the COVID-19 PHE, but it has also driven CAHs to identify and implement more efficient and clinically appropriate delivery of care models that leverage telecommunications technology.

Furthermore, based on the research we have seen, there is little difference between virtual and "in-person" care as it relates to mental health for all outpatient psychiatry. According to the American Psychological Association, virtual behavioral health is effective and can even remove some of the stigma of seeking help for behavioral issues for patients. [6] Additional studies found that telehealth is effective for treating a range of behavioral health issues including depression, anxiety and adjustment disorder and substance abuse.[7]

Given the enormity of the behavioral health challenge ahead of us, we must leverage our entire rural safety net to address these surging behavioral health needs. We strongly believe that the Administration and Congress should ensure CAHs and other rural providers are all equipped to fully leverage telehealth and that they are able to bill for clinically equivalent services the same way they would an in-person service.

Regulatory changes made under CMS' Hospitals Without Walls program were critical to the ability of behavioral care providers to continue helping Medicare beneficiaries in rural areas served by CAHs. We believe that CMS should preserve this access after the public health emergency (PHE) ends – and that the agency has the authority under existing law to amend its

[5] Centers for Medicare and Medicaid Services, "Hospitals: CMS Flexibilities to Fight COVID-19." Retrieved from: https://www.cms.gov/files/document/covid-hospitals.pdf
[6] https://www.apa.org/monitor/2020/07/cover-telepsychology
[7] https://doi.apa.org/doiLanding?doi=10.1037%2Fa0027607

provider regulations to allow CAHs to designate a patient's home as provider-based for the purposes of this care.

We urge CMS to issue rulemaking immediately that preserves beneficiary access. CMS has broad authority through its provider-based regulations to specifically allow Method I CAHs to designate a patient's home as "provider-based." CMS has the legal authority to permanently amend its provider-based regulations in a way that specifically targets Method I CAHs and allows them to furnish outpatient hospital services via telecommunications technology.

Additionally, CMS is currently implementing an expansion in access to telemental health as mandated by the Consolidated Appropriations Act, 2021. As part of this expansion, it has recognized the need for special provisions related to Rural Health Clinics and Federally Qualified Health Centers in the FY2022 Physician Fee Schedule. Without a similarly targeted fix to allow CAHs to bill for telemental health services the same way they do in person services, many will not be able to continue offering these services after the end of the PHE.

As a result, many CAHs will no longer be able to provide behavioral health services via telehealth, even though they may be the most clinically appropriate for a Medicare beneficiary. This limitation would represent a significant decrease in our national capacity to address rural mental health needs in the long term.

We believe OSTP has a unique opportunity to drive forward the use of technology to expand access to health care in rural areas. As you know, there are many facets of this opportunity – we look forward to working with you on various efforts to expand access to behavioral health in rural areas.

Psychiatric Medical Care

Public Health Innovators, LLC, Amy R. Sheon, PhD, MPH, President

Response to OSTP RFI: Strengthening Community Health Through Technology

Stakeholder expertise: CHWs, telehealth navigators, health systems, community-based organizations, academic research*, technology developers, and digital health user *primary

Public Health Innovators, LLC is pleased to comment on the OSTP RFI, Strengthening Community Health Through Technology. Public Health Innovators is a Northeast Ohio company that has advised top health, technology, community, and government organizations regarding equitable approaches to technology development and innovation. PHI is led by Amy Sheon, PhD, MPH, a nationally recognized thought leader in digital health equity and an early advocate for using CHWs as digital navigators. During her decade leading the Urban Health Initiative at Case Western Reserve University's School of Medicine, Sheon developed **Cleveland & Cuyahoga Health Data Matters**, a website with community health data and mapping technology to generate insights and action on health disparities and community health. The resource was highly influential in revealing the effects of digital redlining in the worst connected city in the country. Sheon has led many projects that apply innovation to understand and address community health such as creation of Neighborhood Immersion for Compassion and Empathy, a Virtual Reality simulation designed to increase provider awareness and empathy regarding social determinants of health.

As a Senior Fellow at the National Digital Inclusion Alliance during the first year of the pandemic, I developed a model[1] (See Figure) for applying their emerging digital navigator model to the health sector. My model was tested and refined through consulting engagements with the nation's leading health systems and technology companies, plus numerous educational, philanthropic, government and community organizations in Northeast Ohio. Some of the learnings from this work are shared below:

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[1] The model was developed by my firm but is available online in two publications: https://www.telehealthequitycoalition.org/improving-digital-literacy-to-improve-telehealth-equity.html and https://digitunity.org/news-information/ (as of 2/28/22)

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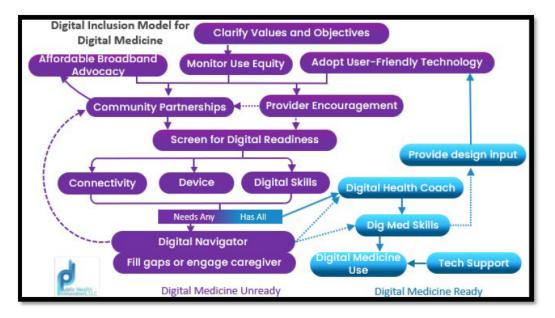
1) Successful models in the US:

Cleveland, Ohio established the Digital Equity Coalition to coordinate efforts to ensure that children were able to connect online. I established and co-lead a **health** subcommittee comprised of more that 40 individuals from area health systems, and other stakeholders who strive to create efficient means of increasing telehealth readiness for vulnerable populations.

Each area health system has worked in its own footprint to close internet access gaps with technology solutions and are seeking to use a common screening and referral process.

An additional strategy is to contextualize digital readiness as a super social determinant of health, as I and others have recently published.[2] Many health systems use closed loop systems for SDOH referrals. We are seeking to ensure that digital navigation services are represented among referral partners.

Within healthcare settings, I've found that digital equity initiatives are often missing a leadership statement of the goals, and then metrics to track progress (see top of Figure). For example, does the health system just seek to teach patients to use telehealth or are they are looking to ensure that that patients are empowered to meaningfully use the internet to improve both their health and their economic opportunities?   Do they want to ensure that usage gaps between various population groups are declining? As its health SME and Director of Research and Evaluation, I am advising a community-based ISP, DigitalC on how to empower vulnerable community members to meaningfully use the internet to improve health, along with education and economic opportunity.

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[2] Sieck C, Sheon A, et al. "Digital Inclusion as a Social Determinant of Health." NJP Digital Medicine, 2021.

2. Barriers in use of digital health tech in community-based settings: Assembling and training personnel for the middle components of my model—screening and referral for device and skill gaps, is a frequent barrier. The Cleveland Foundation has funded a [digital navigator program](#) with a single hotline and navigators available at local institutions such as libraries and public housing facilities. A remaining gap, however, is to train these navigators to help people use digital health tools. Training navigators to teach digital health tools seems like an easier lift than teaching people at health systems to become digital navigators. Training should use Adult Basic Skill education strategies, as embraced by the [Open Door Collective](#).

3. Data trends: Inability of health systems to easily quantify digital health engagement, and disparities, with patients, is a significant obstacle. I have sought unsuccessfully so far to work with electronic health record providers to develop template reports and reporting functions so that every health system doesn't have to reinvent the wheel—and so that data will be comparable across institutions. Encouraging them to do this, or perhaps convening a task force to develop these tools would be helpful.

4) User experience: I have represented the National Digital Inclusion Alliance to the [Digital Medicine's Data Collaborative Community](#) that is seeking to overcome digital readiness barriers to digital medicine. That group will soon be coming out with helpful tools. However, a useful approach would be to recruit and train individuals with the lived experience of digital unreadiness to provide advice on technology development and deployment (see lower right quadrant of Model). This could be modelled on how the [Savvy Coop](#) tees up patients to help pharma. The digital equity advisors should be compensated not for their time, but for their expertise, commensurate with the value the provide to developers.

5. Tool and training needs: Standard tools are needed to screen patients and use "precision referrals" to address the multiple components of digital readiness that may be lacking (See center of Model).

7. Health equity: One overlooked opportunity from wearables, if equitably used, is to aggregate data to shed light on geospatial factors affecting health. Examples include [Strava](#) heat maps showing where people cycle (and there for where green space is needed), or cell phone data showing [compliance with stay home orders](#).

Yeshaya Koblick

RADECT INC.

Stakeholder: 'Digital Health Start Up'

██████████
██████████

Our company, RADECT INC. has been supported by a Small Business Innovation Research (SBIR) grant from the National Institute of Health (NIH) - Minority and Health Disparity agency (NIHMD) agency. The project has sought to increase healthcare access for underserved and minority health populations by increasing the capacity of nurses and other community health workers in team-based care.

Our project has taken steps to reimagine healthcare as an integrative approach with wellness. By creating patients or members that would want to be proactive, because we can offer the equivalent of yoga retreat curriculum to patients (members) that is scalable and personalized for lower income and minorities. We can integrate within the yoga training collectively interdisciplinary healthcare, wellness, fitness, and some medical, and focus on things for example exercises to do for having hypertension. We can focus on short term and longer-term health outcomes, while collecting greater amounts of data to effectuate change. This can include cultural foods and diet modifications. Cultural difficulties with healthcare. This can be stressors and triggers such as behavioral. Our software can iterate based on the healthcare. Yoga instructors in team-based can offer multidisciplinary of healthcare to perform a comprehensive health and access that is currently unavailable that we have seen.

We are essentially expanding a fusion of healthcare across disciplines with yoga. The yoga instructor from experiential knowledge allowed across disciplines expand the data collection, and efforts to bring knowledge of healthcare from medical with reduction of medical practitioner's time.

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To our knowledge this is unique. The digital health tools can allow the techniques to bridge this gap. These digital health tools bring together health records with fusion of data in curriculums. There are new web tools that can integrate to advance health for said populations, which have yet to be achieved.

We have found several benefits and challenges to such a model. Considering we do not fit into fee for service. We are not exactly value-based care, as this is a continuous care, as opposed to predicting when healthcare services are needed. We can better predict with greater data collection how to prevent short- and long-term healthcare needs by creating a version of personalized cohort studies. The healthcare models are not reimbursed by Medicaid and Medicare. Neither are their simple ways to test these models as the CMS innovation center will not test digital health innovation per se. It would also require a new reimbursement model, as the healthcare would serve more as a subscription and 'software as a service' (SaaS) healthcare model. The advantage is it can create a much more comprehensive model. With personal health records (PHR) we can create distributed encryption that is like the type of encryption foreseen in Web3 versus traditional central repository. Interoperability remains an issue to share health record information across EHRs. We hope Smart FIHR will continue to advance.

On the contrary, yoga instructors are overjoyed to integrate their work into the healthcare and community health. This can be accessed using telehealth for patients (members) directly or by aides and community health workers. The specialization of healthcare and medical knowledge is possible for people to integrate more complex behavioral challenges like Psychotic disorders. We can bridge community groups online. We can expand this access to non-yoga.

The current healthcare models are ready to be used in 0-2 years. The government could build pilots for Medicaid and Medicare to further into value-based care models and allow people in lower income and minority disparity the option to choose this model of healthcare. Community Health Workers can be trained. We also have the availability of as mentioned yoga instructors that can participate. Yoga instructors already perform teacher training. They would be well versed to train Community Health Workers.

The barriers we have found in lower income and minority health is disapproval to healthcare and educating them on both interest in health and compliance to healthcare. There are cultural and challenges that exist. We have found from small populations building trust is an important factor. The type of trust is beneficial if they know the yoga instructor or community health worker. We hope that we can explore better ways to improve trust building. However, they are happy to receive a healthcare not dependent on difficulty of making appointments, that is personalized to them, understands them, and they can set goals and choices.

We do feel to be in an island. We are delighted to advance low income and minority health. We would welcome collaboration with the government, as we have felt to be on an island.

Thank you -

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January 20, 2022

Re: Connected Health RFI

Dear Ms. Murphy,

Rhaeos offers the following comments in response to The White House Office of Science and Technology Policy's Connected Health RFI. Rhaeos is a clinical stage and venture backed medical device startup, formed out of an academic lab at Northwestern University in Evanston, IL, focused on developing wearable remote monitoring sensors to improve care of patients living with hydrocephalus and other chronic conditions. We believe connected health through remote monitoring will lower barriers to access to quality healthcare for all Americans, especially the underserved populations in geographic areas in far proximity from healthcare sites. For the classification associated with this response, we best fit as technology developers although our company rooted from decades of academic research.

Successful models within the US: The use of continuous glucose sensors at home has been widely adopted to date because of the value it brings to patients.

Continuous glucose monitors (CGM) for patients living with diabetes have been widely adopted by the healthcare system. The data provided by CGM allow patients to obtain real-time blood sugar data and know the immediate impact of their dietary consumptions. By engaging with the CGM, patients live healthier lives by ensuring that their blood sugar levels stay within the recommended windows. The technology also provides physicians and patients alerts if the data fall outside the recommended range, ensuring immediate care when needed. The advent of CGM opened up platform advancements such as integration with insulin pumps for personalized treatment, elimination of constant finger-prick for calibration, and user interface visuals to quickly understand data. At Rhaeos, we envision following a similar business model that CGMs paved to improve care for patients with other types of chronic conditions through remote monitoring technologies.

Barriers: Not all healthcare stakeholders in the US are economically incentivized to adopt digital solutions. Individuals also need adequate internet access and compatible mobile hardware to have full access to most digital solutions.

Despite the increased focus on telehealth since the Covid-19 pandemic, reimbursement policies are not on par for in-person visits. We applaud CMS' efforts for realizing the value of digital health and providing insurance coverage to some remote monitoring and telehealth procedures. At its core, digital technologies will likely reduce hospital visits and admissions. Generally, physicians and hospitals are compensated for most patient visits with additional visit frequencies increasing revenue. If reimbursement policies for digital solutions are not on par with in-person visits, providers will not fully adopt new technology despite the clear advantages. We recommend evaluating reimbursement policies to ensure adequate compensation to providers aligning with the clinical benefit of the connected solutions to the public.

To state the obvious, in a digital world, individuals need internet access and compatible mobile hardware to use most digital healthcare solutions. Technology developers will likely build new

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tools for the Apple operating system (iPhone and iPad), which is used by a third of Americans. The cost of iPhones, around $1,000 for new devices, could be prohibitive to some underserved population groups. Know-how to use technologies for certain population groups is another barrier that could be solved by training programs. Individuals with iPhones and know-how to use technologies would likely have first access to new digital innovations. In addition, internet access is also likely required for most connected solutions. We suggest initiation of federally supported programs to address these barriers.

Tool and training needs: Not everyone is comfortable with technology and new solutions.

Not everyone is comfortable with changing the status quo and utilizing digital solutions. Educational programs and certifications would be helpful to train and validate the skills of healthcare workers on digital tools.

The digital world in healthcare is also moving and changing very fast. Even for someone in the industry, it is very difficult for us to track all the happenings and events. We assume awareness of available solutions and alternatives is an issue and challenge for health care workers. We suggest the government to provide easily accessible sources of information on current events and promotional initiatives associated with connected health.

Conclusion

In summary, we propose a thorough evaluation of reimbursement policies on connected health in the immediate future to ensure that all stakeholders of the healthcare ecosystem are incentivized appropriately to utilize solutions that provide Americans the best available healthcare. We also suggest exploration of a program in the next five years that providers device access and internet to population that could benefit from connected health solutions, associated with publicly funded healthcare insurance (e.g. Medicare, Medicaid, etc.). Establishing public open-access training and educational programs on how to use hardware (e.g. iPhone, iPad, laptop) and technology infrastructure (e.g. internet, navigating through websites) in the next five years could increase utilization of connected health solutions and other non-healthcare related solutions that improve society.

As a digital health startup developing wearable solutions, we are very passionate and excited about the potential of technology to improve healthcare for all Americans. Please do not hesitate to reach out to us by contacting ▮▮▮▮▮▮▮ or replying to this email. We will be happy to share our additional thoughts and assist OSTP and the White House in the excellent initiative to broaden the use of connected health.

Sincerely,

Anna Lisa Somera, CEO
Rhaeos, Inc.

Stakeholder:
Dr. Rupa Valdez
Academic researcher at the University of Virginia

My name is Rupa Valdez, and I am an associate professor at the University of Virginia with affiliations in the School of Medicine, School of Engineering and Applied Sciences, and College of Arts and Sciences. I also serve on the Board of Directors for the American Association of People with Disabilities and as president of Blue Trunk Foundation, a nonprofit dedicated to accessible travel. However, the opinions expressed in this document are solely my own and do not necessarily reflect those of the University of Virginia, the American Association of People with Disabilities, or the Blue Trunk Foundation. The comments below are a direct excerpt from the testimony I provided to the House Ways and Means Health Subcommittee during the February 3rd, 2022 hearing on Bridging Health Equity Gaps for People with Disabilities.

For some people with disabilities, the exponential rise of telehealth services has meaningfully reduced barriers to health care access and improved quality of care. However, for others telehealth presents new accessibility challenges. In discussing telehealth, it is important to note that, under Section 1557 of the Affordable Care Act, all covered entities (i.e., health programs and activities that receive federal funding) are prohibited from discrimination on the basis of disability, and therefore must ensure that all programs delivered through electronic and information technology are accessible. Were the promise of Section 1557 fully realized, telehealth would only be a benefit to those with disabilities seeking health care. Yet, to date, this promise has not been realized.

Some members of the disability community who face persistent barriers to in-person encounters with the health system fare better in a digital environment. Reduction of barriers includes those that exist both prior to entry of a health care facility and those that exist once an individual enters a health care facility. For example, some disabled individuals rely on public transportation to physically attend an appointment. Without telehealth as an option, these individuals may have had to either miss or delay appointments if these forms of transportation were not readily available. For others in the disability community, the barriers within clinical spaces themselves are onerous in nature and may be avoided through the use of a telehealth encounter that allows them to stay in home and community spaces that are better aligned with their physical, sensory, cognitive, and mental health related needs. Finally, current telehealth provisions also expand access to the range of providers with which a disabled individual may engage, allowing broadened access to appropriate specialists and to shorter wait times, improving both the quality and timeliness of care. Given the ways in which telehealth has improved the experience of health care for some people with disabilities, it is essential to both extend and expand access to such services.

Despite the promise of telehealth for improving health care access for the disability community, benefits are not equally experienced; instead, many disabled individuals face real barriers to effectively engaging with telehealth services. For example, while I have significantly benefited from the availability of telehealth services as related to my mobility-related disability and my reliance on either public transportation or the assistance of a family member or friend to attend an appointment, other aspects of engaging with telehealth remain challenging. My upper

extremity and vision-related disabilities make it nearly impossible to derive the full benefit from engagement with telehealth. This difficulty arises in part because telehealth platforms rarely enable multiple modes of inputting information into a system or work seamlessly with a screen reader (i.e., a technology that helps people with difficulties seeing to engage with digital content). The particular constellation of barriers that I experience with in-person and virtual care means that I often evaluate whether it is worth the effort and physical pain to access health care or whether it is best to forgo it. Improving accessibility not only of in-person services but also of telehealth services is therefore essential to fully removing access barriers for the disability community.

For telehealth to be fully accessible, the specific needs of the disability community must be accounted for in design implementation and evaluation efforts. In particular, telehealth technologies must be designed in ways that are both usable and useful for all disabled individuals. Examples of usability that must be improved include the need to consistently implement standards and plug-in solutions to enable sign language or the appropriate interpretation and closed captioning on the same screen as the services being provided, even for unscheduled appointments. Such a design change would meaningfully improve the accessibility of video-based telehealth services for individuals identifying as deaf, hard of hearing, and speech disabled, among others. Similarly, many telehealth services assume that engagement consists of an interaction between a health professional and patient without any other engaged parties. However, it is not uncommon for individuals with disabilities to engage others in their care, including family members and friends, personal care attendants, and individuals providing interpretation services. In such cases, there is a need for telehealth services to be designed to allow sophisticated proxy access as well as synchronous communication between multiple parties. These examples illustrate the need to strictly enforce existing standards (e.g., web content accessibility guidelines) and to extend the reach, clarity, and specificity of such standards in partnership that broadly engages the disability community.

Designing telehealth to meet the needs of the disability community is necessary but not sufficient to ensure that care provided through this modality is accessible. Like many other health disparity populations, disabled individuals experience the digital divide, with 15% (in comparison to 5% of nondisabled individuals) stating that they never go online. Moreover, people with disabilities are less likely than the general populations to own the hardware that they need to use telehealth. The investments in broadband in the Infrastructure Investment and Jobs Act will work to close this connectivity gap. But the expansion and widespread use of telehealth will outpace the implementation of the programs in the IIJA, and this lack of digital access, coupled with a lack of hardware, can lead to canceled appointments, technical difficulties during appointments, and misinterpretation of the information exchanged. These all lead to reduced quality of care. Moreover, both health professionals and disabled patients must be provided with appropriate training on how to configure telehealth technology for accessibility. Finally, during telehealth encounters, health systems will need to provide timely access to personnel such as qualified readers, interpreters, and speech-to-speech translators to ensure full accessibility. Urgent action is needed to close the digital divide and provide necessary hardware, training, and other resources.

Given its long history of marginalization, the disability community is vulnerable to potential unintended consequences of telehealth expansion. Outcomes must be monitored, and any disparities addressed. For example, it is possible that telehealth may be found to be not only clinically effective but also cost effective and thus, it may be adopted as a measure of cost containment. Consequently, health care providers may discourage in-person visits. Such discouragement may have disproportionately negative consequences for people with disabilities for whom in-persons visits may be more clinically appropriate (e.g., challenges with appropriate positioning for telehealth visits) and more accessible (e.g., accessibility of telehealth remains poor). Another potential unintended consequence could arise from HIPAA flexibilities. During the pandemic, HHS put in place HIPAA flexibilities that allow health professionals to use a variety of platforms to deliver telehealth services. While such flexibilities may allow for greater access, they also have the potential negative, unintended consequence of breaches in cyber security. Such breaches may be particularly detrimental to members of the disability community, as disclosure of disability status may impact everything from employment to social relationships. It is therefore imperative that health care providers be required to observe, monitor, and report health service utilization outcomes, health outcomes, and a wide range of patient-centered outcomes.

Legislation currently under consideration to expand telehealth services would have the important effect of sustaining telehealth access for members of the disability community who have found such a mode of care to reduce barriers to healthcare access. At the same time, any temporary extension of waivers must be seen as an opportunity to rigorously track the outcomes listed above for the disability community. Any permanent legislation related to telehealth should then be informed by the results of this analysis. Moreover, any temporary extension of waivers must be viewed as a period in which to advance requirements for the accessible design and implementation of telehealth services.

REQUEST FOR INFORMATION FROM THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Strengthening Community Health Through Technology

Richard C. Strobridge, CEO

Rx.Health
Prescribing Digital Medicine™

Background

Over the last decade, many systemic challenges have emerged within the health care ecosystem such as rising costs of care, poor healthcare literacy rates, high population to primary care provider ratio, limited longitudinal monitoring of patients, and increased administrative burden. Underserved communities in the United States have faced the brunt of these challenges as a result of social determinants of health (SDoH) barriers. According to the World Health Organization, SDoH can play an even more important role in one's health than medical care, with studies demonstrating that SDoH can account for between 30-55% of health outcomes. Conditions such as asthma, hypertension, diabetes, heart disease, lung disease, and immune disorders disproportionately burden African American communities compared to non-Hispanic whites and those with low socioeconomic status due to intersecting systemic factors of income, social context, differences in health behaviors, and occupational/environmental exposures. [1]

The COVID-19 pandemic has further exacerbated the existing issues that have been straining the healthcare system in the United States. It is evident that the pandemic has disproportionately impacted racial and ethnic minority groups.[2] According to data from the Coronavirus Disease 2019 - Associated Hospitalization Surveillance Network (COVID-NET), Black, Hispanic, and American Indian and Alaska Native (AIAN) people were approximately five times more likely to be hospitalized due to COVID-19 compared to white people after adjusting for age.[3] Data has shown that social, financial, and educational inequalities have played a considerable role in the higher rates of COVID-19 related hospitalizations and mortality seen among the underserved population.

The pandemic has also fueled rapid uptake of digital health, as more services continue to transition to a virtual patient care environment. This has led to an emerging challenge for members of the underserved community as many lack access to technologies and infrastructure that facilitate virtual patient care and remote patient monitoring such as access to smartphones, cellular plans, and broadband connection; in addition, to the challenges that arise at the adoption phase such as poor digital literacy. As a result, the digital divide has created unprecedented barriers to care.

Digital health tools have been shown to facilitate better patient engagement, increased efficiencies, and improved outcomes in the clinical setting. However, these tools also have the potential to increase health disparities for those who are unable to access them or are unskilled in utilizing them. With the increased usage of patient portals, remote monitoring devices, and health tracking applications, availability and equitable distribution of these tools must be considered. In addition, the data generated from such digital health technologies can be leveraged to improve health outcomes at both the individual and population level. Validated and reliable health information is particularly useful for the underserved patient population as this data can be used to identify drivers of inequity and generate actionable insights for healthcare workers, administrators, and healthcare policymakers.

Case Studies

In this paper, we examine four successful case studies on how digital health technologies have been used to reduce healthcare disparities in traditionally underserved communities: Fostering African American Improvement in Total Health App pilot study, "SmartWalk" program,

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text-message based intervention for the LGBTQ population, & a social determinants of health care navigation program.

Mobile health (mHealth) has emerged as an effective method of transforming healthcare delivery for patients in underserved communities due to it being one of the most widely accepted and most ubiquitous digital health technologies. For mHealth to penetrate further into clinician workflows and sustain high levels of engagement, it needs to be synergistic with the shift towards value-based care. mHealth interventions that demonstrate significant improvement in patient outcomes, quality of life, as well as reductions in readmissions/hospitalizations and improved cost savings will ultimately be the ones that become predominant within healthcare systems and community practices.

For nearly every outcome measure, African Americans have worse overall cardiovascular health and cardiovascular disease mortality than non-Hispanic whites. mHealth lifestyle intervention programs have shown to be efficacious in helping users make healthier dietary choices as well as incorporating greater physical activity. In one such use case, 45 African American adults were enrolled in the **Fostering African American Improvement in Total Health (FAITH!)** App pilot study for 10 weeks. The app included multimedia patient educational modules, CVD knowledge assessments, digital diet assistant, monitoring of dietary habits/physical activity, and a patient sharing board. Study participants reported improvements in diet and physical activity self-regulation, in addition to increased intake of healthy foods. The results from this pilot study demonstrate that culturally tailored mHealth programs designed using a community-based participatory approach can be effective in modifying behaviors towards a healthier lifestyle. [4]

Substantial differences in healthcare access, financial constraints, and availability of care-based services exist between urban and rural populations. The sociodemographic disparities between the two communities have been widening at an increasing rate over the past decade. In addition, the elderly population face low compliance rates to medications and several regional barriers. In less densely populated regions, which often have a higher concentration of elderly individuals, limited access to medical resources and healthcare specialists is accelerating the risks of undiagnosed disease, ultimately leading to higher mortality rates among this vulnerable population. This study addressed both barriers by designing a digital **"SmartWalk" program** involving an interactive wearable device to promote increased physical activity, which has been studied as one of the most effective ways to prevent disease in older age groups who have limited healthcare resources. The study showed that the wearable-based intervention had a significant effect on the physical performance on this cohort, as both gait speed and International Physical Activity Questionnaire (IPAQ) score results were significantly improved post-intervention.[5]

In addition, similar trends have been observed in LBTQ+ populations. Research suggests that individuals in the LGBTQ+ community face considerable health disparities linked to inadequate care, societal stigma, and discrimination. In the United States, men who have sexual intercourse with men (MSM) is the only risk group in whom HIV infections have continually increased since the early 1990s. Among this community, those with methamphetamine use disorders are at much higher risk of HIV acquisition and transmission than any other behavioral risk category in this population, as these individuals frequently participate in simultaneous drug and sexual HIV-risk behaviors. A randomized-controlled trial by Reback and colleagues, showed the effectiveness of a consistent two-week text messaging intervention in reducing the risks of methamphetamine relapse. Using an automated, health-promoting text-message based approach increased lines of communication between healthcare professionals and this high-risk population,

who often face neglect in homogenous settings. Participants in the digital intervention group reported both— a significant increase in the duration of time since using methamphetamine as well as a significant decrease in the frequency of methamphetamine use in the previous nine weeks from baseline to follow-up. [6]

Health care systems and some of the largest payers in the United States have recently leveraged digital health solutions to provide a comprehensive, tailored solution in addressing the housing, healthcare, transportation, technology, and dietary needs of underserved patient populations. Rx.Health, a cloud-based, HIPAA-compliant digital health unification and monitoring platform, recently partnered with a large payer in the United States to establish a community-based, **digital care navigation program** for members of the underserved community. The Rx.Health platform was used to administer a validated, digital disparities instruments to determine the feasibility of a digital SDoH navigation program by examining each member's access to broadband connectivity, laptop/mobile devices, and digital literacy levels.

If members did not meet the eligibility criteria for the digital program, they were enrolled in Rx.Health's technology access program, where navigators would reach out (either in-person at the health center, or based on the preferred mode of communication) for a free, 1-on-1 consultation to address the member's technology needs. Furthermore, navigators worked to facilitate member enrollment into need-based programs such as the Affordable Connectivity Program, Federal Lifeline Program, and other programs. Once members met the eligibility criteria, they were enrolled in Rx.Health's **SDoH care navigation program**, where they received insights (via automated texts, email, interactive voice response) on how they could access to community resources such as housing, food, transportation, and broadband. The Rx.Health unification platform was used aggregate information on social services from SDOH databases such as Aunt Bertha and Unite Us and transmit tailored, culturally-sensitive SDoH care pathways to a member's cell phone or laptop to address the unmet needs of the underserved population.

Conclusion

Equity-centered digital solution development is necessary to ensure that emerging digital health platforms and assets get in the hands of the people that need it the most. Early implementation of a digital readiness instrument is critical as it allows for the development team to understand the patients' language preferences, literacy and usability needs, and prominent communication channels. By gaining deep insights into the community experience, digital health toolkits can be created to ensure that the patients'/community members' needs are addressed, which is a fundamental part in ensuring high levels of adoption and user engagement. Eligibility conditions should be established and evaluated very early on to understand the feasibility of the digital health solutions as limited access to broadband connectivity and low levels of digital health literacy can lead to poor adoption and engagement.

Digital health solutions that extend far beyond the healthcare needs of the underserved population are ultimately going to be the ones that generate the highest levels of patient engagement as federally qualified health centers (FQHCs) and health systems are interested in a unified solution that provides resources to address unmet SDoH needs to improve health outcomes.

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5

Amin Mobasher, PhD
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Saina Health, Inc.
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Feb. 28th, 2022

Health is not only affected by medications and visits to the doctor, but also by the circumstances of where people are born, grow up, live, and work. This well-studied phenomenon is known as the Social Determinants of Health (SDH). Studies show that medical determinants are only accountable for 20% of healthcare outcomes, while SDH accounts for as much as 50% [1][2]. Without access to healthy food, affordable housing, and safe space to exercise, health and vitality are limited, and especially limited for the oncology patient whose social circumstances are important to the success of treatment.

Integration of SDH data into clinical data requires additional constraint that there should be access to a comprehensive patient's health data; however, the health information is scattered throughout different hospitals and different platforms [3] and there has been little technological development in this space to facilitate the aggregation and sharing of any data from data sources to relevant stakeholders. Healthcare IT has infamously been known for its poor interoperability between clinics and especially outside community-based organizations. In a recent survey, 20% of patients found errors in their medical records [4].

When clinical data is aggregated into the hands of the patient, they can bring their own data to different trial campaigns. However, clinical trials do not take into account the social context and disparities a patient faces when assessing pharmaceuticals for efficacy, which have been known to vary based on the social context. Our current findings suggest that the integration of clinical and social data will not only facilitate services to address social gaps but also enable contributions to research in this area [7] – [10].

At Saina Health, we believe patient medical records should flow everywhere that patient goes for treatment in an office visit, consultation appointment, or a telehealth video call. It is vital for a better treatment of patients that the patients and physicians have easy and complete control in accessing and sharing their medical records. For that, we have automated collecting patients' electronic health records from any of the facilities where they have been. Our InstaHealth™ platform aggregates patients' health records and provides a holistic view of a patient's health for patients and physicians. In addition, we integrate and curate Social Determinants of Health (SDH) data into aggregated patient health records for patients. Once integrated, SDH data can be layered with clinical data to improve patient experience, improve population health, and reduce costs.

(1)

There is no other platform that robustly provides the desired richness of information required to address these challenges. Computational techniques are improving but are not yet by themselves able to reliably map interactions. By integrating clinical data with social data and mapping the contributing SDH data and risk factors, our conjecture is that it will be easier for practices, providers, and public health to test and develop comprehensive interventions that not only take disparity into account but aim to eliminate them. Saina Health offers a novel mechanism to support more efficient and whole-person focused service delivery models better able to address inequities. Our approach is centered around health, inclusive of comprehensive clinical and social determinants data with the following innovative facets:

Access Complete Health Records for Patients:

In underserved areas, patients deal with several other problems, and a holistic view of the patient helps in a better understanding of social context and disparities factors. We focus primarily on patients on Medicaid, where outcomes are most likely to be influenced by SDH factors. However, we will accept all patients since this is a feasibility study focused on workflow and data integration. We obtain consent from each patient to collect their medical records from any facility they identify. We also get their permission to use their demographic information and scrape their medical records as well as perform our data capture process of their social environments. Aggregating all their medical records, we form a holistic view of a patient's health by collecting all patients' medical records .

Digitizing Health Records:

Having access to all health records enables us to develop deep learning and Artificial Intelligence (AI) technology to parse medical records and capture required health data and curate possible SDH data in medical records [9]. Figure 1 shows our novel AI models in capturing relevant health data and potential SDH data and risk factors from patients' complete health records [9] – [12]. This results in capturing a multitude of data from patients' own data from multiple facilities including some patient SDH data, different issues that the patient had even before treatment, living locations, and facilities that the patient received care with associated socioeconomics in those area.
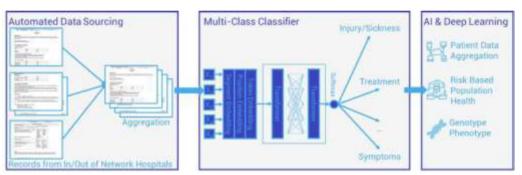
Figure 1: Proposed Data Sourcing from Health Records

(2)

SDH Data Aggregation and Integration:

We capture potential SDH data and risk factors from cancer patient's complete health records including patient demographic information, patient address and zip codes where they have lived or received care, education, health behavior status including alcohol or smoking use, job, income level, and insurance. Data will be integrated, cleansed, normalized from public databases including Healthdata.gov, Area Deprivation Index, Community Commons, Vulnerable population footprint, CDC, County Health Rankings, USDA, and more. To further include more data-sets, we will perform a similar parse and scrape technique on local Community Health Needs Assessments (CHNA) to better understand and present data on local community needs. Since this is one data-set, training our data mining algorithms is easy to capture this extra resource of SDH data. Based on the domains identified by the National Academy of Medicine, our initial focus will be on 3 discrete areas: economic well-being, food insecurity, and housing. With this focus, we will integrate patient health data with collected SDH from patient records and aforementioned community-based data-sets in one platform.

Health and SDH Abstraction, Correlation, and Analysis:

Having initial, simple, and intuitive SDH conventions allow us to interpret results in a specified framework for patients and providers. We use machine learning techniques to combine factors and evaluate dependent complex factors to understand, visualize, and intervene in areas of social risk [5]. We quantify the impact social determinants and associated risk factors have on utilization, cost, and health outcomes. Our data scientists will measure the financial and clinical impact of social risk and create "hot-spotted" groups of interest where interventions can drive measurable results [13]. The patient population will be analyzed based on clinical, social, and location-based factors to evaluate the use of environmental and social factors that may affect cancer treatment outcomes, algorithms to identify geographic communities at risk, and potential opportunities to reduce implicit bias in capturing big data and applying computational methods to inform cancer care [6] [7] [9]-[14].

(3)

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(4)

To whom it may concern,

Thank you for the opportunity to comment on the Request for Information on Strengthening Community Health Through Technology. I am Sarah Glaze, a 2nd-year occupational therapy student at Indiana Wesleyan University. I am commenting because telehealth has been a recent addition to the occupational therapy field since the COVID-19 pandemic, especially in underserved and rural areas.

I want to provide supporting evidence to what this request is asking for. Recent research from Dahl-Popolizio, Carpenter, Coronado, Popolizio and Swanson (2020) states that telehealth for occupational therapy provides a chance for those in underserved areas to receive private therapy services. Additionally, many occupational therapists in this study agreed that telehealth enables individuals that live in a rural setting to have better access to therapy sessions (Dahl-Popolizio et al., 2020). This literature suggests that many individuals who did not have access to therapy services before the pandemic started have had more access to these services with the increased use of telehealth. However, with many states having their emergency state orders for telehealth expire, these individuals may start to lose access.

The benefit of telehealth, especially to children in school systems in more rural areas, is that the school has provided laptops or other portable devices. This way, these children can access these services even if they are at home and receiving services outside of school. Allowing individuals in underserved areas to receive telehealth by advocating for occupational therapists to continue practice via telehealth services creates further accessibility that these individuals at one point did not have.

In summary, I am providing further information on telehealth's benefits for underserved populations and those in a community setting. This provides services that individuals did not have access to before the pandemic. While this will not be the primary form of providing this service, it should still be an option for those who could benefit from it. Thank you for taking the time to read this. I hope you found this information useful.

Best,

Sarah Glaze, OTS,

Indiana Wesleyan University

White House Office of Science and Technology Policy (OSTP)
Request for Information (RFI) Response: Strengthening Community Health Through Technology

Introduction

SAS is a technology developer and has proudly served U.S. and international health agencies, payers, and providers for more than 40 years in more than 149 countries. Our industry-leading, configurable, scalable analytics solutions and services are trusted to impact decisions that improve patient safety and satisfaction, decrease unnecessary healthcare costs, improve outcomes and equity, and strengthen program integrity and efficiency. Our experience informs our belief that proactive strengthening of community health through technology starts with timely access to data with advanced analytics and solutions to highlight trends, root causes, and opportunities for evidence-based intervention. Technology changes rapidly and to make sure our partners have access to new and emerging technologies, SAS annually invests 27% of our $3.2 billion revenues into analytics and artificial intelligence research and development – significantly higher than the average investment of large software companies – to improve existing technologies and support new development initiatives. This investment brings more value to our existing healthcare partners and the analytics marketplace.

Successful Models within the U.S. Implemented by SAS

Using Analytics to Identify Risk Populations: Diabetes Management Dashboard at North Carolina Health Information Exchange (HIE):
The NC Department of Health's Diabetes Registry provides a list of diabetic patients and relevant clinical data that provides insight into how well patients are managing their diabetes with a goal to reduce disease progression. The Registry provides a singular viewpoint for disease management by integrated data from many sources including Hemoglobin A1C levels, BMI, and co-morbidities such as hypertension. Insights are proactively translated into practice through notifications to care teams when a patient is newly diagnosed with diabetes/prediabetes or has an acute care encounter.

Integrating a Data Driven Approach to Whole Person Care (WPC) at Riverside County.
In recent years, Riverside County has worked to improve WPC for probationers, an initiative funded by California's 1115 Medi-Cal Waiver WPC pilot program. The program funds counties to coordinate health resources with the goal of improving the health and well-being of Medi-Cal beneficiaries. Riverside University Health System (includes a 439-bed academic medical center, an inpatient psychiatric facility, and 13 federally qualified health centers) turned to SAS to leverage its information assets to solve 1,115 evaluation challenges. SAS delivered a solution that integrates health and non-health data management from Riverside's public hospital, behavioral health system, county jail, social services systems, and homelessness systems and visual analytics to evaluate its WPC pilot program. This partnership put Riverside on track to receive $500K in WPC electronic data integration incentive payments which boosts their confidence in data analysis and reporting capabilities; improves care coordination within their community; and improves outcomes in vulnerable populations.

Improving Care and Addressing Misconceptions about Behavioral Health

The San Bernardino County Department of Health (DBH) uses SAS to answer questions about community engagement with the behavioral health system to draw accurate conclusions and offer appropriate assistance and care. By mapping how their community

Healthy Nevada Project
AI enabling researchers to improve population health (personalized health care for healthier communities.

Click here for more info.

COPD Foundation
Structured data into insights (community outreach and support for chronic disease populations).
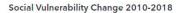
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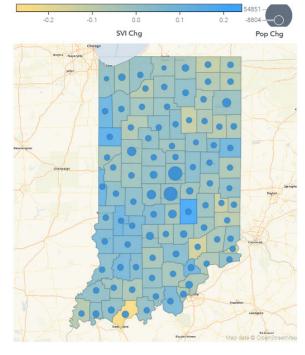
Project Examples Implemented by SAS

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uses services, DBH was able to identify patterns that it would not otherwise be able to detect. This mapping helped analysts to identify areas that need improved access, find places they thought were underserved that were not, and see how this affects their network of providers. Applying an innovative approach saved the organization months or years of manual or other types of analysis helping them to become faster and nimbler, which means their community members benefited from getting the right healthcare quicker.

Addressing Health Equity with Technology SAS solutions are exceptional at characterizing community needs. With adaptable solutions like layered maps with the ability to integrate multiple data sources to find pockets of health inequity or emerging challenges detected by worsening social vulnerability indices, SAS helps place community health workers (CHW) where outreach is needed most. SAS solutions help CHW manage and prioritize their work whether through interactive dashboards, a case management solution, or workflows. SAS visualizations capture performance metrics, progress to goal, and dashboards that allow the public, policy makers, and community leaders access to actionable information. In the healthcare space, making the best clinical and operational decisions requires accurate and timely data. Critical health data is often fragmented and challenging to conform into meaningful insights. By streamlining arduous data processes, SAS helps healthcare target areas where quality must be improved. A strong lesson learned from the pandemic was the need to intersect public health and healthcare information. As SAS can manage the volume of healthcare information, we can pull those data together with

Social Vulnerability Change 2010-2018

Social vulnerability (SV) decreases are indicated in yellow. A decrease represents a positive change for a county. Blue shading indicates increases in SV. When coupled with population changes indicates where health challenges may be emerging.

community metrics aimed at improving the life of the individual. SAS improves the quality of care and health outcomes for individuals and populations by integrating health and non-health data to SAS analytics that facilitates predictions of individual and community health risks, such as infection prevention, readmissions, length of stay, patient safety, cost of care, and identify deficiencies in community support such as lack of transportation, access to mental healthcare, or medications. SAS abilities include nearly everything possible in the analytics space, from machine learning models and embedded APIs to real-time surveillance dashboards. The outcome of these efforts, while extensive and longitudinal, is an integrated system able to support the health of everyone.

As previously mentioned, patient engagement through digital health technologies improves the quality of care and reduces cost because people are offered a choice – digital or in person; most effective healthcare is based on an understanding of the consumer/patient and meeting them where they are at. By offering electronic health records, the right information at the right time leads to better outcomes for patients and providers since technology is scalable and consistent. Patient care isn't about just one visit, but many factors that impact a person's life and ability to adhere to treatment regiments. Industry must continue to make data more interoperable by organizing, analyzing, and applying AI insights to make actionable steps at the right time to coordinate care.

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User Experience

Digital health technologies offer significant promise to aid patients in the management of their health and wellness and for diagnostics. However, like with many technological advances, these opportunities are not distributed equitably to vulnerable populations such as those living in rural communities or below the nation's poverty line. SAS recommends that Federal programs that seek to leverage data from digital health technologies as a component of an intentional analytics plan and considering the following public health challenges:

- **Internet Access:** Deliver national high-speed internet across the US; explore public health application for 5G technology
- **Mobile Device/Smartphones Availability:** Subsidize mobile devices (laptop, tablet, or smartphone) services (phone and data plans)
- **Aggregate Data:** Implement regulations, policies, and program requirements to aggregate health and health-related data nationally (while maintaining security and patient privacy)
- **Patient Portal:** Establish a national patient portal, allowing patients to opt-in to share their data, sync/integrate their digital health devices, update/contribute to their medical records, authorize entities/providers to have access to their complete medical record
- **Health Literacy:** Educate patients on how to use and understand their healthcare data as they obtain greater access to information
- **Analytics for Everyone**: Deliver actionable, standardized analytical modules that can be used at the state and local level to discover insights and clinical/public health intervention opportunities

Solutions and Training Needs

Visual Detection and Investigation Analytics: Connect patients with appropriate community-based resources (e.g., Whole Person Care Model), predict where new/additional resources may be needed, and assess quality/outcomes of care delivered. SAS Visual Analytics provides composite risk scores for at risk groups such as SUD and homelessness. The solution has risk stratification, operational performance, and what if analytics. "What if" analytics allow organizations to gain insight based on applying different scenarios.

Workforce Analytics: Gather insights into workforce needs to close sustained, episodic, and future skills needed across the medical and public health workforce and support interventions that address the root causes of workforce shortage such as staff and faculty to teach medical/healthcare providers particularly primary care providers; resource and upskill epidemiologists with data sciences tools to improve population health management and rapidly design evidence-based interventions during times of crisis.

Alternative Training Methods

- Implement "Train the Trainer" programs to upskill/reskill community health workers
- Advanced in extended reality and AI create opportunities to strengthen simulation teaching methods

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Connected Health RFI

Date: February 28th, 2022

Filing Individual and Organization:
Susan Bratton, MBA
Founder and CEO, Savor Health, LLC

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████████████████

http://www.savorhealth.com

Stakeholder Type: technology developers (digital health)

Who we are: Savor Health is a women-owned small business focused on leveraging technology to bridge gaps in access to evidence-based nutrition guidance and bring the personalized expertise of credentialed dietitians to patients with cancer and other chronic diseases wherever they are and whenever they need it. In this RFI, we will share our rationale and experience developing and deploying an AI-based nutrition expert platform delivered via SMS-text, which we believe to be an accessible, cost effective approach to widely deliver evidence-based health interventions and education to all individuals to improve overall health, quality of life (QoL), and disease outcomes.

Disparities in access to nutrition support: Glaringly apparent during the COVID-19 pandemic and even before, widespread disparities in healthcare access, services, and outcomes exist in the US. In the cancer population specifically, myriad studies demonstrate that nutritional issues are highly prevalent and, when addressed, result in improved survival, treatment completion, and QoL. However, due to a shortage of oncology-credentialed registered dietitians (RD CSO) combined with healthcare access disparities, most patients do not receive the support they need, resulting in poorer outcomes. Current research shows that there is only 1 RD for every 2,674 cancer patients.[1] This severe shortage is compounded by the fact that most RDs are concentrated at the 71 NCI-designated cancer centers, where only 30% of patients receive care. Thus, the 70% of patients treated elsewhere (including community hospitals and clinics in rural areas) will likely never see a dietitian, leading to unmanaged, worsening symptoms, an inability to adhere to treatment regimens, unnecessary and costly use of healthcare resources, poor quality of life (QOL), and sometimes death.

The opportunity for virtual technology solutions to bridge the gap: High rates of cell-phone ownership and utilization among patients of all ages and demographics offers a unique opportunity to provide accessible and affordable interventions using mobile technologies. While there are significant differences in computer ownership between non-Hispanic whites vs Blacks and Hispanics (80%, 69%, 67% respectively), smartphone ownership is the same (85%, 83%, 85% respectively) and is the ideal mechanism to assist in bridging the access gap to healthcare information.[2] Research has also shown that the majority of adults prefer to communicate via text on their phone

versus on the computer, and 90% of adults over age 50 use their smartphone to send messages.[3] Texts, or simple message service (SMS) messages, have a 78 percent higher open rate and 39 percent higher response rate than email.[4] Yet, a majority of existing offerings are web-, or telephone-based or require an app download. These products have low levels of engagement because 1) patients prefer texting, 2) they require a great deal of effort on the part of the user and 3) are typically tailored toward those with high levels of education and resources. Given these deficits and patient preferences, text messaging is a more effective way to reach and engage patients and positively impact their health outcomes. We identified a pressing need for a widely available, easy-to-use, text-based platform to provide evidence-based, personalized nutrition interventions to cancer patients during and after cancer treatment.

Savor Health's Experience and Solution: Given the shortage of nutrition resources available to cancer patients (particularly ethnic minorities, veterans, and rural populations), the efficacy of nutritional intervention, and the success of virtual support in effectively and safely bridging access gaps, Savor Health developed Ina□, the Intelligent Nutrition Assistant, a digital dietitian-on-demand. Created by Savor Health's team of oncology-credentialed medical experts (RD CSOs, MDs, RNs, and LCSWs), the expert platform (Platform) powering Ina□ combines artificial intelligence (AI), machine learning (ML), and expert knowledge to provide the same high quality, clinically and contextually appropriate, evidence-based personalized nutrition and symptom management guidance and interventions of a "live" RD CSO. Ina® intakes patient data, analyzes each unique profile and, via matching algorithms, delivers appropriate guidance from a proprietary database of over 54,000 nutritional strategies. Savor Health's Platform and Ina□ can be an effective extension (not replacement) of dietitians by providing prompt symptom management support and nutritional guidance, notifying the clinical team when appropriate, and regularly delivering patient-reported data to clinical teams. To ensure clinical and contextual appropriateness and patient safety, as well as to increase the breadth of knowledge via supervised ML, when a user question is not an exact match with one in the database, a team of "live" RD CSOs will confirm or modify Ina□'s machine-selected guidance. Ina□ affords cancer patients personalized, evidence-based recommendations curated by RD, CSOs in an easy-to-use manner using broadly available technologies.

We are continuing to refine our platform to meet the unique needs of various underserved groups. For example, as a component of our rigorous curation and review process, all interventions in our database are analyzed for readability (Flesch Kincaid grade level) to allow personalization not only of the nutritional guidance itself but also the manner in which it is delivered to the patient. In addition, we have translated our interventions database into Spanish and are pursuing grant funding and research partnerships to refine the user experience to meet the unique needs, concerns and preferences of Hispanic patients, a process we plan to replicate for several underserved populations.   The CDC estimates that 6 in 10 adults have at least one chronic disease, a statistic that is likely even higher for individuals with limited access to preventative medicine or lower health literacy levels.[5] To respond to this need, we are actively expanding our platform to support a wide variety of nutritionally-impacted chronic

conditions in addition to cancer, including heart disease, diabetes, chronic kidney disease, and more.

Conclusion: Our expert system was designed to replicate, extend, and augment experts in order to bridge resource gaps and bring their expertise to the underserved. While our domain is nutrition as a lever for chronic disease management, the platform we have developed can easily be used to bring expertise in other disciplines (mental health, exercise, sleep, tobacco cessation, etc) to those who do not have access. To the extent there are other stakeholders in other domains, we'd be happy to collaborate to bring our approach (evidence-based, AI-powered, SMS-delivered expert guidance) to a wider audience. We look forward to being a part of this critical work.

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March 29 *2022*

Ms. Stacy Murphy, Operations Manager
White House Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Office of Science and Technology Policy *Notice of Request for Information (RFI) on Strengthening Health Through Technology,* **87 Federal Register 492 (January 5, 2022), pp. 492-493, Document Number 2021-28193**

Dear Ms. Murphy:

On behalf of the Senior Services Coalition of Alameda County and our 44 member organizations, I appreciate the opportunity to comment on the above-referenced notice of request for information. We support the White House Office of Science and Technology's (OSTP) effort to obtain input from stakeholders regarding how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity.

Background
Our coalition members – community-based organizations that collectively provide social and health services to over 80,000 older people in our county – work with older adults every day who lack access to the internet connections, devices and/or training and support that would make telehealth encounters with their physicians possible. This lack of access to internet, devices and training has further impacted their health and well-being by limiting their ability to learn about and connect with the social, health and financial supports that are available in their communities.

The pandemic illuminated the digital divide, showing us not only that older adults are negatively impacted by a lack of access to internet, devises and/or training and support, but that older adults who are low income and/or people of color are even more impacted. The reports are too numerous of residents of low-income senior housing facilities who could not complete important virtual visits with their physicians; older adults living alone who delayed doctor visits because they didn't have a device or internet service, or who could not fill in the on-line form for food assistance or free COVID-19 vaccination; and homeless elders who missed opportunities for health care or housing because their phones weren't charged.

To understand the challenges in a quantitative way, we partnered with Alameda County Public Health Department through the Alameda County Council for Age-Friendly Communities to conduct a community survey and a series of listening sessions focused on digital inclusion needs. We discovered that low-income older adults (income below $2,000/month) were much more likely to lack internet access, and this was especially true for older people of color. Similarly, low-income older adults were less likely to have access to devices, and this was especially true for older people of color. In our very diverse county, many older adults require language appropriate applications, information and training. Many require devices that accommodate special needs – including large text, volume controls or headphones, and large buttons or touch screens. We found that older seniors (age 75+) are less comfortable using telehealth and so require additional training and ongoing support.

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Senior Services Coalition of Alameda County

AGING IS SOMETHING WE ALL HAVE IN COMMON

We also learned that many older adults avoid using the internet, even for telehealth, because of concerns about personal data security. And we learned that many older adults who were able to take advantage of recent free or low-cost internet access were not able to maintain service due to internet service providers' confusing communications and sales gimmicks.
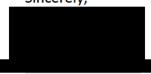
Recommendations to Address Barriers

We recommend the following government actions during the next two years to address the barriers to older adults' uptake and use of digital devices for telehealth.

1. Consider the internet to be a public utility and embrace a mandate to ensure that people at all income levels can access it.
2. Provide ongoing funding for low- or no-cost internet subscriptions for low-income people, including fully subsidized internet access for those at the lowest income levels.
   a. Funding should be available in perpetuity or for as long as recipients need it.
3. Provide low- or no-cost internet devices that can accommodate enlarged font sizes, larger screens, screen readers, enhanced keyboards or ergonomic equipment and voice-activated software for older adults and people with disabilities who need those supports.
   a. Tablets support better access to telehealth than smaller devices, because users can more easily see their healthcare providers on the screen, apply for benefits, and use supports for people with disabilities.
4. Provide support for training and ongoing technical support that is community-based, culturally appropriate, multi-lingual, low/ no-cost and specific to the needs of older adults and individuals with disabilities. Training should include the basic use of digital devices and information about online privacy and security.
5. Fund, train, and support culturally relevant and linguistically competent Community Health Outreach Workers to become "digital navigators." Digital navigators could assist older adults and individuals with disabilities to find resources that support access to the internet and digital devices, and could provide training and technical assistance to access telehealth and apply for benefits online.
6. Continue funding in-person health care and service delivery options for those who are unable or not ready to utilize digital/telehealth options, with robust transportation assistance for non-emergency medical visits.
7. Support robust telephonic options for those who lack access to internet or devices, including best practices training for health care staff and enabling health plans to cover accessible phones, phone service and spare batteries if necessary.

Thank you for the opportunity to provide comments. We appreciate your consideration.

Sincerely,

Wendy Peterson
Director, Senior Services Coalition of Alameda County

Johns Hopkins Center for Mobile Technologies to Achieve Equity in Cardiovascular Health

In correspondence to the White House Office of Science and Technology Policy Request for Information on Strengthening Community Health Through Technology

As cardiologists practicing in Baltimore, Maryland where a few miles between neighborhoods translates into fifteen years difference in life expectancy, our primary goal is to promote health equity and help everyone in our community, the United States, and globally achieve their full potential for a healthy life. We aim to reduce health disparities by improving cardiovascular disease prevention and management, which remains the leading cause of morbidity and mortality in the Unites States according to the 2022 American Heart Association's Heart Disease and Stroke Statistics which disproportionally impacts underrepresented minority populations.

A commonality many Americans share is their appreciation and joy using their smartphones and smart technology to stay connected with family, friends, and current events. The skyrocking ownership inspired us to leverage technology used in everyday life to deliver accessible and equitable healthcare to our patients and reach them outside the walls of the hospital. Corrie ("Cor" means heart in Latin) Health was founded at Johns Hopkins by Drs. Francoise Marvel, Seth Martin and Matthias Lee. The Johns Hopkins Corrie Health team worked one-on-one with Apple to create a personalized digital health experience to empower patients to achieve their optimal cardiovascular health. This novel digital health program, Corrie, was clinically validated in the Myocardial Infarction, Combined-device, Recovery Enhancement Trial (MiCORE). This multi-center study provided patients who were hospitalized with a heart attack the opportunity to use the Corrie program while in the hospital and at home. The program was comprised of a smartphone application ("app") with a daily care plan, educational videos, medication tracking, blood pressure management, physical activity tracking, mood assessment, connection to appointment and follow-ups paired with a cooperative Apple watch and blood pressure monitor aimed to help patients recover for heart attacks more effectively. The MiCORE trial found Corrie participants had a 52% lower risk of all-cause unplanned 30-day readmissions compared with patients in the control group who received standard of care. The trial showed use of Corrie supported heart attack recovery, from early during the hospitalization to home, may be associated with increased patient empowerment and lower risk of 30-day all-cause unplanned readmission. A cost saving analysis showed approximately

$10,000 savings per patient using Corrie based on reduction in 30-day readmission cost savings. The program was available to patients whether they could afford technology or not by providing patients with social determinants of health factors a free loaner phone and smartwatch to make this an inclusive program. The MiCORE trial supports the promise of digital health to enhance patient engagement, reach diverse and underserved patients, and support guideline-directed care to improve outcomes.

Given the success of the Corrie Health platform in improving cardiovascular health outcomes and patient satisfaction, we aimed to build on the existing functionalities of the Corrie Health platform and expand our reach to patients with other cardiovascular diseases. Our goal was to bridge the "digital divide" and further design the Corrie Health Intervention in a way that would: a) lead to the best user experience for sustainable patient engagement and b) to meet the needs of diverse patient populations to promote cardiovascular health equity. To achieve this goal, we teamed up with the Johns Hopkins Center for Health Equity and with generous funding from the American Heart Association's Community in Action Task Force and Health Technology and Innovation Strategically Focused Research Network embarked on the journey of engaging diverse patients, their caregivers and clinicians in every step of the design process. We adapted methods of the Human Centered Design (widely utilized for solving complex problems facing communities) to cardiovascular disease management and developed a novel design framework: Virtual (i)nclusive digital Health Intervention Design Methodology to Promote Health Equity (iDesign). Our entire design process was conducted virtually leveraging audio-video conferencing platforms in response to challenges brought on by Coronavirus Disease 2019 (COVID-19).

- We first invited diverse patients with cardiovascular disease, their caregivers and clinicians and engaged them in thorough discussions focused on challenges and barriers experienced in everyday life while living with cardiovascular disease or caring for someone with cardiovascular disease, respectively. Our meetings identified the most prominent challenges faced by the discussion participants.
- Participants were subsequently invited to brainstorm on solutions for the top challenges identified during the first meeting. We captured patient ideas using online whiteboarding which was shared to participants screens throughout the discussions via audio-video conferencing platforms. Meeting facilitators ensured data capture was accurate and reflective of participant ideas.
- We then engaged in co-design of low fidelity prototypes together with patients and caregivers. The Corrie Health platform was introduced at this point to ensure that patients understood existing functionalities to build on. We did not introduce the platform earlier as we aimed not to bias participants creativity with available features.

Although patients were generally willing to explore and use the Corrie Health platform, some patients informed us that they were not equipped with necessary skills to use optimally use the technology. Patients suggested that this barrier could be removed by technology onboarding. This feedback translated into a solution – creating an onboarding experience for study participants to the Corrie Health platform. We learned how variable user technology skills are

with some participants requiring 15 minutes to learn how to use the platform and others requiring up to 2 hours. Despite the time required for onboarding, it was effective, and afterwards patients felt comfortable with using technology. We synthesized learnings from 1:1 onboarding meetings with patients and developed two levels of technology onboarding videos tailored for high and low technology literacy levels to provide equitable experience. We also activated a technology support email. This more automated onboarding experience was effective in our subsequent study and can be scaled for use both locally in communities and nationally.

- o After technology onboarding, participants created low fidelity prototypes of top solutions suggested during brainstorming discussions.
- o We subsequently discussed patient, caregiver and clinician feedback with engineers to assess feasibility and viability and engaged important stakeholders and experts in the field to guide final selection of new features. We leveraged our existing relationship with Apple® to get further guidance on feature design. Engineering work for additional features is ongoing which will be followed by further evaluation in clinical studies. Our team has engaged U.S. Food and Drug Administration (FDA) from early on to ensure compliance with regulatory measures. We further engaged in "Navigating the Journey from Digital Health Technologies to Meaningful Patient Outcomes" bootcamp where we obtained further guidance on patient centered clinical study design for evaluation of digital health technologies which guided our inclusive clinical study design.

In summary, Corrie and our Johns Hopkins team has a three part vision for improving cardiovascular healthcare: (1) a vision for a digitally enhanced approach that brings the patients' needs for more personalized care at the center, (2) data-driven decision-making that enables more precise diagnoses, guideline-based treatment strategies and lasting patient outcomes that promote wellness, (3) a vision for connected care continuum, where care teams can longitudinally connect with patients to help them achieve their optimal cardiovascular health. By highlighting our experience of engaging diverse patients, caregivers and clinicians to inform design of digital health intervention, we hope to share knowledge on how digital health technologies can be better designed with leveraging user experience and key stakeholder engagement to bridge "digital divide" and promote health equity.

Sincerely,

Seth S. Martin, MD, MHS
Ciccarone Center for the Prevention of Cardiovascular Disease

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OSTP RFI Strengthening Community Health Through Technology

The attached comments respond to topics 2 and 7 of the RFI: Barriers and Health Equity.
My name and affiliation are: Shannah Koss, President Koss on Care LLC.

Thank you for the opportunity to provide input on this important initiative to increase quality healthcare access and support leading healthier lives by leveraging technology to meet people where they are.

My responses are informed by my experiences as: a family caregiver; a tech entrepreneur seeking to assist family caregivers and the people they care for; and a Health IT consultant working on behalf of organizations seeking to engage consumers and address health IT access.

Barriers

Sadly, barriers are many even as the Fast Cures regulations for non-blocking of consumer access to their own health information is about to go into effect. The disparities in the use of digital health technologies (DHT) caused by the digital divide including broad band and technology access are fundamental barriers. The pandemic put a harsh spotlight on these issues in telehealth, accessing COVID testing and vaccines and remote learning.

Tech literacy is another significant barrier along with tech competence or comfort, particularly for older adults. All of these barriers are worse for individuals with complex care needs and multiple providers that are not part of the same health systems.

Technology alone cannot solve these barriers without human assistance and navigation on behalf of people facing the barriers. Communities where these barriers are more prevalent, e.g., underserved and rural, also need funding, enhanced technology and technical assistance to support individuals and families who face these barriers.

Although we are entitled to our own health information electronically. The availability of the data is delayed until the FHIR standards are mandatory for providers later this year. Unfortunately, the next hurdle is "adequate" identity proofing – the latest example of providers using "privacy" as an ongoing reason to delay access.

Patients and their caregivers or health proxies need an easy on ramp for access that informs them of the risks, like risks of using most social media technologies, and their ability to control what apps they use and how the information is used once they have it. The ability to identity proof one time and to have those credentials be recognized and shared would revolutionize access. Health plans and health care organizations should be enabling such one-time ID proofing that is then recognized across all care and payment systems. TEFCA will facilitate some of this interoperability.

Patient matching should not only apply across organizations but be mandatory within an organization. One of my family members had three different records in the same lab system. The lab created the separate accounts on intake, making it impossible to look at trends in lab measurements that are critical to the chronic condition being monitored.

Research on patient and family concerns about privacy vary. How privacy is currently managed is often misunderstood in part based on misleading information from providers. Working with diverse consumer focus groups, it was clear once most individuals understood what information was available and how it could be protected, they would be more comfortable with DHT.

FTC regulates consumer access apps. Having mandatory disclosure on how information is used and who controls access would go a long way toward addressing privacy concerns. Companies are encouraged to make the information about how privacy is protected clear. Some standard template easy to understand language, ideally with a check box form could go a long way in help consumers select the level of protection they are seeking. Medical professionals learning to accept that many consumers are not concerned and helping the professionals understand where their responsibilities end also would facilitate access.

A caution about DHT is that single focus health apps, are rarely useful for anyone with complex healthcare needs. Family caregivers, in particular, are expected to become healthcare experts and care managers. They are expected to navigate the breadth and complexity of healthcare and health information, both of which are barriers. The information is rarely in plain language, and no one takes the time to help individuals know where to focus and what takes priority.

Health Equity

As mentioned in the above comments, having human, preferably peer, cultural and ethnic navigators that help use DHT on behalf of individuals who are not comfortable, or do not have the needed technologies, to take advantage of the DHT is an important missing piece of the puzzle. Creating multiple DHT communication mechanisms starting with phone technology rather than desk top technology would provide access to more of the underserved population.

The navigators can include community health workers (CHWs), but it should also include a diverse set of individuals that have the understanding and empathy to engage with the diverse underserved population. CHWs are also often low paying jobs that are not necessarily equipped with the need technology to assist individuals challenged by the technology. Ultimately if we are not looking to create a new expansive workforce, we need an approach that will create teams of support resources that include tech expertise, translation services, social workers, who can in turn support the workforce that most closely reflects the individuals and families being served.

Health disparities and health equity are more heavily driven by social determinants of health than clinical care and healthcare access. DHT services need to help screen for the drivers of

inequities and assist in addressing barriers to basic living needs and linking people to community services that are recognized as mechanisms for stable and improved living conditions.

Successful screening and referral depend on partnering with communities and local organizations that already address these needs, e.g., transportation, housing, food, safety, employment, and companionship. These existing organizations are underfunded and not equipped with the needed technology infrastructure to scale their services or necessarily meet the expectations of the health systems seeking their support.

The funding for these needed supports should be increased and should not be viewed as healthcare expenditures, but instead social and living expenditures that have been underfunded for far too long in the U.S. Across all agencies and policies consistent with the Executive Order on Advancing Racial Equity, we need to be shifting funding to address these needs and invest in dismantling racism -- another critical social determinant of health. Social determinants and quality of life metrics need to be as important as clinical outcomes that have taken an outsized role in driving how investments are being made.

February 28, 2022

Submitted electronically via: ████████████████████████

Jacqueline R. Ward, PhD
Assistant Director
White House Office of Science and Technology Policy

Re: 87 FR 492, Request for Information on Strengthening Community Health Through Technology

Dear Dr. Ward:

The Society for Women's Health Research (SWHR)—a national nonprofit dedicated to promoting research on biological differences in disease and improving women's health through science, policy, and education—is pleased to offer comments in response to the White House Office of Science and Technology Policy (OSTP) Request for Information (RFI) on Strengthening Community Health Through Technology.

SWHR appreciates OSTP's commitment to exploring how digital technologies could be used in the future to transform community health, individual wellness, and health equity and, notably, how science and technology innovation could remove barriers for Americans to access quality health care and lead healthier lives. Technology, despite its endless potential, also has the ability to make health care disparities worse. By engaging in conversations with partners and hearing from key stakeholders, as is being done through this RFI, OSTP is helping to ensure that the innovation in health care delivery stemming from science and technology serve, rather than harm, the American people.

For the purposes of this RFI, SWHR will focus its comments on *Topic 7: Health Equity*.

Women's health is inherently an equity issue. Not only are women more prone than men to some risk factors that can cause medical issues, such as heart disease, dementia, and stroke, but our understanding of and ability to care for women is operating at a deficit due to historic underrepresentation in research or societal factors that can affect lifestyle and access to care. While strides have been made in women's health research over the past 30 years, women as a population are often underrepresented in studies across conditions[1]; do not receive optimal treatment, whether from a lack of access and/or knowledge; and are significantly

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[1] Feldman S, Ammar W, Lo K, Trepman E, van Zuylen M, Etzioni O. Quantifying Sex Bias in Clinical Studies at Scale With Automated Data Extraction. *JAMA Netw Open.* 2019;2(7):e196700. doi:10.1001/jamanetworkopen.2019.6700

underrepresented in science, technology, education, engineering and math (STEM) workforce, making up only 28% of it.[2] These deficiencies in representation create challenges for identifying the root causes of disparities as well as the optimal ways to address them, resulting in the potential exacerbation of already existing disparities amongst subpopulations of women.

Healthy People 2030 defines health equity as "the attainment of the highest level of health for all people."[3] SWHR's vision is to make women's health mainstream. Below, we outline areas for OSTP to consider as part of explores how to reduce health disparities and achieve health equity through health technology:

- **System cross-communication and interoperability**. As we increasingly look to digital technologies, whether mobile applications, telehealth services, or artificial intelligence, and build out innovative digital technology platforms within the U.S. health care system, their maximum potential will hinge on these systems and technologies being interoperable.

  The Healthcare Information and Management Systems Society (HIMSS) defines health information interoperability as "the ability of different information systems, devices, and applications to access, exchange, integrate, and cooperatively use data in a coordinated manner, within and across organizational, regional, and national boundaries, to provide timely and seamless portability of information and optimize the health of individuals…"[4] This type of system provides clinicians with an individual's complete health story, including their preferences and other determinates of health that can inform their care. As HIMSS states, through this system, "Clinicians can better inform care and decision making, patients can become active participants in their care plans, and health IT developers and implementers can leverage evidence to create and adopt systems that support clinical processes and improve care delivery." Taken together, these elements are foundational to our greater shift of providing value-based care, driving down cost and improving patient care and outcomes, and are essential for maximizing the potential of health technology.

- **Records across the lifespan**. SWHR would encourage OSTP to consider how new platforms and technologies, when integrated into the health care system, could be utilized to capture health data across the individual's lifespan.

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[2] The STEM Gap: Women and Girls in Science, Technology, Engineering and Mathematics, AAUW. https://www.aauw.org/resources/research/the-stem-gap/. Accessed 23 Feb 2022.
[3] Healthy People 2030 Questions & Answers, U.S. Department of Health and Human Services. https://health.gov/our-work/national-health-initiatives/healthy-people/healthy-people-2030/questions-answers#:~:text=Healthy%20People%20defines%20health%20equity,of%20health%20for%20all%20people. Accessed 23 Feb 2022.
[4] Interoperability in Healthcare, HIMSS. https://www.himss.org/resources/interoperability-healthcare. Accessed 24 Feb 2022.

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Discussions about women's health are often focused on reproductive years; yet, women live over half of their lives in the pre- or post-reproductive life stages (the reproductive stage of a woman's life lasts, on average, about 36 years,[5] whereas the average life expectancy for women in the United States is closer to 80 years[6]). The reproductive years in a woman's life are critical, but too often, a woman's health at that point in time is viewed predominately through that lens. Prenatal records and information should not be only accessible during that period of time in a woman's life—just as her records from before pregnancy should be accessible to better inform her prenatal, postpartum, and later life care.

All health care records are critical to providing quality health care; the ability to share and access this information is necessary for having a complete and accurate picture of an individual's health. Harmonizing these longitudinal records across platforms could be transformative for coordinating care, improving patient care safety, and providing greater insight into a woman's health.

- **Standardized data points**. In order to access data and evidence that can inform decision-making in health and health care, providers, policymakers, and researchers need access to high-quality databases—and, notably, databases that seamlessly integrate with one another. Achieving that level of data collection will require standardized methods for collection, including format, as well as standardized and comprehensive data points that will allow for intersectional analysis between variables so that distinctive health and social issues and their intersectional impacts can be identified and addressed appropriately. From sex and gender identity to race, ethnicity, geographic location, and other key measures, having access to reliable data that is high-quality, timely, and able to be disaggregated for tracking and analysis is essential for improving health outcomes.

- **Incorporating key perspectives and considerations to optimize technology.** SWHR believes that a ground-up approach that incorporates real-world, lived experiences of patients and their caregivers, will be important to consider in our nation's digital transformation.

  Inclusion of lived experiences and patient and caregiver perspectives for digital health development. In order to maximize their potential, health technologies need to be developed in a way that ensures their data will be collected reliably, appropriately, and

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[5] Ley S, Li Y, Tobias D, Manson J, Rosner B, Hu F, and Rexrode K. Duration of Reproductive Life Span, Age at Menarche, and Age at Menopause are Associated with Risk of Cardiovascular Disease in Women. *Jour of the Amer Heart Assoc.* 2017;6:e006713. https://doi.org/10.1161/JAHA.117.006713.
[6] Arias E, Tejada-Vera B, Ahmad F. Provisional Life Expectancy Estimates for January through June, 2020. Vital Statistics Rapid Release, National Vital Statistics System. February 2021. https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf. Accessed 24 Feb 2022.

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efficiently and that the technologies themselves can be seamlessly integrated into current practices and systems. This can all be informed by involving the perspectives of those who will use and benefit most from them, including individual patients, specifically those who experience the worst health outcomes as a result of structural inequities, as well as their caregivers.

Beyond the patients and caregivers themselves, there are several stakeholders whose voices would be beneficial throughout the development and implementation process. These include health care delivery, coverage, and patient advocacy organizations, as well as representatives from the research and regulatory sectors. Their insights will be valuable for improving the integrity of the data in addition to enhancing the interoperability and connection between systems across the U.S. health care landscape.

Meeting people where they are. As referenced above, utilizing new technologies to the best of our ability will rely on the involvement of those who will use and benefit from the platform. As part of that effort, it will be important to understand how individual patients and their caregivers are currently getting access to their health information and sharing it with their health care providers. Better understanding how a diversity of patients manage and navigate their care could provide critical insight into which digital technologies to pursue and which aspects of those technologies could succeed or fail, depending on an individual's unique circumstances.

- **Policy alignment**. Federal policies and regulations related to digital health continue to evolve to reflect the digitization and modernization of health care delivery. Yet, there are still barriers—spanning technical, motivational, economic, political, legal, and ethical barriers[7]—that are potentially hindering data sharing and interoperability. In addition, for most types of data, there are not universal frameworks or guidelines for data sharing or for the application of universal data standards.

  In a health care system that is bound to become increasingly reliant on data sharing and interoperability, it will be important for policymakers to understand the current barriers that are in place and change laws, regulations, and policies, where necessary, to stimulate and incentivize interoperable and interconnected systems while still protecting the privacy and autonomy of patients.

- **State and federal investment in digital technologies**. Finally, our pivot into digital technologies in health care will require greater investment in these technologies by
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[7] van Panhuis, W.G., Paul, P., Emerson, C. *et al.* A systematic review of barriers to data sharing in public health. *BMC Public Health* 14**,** 1144 (2014). https://doi.org/10.1186/1471-2458-14-1144

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both the state and federal government as well as the private sector. SWHR is encouraged by initiatives like last year's $80 million Public Informatics & Technology Workforce Development Program from the Office of the National Coordinator for Health Information Technology and this RFI from OSTP, that show the government's continued commitment to digital and technological excellence in health care. Strengthening our public health informatics and eliminating health care inequities will require ambitious investments and public-private partnerships to achieve sustainable digital transformation.

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SWHR is pleased to see OSTP's concerted effort to determine how to maximize the benefits of science and technology across the United States. The COVID-19 pandemic, though exposing severe limitations in U.S. public health surveillance, also revealed its potential to revolutionize how care is delivered. SWHR fully believes that placing the right data in the right hands through the right platforms has the potential to not only empower women but also to transform the quality and outcome of their care.

Thank you for the opportunity to provide feedback to the OSTP on this important effort. We look forward to continued opportunities to engage with the agency on this issue. If you have questions, please contact me at ███████████████ or SWHR's Chief Advocacy Officer Lindsey Horan at ███████████

Sincerely,

Kathryn G. Schubert, MPP
President and Chief Executive Officer

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Standard Care, Inc.

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www.standardcare.us

Office of Science and Technology Policy
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Mar 30, 2022

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Acting Director Dr. Alondra Nelson:

Standard Care, Inc. is a web-based marketplace for digital health services with a shared HIPAA consent ledger. We are a remote-first company headquartered in San Francisco, CA. Our primary market is self-insured employers, helping them maximize the impact of their $1.2T of healthcare spending. We are honored to increase access for American workers and their dependents.

We support and commend the Office of Science and Technology Policy's (OSTP) efforts as it pertains to Strengthening Community Health Through Technology. We believe that emerging firms will create a large portion of innovation. We propose two actions to cultivate a safe and accessible regulatory environment.
1. Recommendation on enforcement of CMPs & collaboration on investigations of cybercriminals for HIPAA Privacy and Security Rules.
2. Monetary incentives to encourage digital health innovation focused on the social determinants of health (SDoH) via multi-agency collaboration.

First, Graduated Approach to HIPAA Penalties

Initiatives to strengthen community, health via the internet involve the digital transmission of electronic protected health information (ePHI), are thus subject to regulation under the HIPAA Privacy and Security Rules[1]. In particular, Security Rule violations involving the unauthorized disclosure of ePHI result in substantial Civil Monetary Penalties (CMPs). However, the cost of implementing adequate security measures and software to prevent such unauthorized

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[1] https://www.ecfr.gov/current/title-45/part-160

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disclosures can be substantial (i.e., purchasing secure network infrastructure and maintaining an adequately-staffed IT department to routinely audit the system). Such costs may create a significant barrier, which can deter new, innovative digital health firms from offering solutions in the market, especially in lower resource community settings and for those that seek to serve the most vulnerable who are often dependent on subsidized healthcare.

First, we propose additions to current enforcement discretion, which OSTP, in coordination with the US Department of Health and Human Services (HHS), Office for Civil Rights (OCR), can reasonably implement within the next one to three years under the proper statutory authority. We propose an additional "safe harbor" provision akin to H.R. 7898 (116th) and the April 2019 enforcement discretion regarding tiered penalties[2]. The overall purpose is to foster a culture of default participation by digital health firms (specifically covered entities without a live care setting) in Security Rule compliance by either eliminating or reducing the <u>fear</u> of CMPs large enough to bankrupt an early-stage technology firm. These provisions are intended to either eliminate or reduce CMPs for companies that proactively implement proper controls.

Currently, we have observed that firms may inadequately address HIPAA compliance with hopes of claiming "No knowledge" (Tier 1 of "Penalty Tiers Under Notification of Enforcement Discretion") when in fact they are well aware they are dealing with ePHI. This behavior arises out of fear of potentially larger penalties (Tier 2, 3) and at a time when the early-stage firm does not yet have the resources to invest in full compliance. Or because they simply lack operational competency with regulatory affairs. This posture of avoiding OCR engagement reduces potential collaboration between firms and OCR for tracking down cybercriminals should a breach of unsecured data occur. We see great potential for protecting citizens' ePHI by encouraging in every way possible to report breaches and coordinate in tracking possible cybercriminals[3].

Such violations can potentially result in the unauthorized disclosure of ePHI. We suggest eliminating CMPs may be appropriate when firms submit violations ("Notice of a Breach to the Secretary") that have not yet resulted in an unauthorized disclosure.

Reporting could enable OCR to develop a <u>comprehensive</u> index of potential sources of leaked PHI. Combined with dark web monitoring of sales of such data, OCR could more readily trace theft and increase the likelihood of prosecuting cybercriminals. However, we acknowledge the potential infeasibility of amending regulatory language. As an alternative approach, the Director of OCR can issue an enforcement memorandum reflecting the intent of our proposed Security Rule amendments on CMPs.

<u>Second, Revisiting the Definition of Telehealth to Increase Leverage of Federal Incentives to Affect SDoH</u>

We believe, having worked with digital-first care companies, that they promote continuous care and affordability through innovation. These firms value the de-siloing of information and build

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[2] https://www.congress.gov/bill/116th-congress/house-bill/7898/text
[3] https://www.govinfo.gov/content/pkg/FR-2021-01-21/pdf/2020-27157.pdf

their products with secure interoperability at the outset. This secure exchange of information enables continuity of care that saves costs, closes care gaps, and minimizes waste and abuse. Pursuant of this and in observation of the formal definitions of telehealth in 42 CFR 410.78(a) "Telehealth services," we suggest that most grants for telehealth services also include wording for virtual-first or digital-only patient education and AI-assisted solutions. Therefore, we recommend that OSTP support HHS in amending the current definition of telehealth to include digital-first care firms. These companies may not have the appearance of traditional care, which typically consists of an outpatient clinic or academic hospital. To clarify, we are not advocating for the amendment of any statutory language. This proposal can be implemented within the next two years via direct action within the Executive Branch. Federal agencies, specifically HHS, could reasonably interpret and amend such technical language under *Chevron* through formal rulemaking. Expanding the current definition of telehealth will reduce the dependency on having a provider to operate the telehealth solution. We believe federal endorsement will normalize the use of these tools in routine care. By way of a specific example, take IKONA health, a mobile application for the Apple iPad containing rich educational content for renal failure patients. This app acts as a great supplemental support to veterans undergoing dialysis. Such an application could summarize engagement for the veteran's attending provider but does not require the provider to send messages in order for the patient to get improved clinical outcomes.

In Closing

Beyond these two proposals, we believe healthcare challenges are myriad and encourage taking a "Human-Centered Design" perspective. Redesigning healthcare in the community to solve SDoH leads us to visions of policies for universal coverage for basic needs. The Federal Government's enormous investments have diminished impact due to the fragmentation arising from complexity. To arrive at a healthcare system that is equitable and efficient, we envision digital-forward, universal support for Americans through multi-agency collaboration, including but not limited to HHS, the Department of Veteran Affairs (VA), and the Department of Housing and Urban Development (HUD).

Respectfully yours,

Ryan Stellar
CEO & Founder
Standard Care, Inc.
San Francisco, CA

Michael B. Martinelli, JD, MS, MS
Acting Head of Government Relations & Regulatory Strategy
Standard Care, Inc.
Philadelphia, PA

Request for Information (RFI) on Strengthening Community Health Through Technology
Response provided by: Stanford Center for Digital Health

1. **Successful Models Within the U.S.**

Providers are using telehealth, remote patient monitoring platforms, disease management systems, wearable devices, artificial intelligence, and other technologies to deliver care to patients, enable healthier lifestyles, and reduce health disparities. These technologies are often integrated with existing clinical care workflows and the information technology infrastructure at a provider organization. Although depending on the maturity of that infrastructure, some of these technologies may be used independently by patients in conjunction with standard care practices. The smartphone and by extension access to broadband internet have been key drivers of healthcare utilization throughout the pandemic. Web applications, mobile health applications, synchronous and asynchronous two-way communication channels have rapidly expanded the reach and efficiency of providers. These technologies have also increased the adoption of other solutions, such as wearable devices that connect to those apps and facilitate remote monitoring. Telehealth has improved access to outside providers, enabled remote monitoring, and enhanced social connectedness specifically during the pandemic. These technologies allow almost everyone to access care at any time, which has the potential to reduce disparities and promote healthier lifestyles by removing the physical roadblocks for patients in connecting with their providers. Key features of successful organizations include a unified enterprise-wide strategy, top-down buy-in on the value of integrating these technologies into a holistic care strategy, and a robust IT infrastructure with technology-savvy leaders that understand how to test, pilot, and then implement at scale. Supporting scalability of technologies requires significant IT overhead in personnel and expertise in supportive functions, from project management to interoperability to business analytics. Success can be measured in the amount of time it takes for intake, evaluation, resource allocation, development, and implementation. The quicker and more efficient this process is, the greater the likelihood that the institution has a robust IT infrastructure conducive for scaling health technologies.

An example of protecting individual user privacy includes wrapping extensive technology services into one unified care product or strategy so patient health information isn't spread across solutions or services. This includes protecting their information while simultaneously provisioning unfettered access to authorized users and can typically only be achieved if technologies are integrated with enterprise-level products. Health systems must build comprehensive user experiences that include functionality for scheduling, communication, billing, education, and data access that does not create any additional administrative or provider burden.

2. **Barriers:**

Patient-level barriers include: technology that is difficult to use, poor internet connections, fear of technology, older age, cognitive impairment, time-consuming

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nature of the technology, impersonal nature of the care delivery, costs, and language barriers. Clinician-level and organizational barriers include: increased work from digital technologies, lack of supporting evidence, lack of EHR integration, data privacy and security concerns, financial concerns, lack of customization, and healthcare reimbursement concerns. Sources: Whitelaw et al, EHJ-Digital health, 2021

3. **Trends From the Pandemic**

Impressions or data reflecting how the use of digital health technologies (including the use of telemedicine) has changed over the course of the pandemic by individuals, community-based organizations, and in community-based health settings. Virtual care was negligible before the pandemic (0.1% of outpatient visit), but a precipitous drop of in-person care reached a nadir of 60% in March 2020 propelling the rise of telehealth care – leveling off but remaining higher than pre-pandemic levels. The increase in telehealth care was largely driven by live video visits, followed by telephone visits. During the first year of the pandemic (2020), the main reason for a telehealth visit was a medical emergency, but in 2021 the majority used telehealth for minor illnesses. Unfortunately, during the pandemic, telehealth didn't address health disparities. Those who reported never using telemedicine were older, lower socioeconomic status, lower educational level and those living in rural areas.

High telemedicine use was reported by patients with higher health care utilization pre-pandemic (e.g., more chronic conditions, higher yearly health care visits, and higher prescription rates). Digital health usage increased throughout the pandemic, predominantly for digital health tracking in the areas of fertility, menstrual cycle, and physical activity. Wearable usage showed a similar trend, with an increase in areas of fitness training and weight loss (done through smartphones, apps, and smart watches). We believe health care delivery systems will continue to use telemedicine at a higher degree than pre-pandemic times, predominantly through video and phone visits. We expect telehealth to transition from an emergency visit during the COVID-19pandemic to aid in management of chronic conditions and minor illnesses.

One of the main goals of telemedicine after the pandemic should be to decrease health care disparities. During the pandemic, health care delivery systems responded rapidly to offer analog technology (audio, video), but lacked systems in place to offer digital health remote patient monitoring integrated to electronic health records, such as blood pressure monitors, pulse oximeters, and thermometers. In the future we need systems in place (e.g., EMR integration, health care reimbursement, patient insurance coverage) where physicians/health care systems can provide analog and digital health telemedicine and remote patient monitoring for chronic diseases, minor illnesses or another pandemic.

Sources: Ateev Mehrotra et al., *The Impact of COVID-19 on Outpatient Visits in 2020: Visits Remained Stable, Despite a Late Surge in Cases* (Commonwealth Fund, Feb. 2021)
Digital Health Consumer Adoption Report 2020: Rock Health
Consumer adoption of telemedicine in 2021: Rock Health

4. User Experience

User experience with remote patient monitoring devices depends primarily on ease of set up, ease of regular use, and level of integration of collected data into the healthcare system. Monitoring devices marked directly to consumers are generally Bluetooth connected devices, which are paired to patient facing applications on personal mobile devices. Data stored on these mobile devices can then be used to generate reports and intermittently be shared with providers. Remote monitoring devices ordered by providers are either Bluetooth or cellular connected and transfer data regularly to providers. Compared to Bluetooth connected devices, cellular devices are easier to use given less patient setup and offer out the box functionality. Cellular connected devices are directly connected to the cellular network, and data collected is sent to the provider from the device through the cellular network. Bluetooth connected devices must first be paired to a patient mobile device that is connected to the internet. Data is first transferred to the mobile device via Bluetooth before being sent to the provider through the mobile device's internet connection. The extra steps required to pair a Bluetooth connected device to a mobile device and then connect the mobile device to the internet introduces multiple points of potential failure with initial setup and continued regular use.

Data that is sent to providers from remote patient monitoring devices can be on standalone dashboards and less commonly directly into the electronic medical record for review. Standalone dashboards collect and display data, as well as generate alerts for abnormal values. Compared to direct electronic medical record integration, these dashboards are less ideal given the need to log in to a separate system to obtain user data. Automated actionable insights from data - including recommendations for changes in medical care - are not common, but starting to be developed.

7. Health Equity

To achieve health equity, there are certain best practice approaches that may help. These include but are not limited to: Improve internet connectivity and access to technology (avoid "digital redlining"); design digital health tools in collaboration with patients and the local community to serve needs; design technologies for multiple relevant health contexts (e.g., care coordination, patient self-care at home, caregiver support at home); test the implementation of digital technologies on equity-specific outcomes using validated implementation frameworks and rigorous clinical trials; ensure technologies are accessible by patients with lower than average health literacy; test technologies rigorously in diverse populations before implementation (e.g., rideshare drivers). Sources: Lyles CR et al, JAMA, 2021; Rodriguez F et al, JAMA Cardiology, 2020.

Strategic Solutions Group
300 First Avenue, Suite 103
Needham, MA 02494
February 28, 2022

Office of Science and Technology Policy (OSTP)
Executive Office of the President

To White House Office of Science and Technology Policy:

Strategic Solutions Group is pleased to share our thoughts on Connected Health, especially about successful models that helped community health through utilizing digital health technologies within the United States.

Founded in 2003, Strategic Solutions Group, LLC (SSG) has been providing IT services to public health sector organizations for 18 years across multiple states and cities. SSG believes that technology should be a means to modernize public health and digitize what have been manual processes or cumbersome technological solutions typically.

Digital health technologies should be based upon foundational principles that those needing and those providing digital health technologies should have. These principles will allow us to deal with known and future public health issues:

1. Able to handle change quickly; not high code platforms which add time, cost and inflexibility.
2. Standards-based solutions, thus able to communicate across multiple platforms; not proprietary non-standard approaches which do not work with other solutions or align with standards.
3. More than a database repository and able to digitize the manual patient or environmental case management processes in public health; not hard-to-use applications with limited or no connection to the day-to-day tasks needed by community health workers, healthcare providers, public agencies or patients.
4. Able to serve as a platform that can bridge gaps between major systems (i.e., immunization and disease surveillance systems); not siloed disparate solutions.
5. Supported by a partnership amongst technology developers and the other members of the community mentioned by OSTP (CHW, providers, CBOs, among others).

Using these principles, SSG has had successful models within the US that have overcome the barriers especially during the pandemic. We will share some of the success stories after we baseline on the barriers and possible solutions first.

1   Barriers

Nearly all of the currently available public health solutions that deal with patient cases are monolithic, stand-alone systems that require extensive development work to both configure and integrate with other related systems. SSG has worked on numerous projects helping public health customers to manage implementation projects for these systems, and seen first-hand the technical and change management challenges associated with deploying these systems in a cost-effective and efficient manner. In large part, these challenges are due to how the system was architected initially and the

nature of our customer's relationship with the system provider (few available options, locked-in to system over time, cost overruns due to change requests, etc.).

During the pandemic, these barriers came to the forefront as applications could not quickly adapt, communicate with other needed systems nor support being fully mobile compliant in a secure manner. The inability to pull data from the systems stemmed from the same reasons that public health agencies struggled to get data into their systems: inflexible, non-standards-based code that did not have the ability to be configured rapidly to meet to meet the evolving public health needs. This dynamic forced CBOs, public health agencies and individuals to develop their own methods to capture information and even more complex and awkward methods on how to share it. The lack of mobile compliant solutions meant that those in the field could not do work without significant on-the-fly hardware investments and updates.

Perhaps the most challenging barrier identified during the pandemic is that those who provide digital health technologies need to bring their expertise—proven capabilities in healthcare and thought leadership—to all phases of the Software Development Lifecycle for the community. Already stretched providers, agency staff and CBOs often found themselves without partners to help them digitize the new processes that were needed to confront COVID-19. Challenges with health equity became even more exacerbated since those who already struggled without solutions and partners, prior to the pandemic, found it nearly impossible to get help in their communities suffering the most from the impacts of COVID-19.

2   Successful Models within the US

Seeing these barriers in projects prior to the pandemic, SSG had decided to build our own low code platform solution, *Casetivity*. As a result, we already had seen the need to offer an alternative approach. The pandemic allowed us to offer real-time solutions to existing and novel issues that has been used by a variety of community members. How *Casetivity* has been used represents some successful models within the US.

Across the platform, we have some core base expectations that align with our principles: improved productivity and effectiveness, easily configurable to adapt to changing circumstances, easy and immediate access to information, worry-free Software as a Service offering (SaaS), and a proven track record and expertise as stewards as much as being partners.

Below is a sample of projects where we have implemented robust workflow and case management systems and integrations that have allowed community health providers within the United States to deliver healthcare, enable healthier lifestyles, and reduce health disparities.

Solution	Name of Agency	Description
COVID Infection Control System	Massachusetts DPH Odessa, Texas Minnesota DPH Boston EMS	• Fully managed system to track exposures and contact tracing for COVID-19 surveillance and response.
Electronic Laboratory Reporting / HL7	Massachusetts DPH Connecticut DPH Minnesota DPH	• Designed and developed software for HL7 interface of an electronic medical record system, used to

	Washington DCPHIS	process large volumes of COVID-19 lab results and report to the state teams for tracking.
Immunization Information System Resource Center	Massachusetts DPH	• Implemented a resource center that integrates with a state's existing IIS to fill in functionality gaps. • Used to provide consumer access to COVID-19 vaccination records and record amendment requests and used for onboarding large volumes of providers for COVID-19 vaccine administration
Childhood Lead Poisoning Surveillance and Environmental Inspection System	Massachusetts DPH	• Fully managed system to track elevated blood lead level cases in children and environmental inspections of properties to remediate childhood lead poisoning.
Early Intervention Client and Fiscal System	Massachusetts EOHHS Commonwealth of Virginia	• The statewide system replaces several legacy systems to have everything in one system to better serve patients. • Accessible on any internet browser, telehealth capabilities.
Health Equities Warehouse and Reporting Analytics	Boston Public Health Commission	• Designed and developed IT systems to receive Health Equities data electronically. • Built Health Equities data warehouse for reporting analytics.
Vitals Information Processing System	Massachusetts DPH	• Vital Information Processing System for tracking birth, marriage and death records and related statistical data. Integrated with immunization and disease surveillance systems during COVID-19.

Each of these cases represented digital health solutions that needed real-time changes during the pandemic. A platform like Casetivity allowed SSG to support millions of constituents to access their critical health information while allowing thousands of providers, CBOs and public health officials to manage work and data flows needed to meet today's and future needs.

Thank you for the opportunity to present our ideas. I, Ted Hill, am a Vice President of the company and the principal contact for clarification requests. Please let me know if you have any further questions about our enclosed response.

Sincerely,

Ted Hill
Vice-President, Strategic Solutions Group
300 First Avenue Suite 103 | Needham, MA 02494

SSG
Strategic Solutions Group
Integrity. Passion. Results.

From:
To:
Subject: [EXTERNAL] "Connected Health RFI"
Date: Monday, February 28, 2022 5:25:34 PM

Thank you for the opportunity to comment on digital health technologies and how they can be used to improve the health of individuals and communities across the US. In order to build trust and promote equity, any conversation regarding the use of digital health should also include a discussion of limitations on the use of these technologies and mechanisms to protect the privacy of individuals. Digital tools should never become mandatory because there are significant segments of the population who do not have access to "smart phones" or computers, and the lack of those technologies should not have a detrimental impact on the individual and their health. Even people who have smart phones may not have the data or storage capacity on their phones to utilize an app for information sharing or data verification purposes. In the US, unequal access to broadband services is such a significant problem in minority and rural communities that the Federal Communications Commission is forming a taskforce to create rules and policies to combat "digital redlining," described as when broadband providers purposefully leave low-income customers on slower, legacy broadband infrastructure while upgrading infrastructure in wealthier communities.

In order to gain trust of historically marginalized populations, the use of digital health tools should be limited to direct patient care. World-wide, digital health apps such as the "green pass", Excelsior Pass, and Vax Passports have been used to segregate people and further marginalize some underserved populations. In New Zealand, the implementation of the mandatory vaccination passport has been equated to apartheid based on whether or not a person has received a medical procedure. In February 2022, France deactivated the "activity pass" of over four million people because a medical procedure had not been received, effectively excluding millions of people from leisure, community and cultural activities. According to a study conducted in Australia, people who have experienced stigma and discrimination in health care settings are more likely to distrust digital health services. Here in the US, identity authentication on the Illinois Vax Verify portal is completed through a partnership with Experian, a financial credit score company which suggests that the digital health tool will be connected with financial information in the future. Instead of being viewed as a helpful tool to improve health at both the individual and community level, digital technologies may be viewed by some communities as a weapon of power used by government and big business to control the population. There are concerns that the use of digital health tools will lead to a "social credit system" similar to what has been implemented in China, and in order to ensure wide-spread acceptance and adoption of digital health technologies, people should be assured that their use will be limited to health care and the privacy of the individual will be protected.

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Boston University College of Health
& Rehabilitation Sciences: Sargent College

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James and Cecilia Tse Ying Professor of Neurorehabilitation
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Boston, Massachusetts 02215
███████████████

http://www.bu.edu/aphas aresearch/

RE: Request for Information (RFI) on Strengthening Community Health Through Technology
To White House Office of Science and Technology Policy (OSTP).

Dear Sirs/Madams,

Please accept my comments in response to the request for information on 'Strengthning Community Health Through Technology'. I am a clinician- researcher at Boston University. A major part of my work involves developing effective treatment approaches for individuals with acquired brain injury. I have also contributed to our understanding of rehabilitation for underrepresented and underserved minorities, especially for Hispanic/Latinx survivors of acquired brain injury. I have over 130 publications related to stroke rehabilitation and have received several NIH grants focusing on rehabilitation. I currently serve as Associate Dean for Research, Director of the Aphasia Research Laboratory, Research Director of the Aphasia Resource Center, and Professor in Neurorehabilitation at Boston University. In addition to my own research program, I have served on a Special Commission on Brain Injury appointed by Massachusetts Governor Charlie Baker between March 2019- June 2020. I also serve on the Board of the National Aphasia Association, a non-profit organization for stroke survivors. Finally, I am one of the founding scientist of *Constant Therapy*, an award-winning platform that provides speech, and cognitive therapy exercises to individuals recovering from stroke, TBI, and other conditions.

1. Successful models within the U.S.:

There is evidence for the efficacy of digital health interventions that target chronic disabilities such as **communication after stroke**. For instance, Constant Therapy has been evaluated as part of a larger suite of tablet-based interventions as part of a large Canadian trial; results from this trial have demonstrated the feasibility of CT and other app-based digital therapeutics for improving post-stroke communication for patients in the hospital[1]. Des Roches and colleagues[2] showed that stroke participants who practiced Constant Therapy at home and in the clinic had greater improvements compared to control stroke participants who only received therapy in the clinic. Results also confirmed that total therapy time was significantly greater for this group, providing evidence for the utility of self-managed, at-home therapy. A subsequent large, retrospective analysis of CT again compared at-home versus in-clinic users and found that at-home users with on-demand access to CT practiced more frequently and consequently, achieved mastery of tasks in a shorter period of time compared to in-clinic users[3]. Finally, a 10-week pilot randomized clinical trial (RCT) of CT further demonstrated clinical efficacy in a sample of stroke patients with aphasia[4]. This study showed that an experimental group completing a self-managed course of CT therapy at home showed greater improvements on language outcomes relative to a control group completing language workbook therapy.

A short case study illustrates how such a technology can be effective. Jane was a 51 year old finance executive at a major hotel chain. Several years ago, a day before Christmas, she woke up with a severe headache and in the process of going through a stroke. At the hospital, she realized that the stroke had affected her ability to perceive things and read and speak words. Her speech therapist at the hospital introduced her to Constant Therapy. This app allows users to practice speech and cognitive rehabilitation tasks on a tablet, and the software algorithm provides immediate feedback on performance and engages the user with progressively more difficult tasks. Jane started using Constant Therapy one week after her stroke, and practiced often and repeatedly, relearned words and the ability to read. Jane was extremely motivated and determined to not let the stroke overcome her lifelong achievements and an extremely successful career. Three and a half months after stroke, Jane was able to return to her original job at the hotel chain and continue to work with her team.

2. Proposed government actions:

The government should foster the translation of basic and clinical science discoveries into mobile and electronic intervention through the following steps, 1) Increase funding to both NSF (to promote basic science development of new technologies) and NIH (to allow for development and testing of applied digital health technologies), and 2) Provide support and incentives to enable rapid translation of technologies to commercialization and/or dissemination at no or reduced cost in using seamless and rigorous processes.

While recommendation 1 will increase the funding through SBIR/STTR grants to foster innovation in small businesses, mobile health will be truly successful only when the pipeline from basic/clinical science discoveries to commercialization and patient care is seamless. A significant part of that pipeline is the end stage, i.e., delivering the care to the patient. For this, collaboration between the FDA and CMS is important such that mobile health interventions that do not require FDA approval or clearance have a clear-cut pathway to be reimbursed by CMS at an appropriate rate. When mobile health interventions require FDA approval, an expansion to the FDA breakthrough status is recommended. Specifically, the current model where FDA breakthrough status enables medical devices to be paid for by CMS (https://www.cms.gov/newsroom/fact-sheets/medicare-coverage-innovative-technology-cms-3372-f) for a limited period of time is a potential step in the direction, however, many mobile health innovations may be software and/or mobile technologies, however, there is no benefit category as defined by the CMS to cover these types of innovations. Such types of rules should be streamlined to ensure that when a well clinically effective or well adopted mobile/digital health technology is ready to be deployed or is commercially available there is a streamlined process to ensure a reimbursement pathway. One way to do this would be to frame a set of apriori benchmarks as part of the NIH/NSF funding, and some type of guarantee that if the milestones are met, the government bodies (e.g., CMS) will pay/reimburse for that mobile health technology without burdening the process with additional uncertain time and cost unlimited requirements. A concrete example of this would be similar to the SBIR Commercialization Accelerator Program (https://sbir.nih.gov/cap), where there is a commercialization side that guarantees a pathway that is time bound and has a low cost to achieve commercialization. By doing this public tax dollars would be spent very efficiently

because there would be a way to test out many viable solutions that are innovative that are proven out through a rigorous process.

3. International models:

The National Institute for Health and Care Excellence (NICE) in the U.K has attempted at framing standards for Digital Health Technologies (https://www.nice.org.uk/corporate/ecd7/resources/evidence-standards-framework-for-digital-health-technologies-pdf-1124017457605) that categorizes DHTs by their function and the potential risk to users. Thus, technologies (SAMD, telehealth, wireless medical devices) are classified into tiers based on whether they operate at a system wide level (Tier A, e.g., integrating automation to electronic health records), provide patients information about health and wellness or track their health lifestyles (Tier B, e.g., using apps connected to wearable devices) or provide interventions for various disease conditions (Tier C, preventive behavior change, self-managed intervention or active remote monitoring). Such a functional classification allows greater granularity to interpret the clinical and scientific evidence.

Please contact me at ███████████ if you have any additional questions.

Sincerely,

███████████

Swathi Kiran
James and Cecilia Tse Ying Professor of Neurorehabilitation

References

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4. Braley, M., Pierce, J. S., Saxena, S., De Oliveira, E., Taraboanta, L., Anantha, V., Lakhan, S. E., & Kiran, S. (2021). A Virtual, Randomized, Control Trial of a Digital Therapeutic for Speech, Language, and Cognitive Intervention in Post-stroke Persons With Aphasia. *Front Neurol, 12*, 626780. https://doi.org/10.3389/fneur.2021.626780

March 31, 2022

Dr. Alondra Nelson
Director
Office of Science and Technology Policy
The White House
Washington, DC 20500

Submitted electronically to: █████████████████████

Dear Dr. Nelson,

We appreciate the opportunity to provide feedback on the *Request for Information (RFI) on Strengthening Community Health Through Technology* issued in the Federal Register on January 5, 2022. We will be focusing our responses on successful models for digital health to improve access and outcomes and barriers impeding broader adoption of these valuable health and wellness services.

A mission-driven organization, Teladoc Health is successfully transforming how people access and experience healthcare, with a focus on high quality, lower costs, and improved outcomes. As the largest virtual healthcare company in the world, Teladoc Health is creating a unified care experience that focuses on the whole person, connecting care from hospital to home, across the full breadth of services including primary, acute, chronic, and mental healthcare. During the last year, Teladoc Health Medical Group clinicians and therapists delivered more than 14 million unique virtual visits and our hospital and health system clients completed more than 4 million patient visits using our technology platform. Additionally, more than half of active users of our chronic care solution live in vulnerable or underserved communities.

1. Successful Models
Equitable Chronic Condition Management Through Digital Health

Today more than six in ten adult Americans are living with chronic conditions, with four in ten living with two or more chronic conditions.[1] According to a 2017 RAND Corporation Study, 90% of the US healthcare spend is related to chronic conditions,[2] this includes 327 billion on diabetes and $131 billion for the treatment of hypertension.[3][4] Digital health resources, such as telehealth and remote patient monitoring, will be necessary to meet the skyrocketing demand for clinical services to support these individuals at scale.

By providing individuals living with a chronic condition a cellularly-connected device, providers can rapidly obviate barriers imposed by patients not having access to broadband or high-speed internet. These devices can be pared with a landline phone allowing providers, health coaches and other care team members to act with urgency, 24x7x365 when a patient registers an out-of-range reading on their device, which could be a glucometer, blood pressure cuff or weight scale.

These investments also help support our nation's health equity goals, as chronic conditions dramatically and disproportionally impact communities of color. Black Americans are twice as likely to die from diabetes compared to white Americans and research suggests higher stress from lifetime discrimination

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[1] National Center for Chronic Disease Prevention and Health Promotion, https://www.cdc.gov/chronicdisease/about/index.htm
[2] C. Buttorff, T. Ruder, and M. Bauman, "Multiple Chronic Conditions in the United States." Santa Monica, CA: RAND Corporation, 2017.
[3] US Spending on Personal Health Care and Public Health, JAMA, 2016 Statistics About Diabetes, American Diabetes Association, 2018
[4] Vital Signs: ...of Uncontrolled Hypertension (MMWR), CDC, 2012

is associated with higher risk of hypertension.[5] Teladoc Health is committed to meaningfully addressing these gaps in chronic care management. We have found that there are key design features that can allow for more inclusive and equitable outcomes. These include providing cellular-connected devices, providing real-time digital and human wellness coaching and support, and providing content made available for a range of reading levels.

Virtual Primary Care Unlocks Access

Over the last decade, fewer and fewer Americans are accessing primary care providers. As of 2020, 20% of Americans report not having an existing relationship with a doctor or health care provider.[6] When consumers disengage from primary care, they're more likely to experience undiagnosed chronic conditions, have unmet and unmanaged mental health needs, and lack follow-through on care recommendations. They are also more likely to have increased ER visits. Put simply, without a strong primary care physician relationship, people aren't getting the care they need.

Teladoc Health's virtual primary care service, Primary360, gives more patients access to the high-quality care they need, allowing users to benefit from better medication adherence, fewer missed appointments, and early identification of chronic illness. For example, one in four chronic conditions identified for Primary360 users are new diagnoses.

Telemental Health Meeting Unmet Needs

The mental health epidemic, exacerbated by the COVID-19 pandemic, has worsened disparities in care. In a recent report, the U.S. Government Accountability Office (GAO) highlighted that 68% of community clinics serving low-income people with mental health conditions have had to cancel, reschedule, or turn away patients due to lack of staff or funds.[7] Broader adoption of virtual visits can help bridge this gap and extend capacity in community clinics, enabling optimal, cost-effective mental healthcare. A recent analysis by Teladoc Health found that among patients who sought virtual visits with a licensed mental health professional, 92% reported improvement during the pandemic, with over a third reporting a "breakthrough." Research conducted prior to the COVID-19 pandemic also supports this view. For example, a 2019 study found that multimodal virtual mental healthcare platforms, including video, text and chat, significantly reduced depression symptom severity.[8] Findings suggest that this intervention is equally effective across gender, self-reported financial status, and self-reported physical health status. A stepped-care model, designed to seamlessly combine app-based tools and coaching expertise with virtual sessions with therapists and psychiatrists, can ensure that Americans get the level of mental health support and care they need, when they need it.

As you consider ways to address access challenges and clinician shortages, it will be imperative to integrate robust access to a broad swath of clinically appropriate digital mental health resources. In addition, the reimbursement infrastructure must be in place to sustain ongoing measurement-based care (MBC), a critical element of evidence-based interventions for mental health conditions. The use of digital technologies could help alleviate the load on the healthcare system by reducing the number of in-person appointments needed and providing patients with subclinical or mild mental health symptoms with self-help strategies and education.[9] We recommend engaging with Congress to address the remaining statutory barriers in Medicare that would prevent the further adoption and expansion of telemental health services, including the in-person requirement that was added to the Consolidated Appropriations Act, 2021. Additionally, CMS must seek to access expand these services and ensure uptake of these valuable tools that assist providers as well as improve the personalization of care plans for patients.

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[5]https://www.ahajournals.org/doi/10.1161/HYPERTENSIONAHA.119.14492?utm_source=STAT+Newsletters&utm_campaign=a3d398e6b0-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-a3d398e6b0-149543125

[6] https://www.kff.org/other/state-indicator/percent-of-adults-reporting-not-having-a-personal-doctor-by-raceethnicity/?currentTimeframe=0&selectedDistributions=all-adults--white--black--hispanic--asian-native-hawaiian-or-pacific-islander--american-indian-alaska-native--other&sortModel=%7B%22colId%22:%22All%20Adults%22,%22sort%22:%22desc%22%7D#notes

[7] https://www.gao.gov/products/gao-21-437r

[8] https://mhealth.jmir.org/2019/1/e10948/

[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7822724/

927

2. Barriers
Imbalanced Provider Resources

At the onset of the pandemic some providers were better equipped technologically than others, especially those in rural and safety-net hospitals, many of which were already at a disadvantage pre-pandemic. These providers, in medically underserved areas, treating those with higher prevalence of chronic conditions, lack the capital in many cases to invest in digital health solutions.

Under the CARES Act, Congress put a down payment on modernizing our digital health infrastructure by establishing the $200 million FCC COVID-19 Telehealth Program to assist health care providers by reimbursing for investments in telecommunications services, information services, and the end user devices necessary to provide virtual services. The first round of the program received more than 5,000 applications from health systems across the country but only 539 requests were funded. Recognizing the value of the program, Congress topped off the program with an additional $249 million under the Consolidated Appropriations Act (CAA), 2021. But even with additional funding, the need far exceeds what Congress has appropriated. To ensure patients and providers have the tools to help eradicate health inequities and ensure we do not replicate the same challenges of in-person care, we must continue to make robust investments to expand not only broadband but other digital health infrastructure. Further investment will help equip providers with the ability to quickly scale to overcome time, distance, and other barriers to better meet fluctuating demand and meet patients where they are. Considerations should be given to targeted grants, no-or-low interest loans, or other funding opportunities to future-proof our care delivery system.

Finalizing the DEA Telemedicine Special Registration

Responsible prescribing must be a priority for all providers, regardless of whether they are seeing patients in-person or virtually. Importantly, the Drug Enforcement Administration (DEA) has waived requirements during the COVID-19 public health emergency; however, the agency will need to promulgate and finalize the telemedicine special registration rule allowed under the Ryan Haight Act to ensure providers can continue to treat and prescribe controlled substances virtually post-pandemic.

The continued delays in rulemaking from the DEA and the lack of a finalized telemedicine special registration rule has had an impact on the provision of mental health treatments to patients. On October 24, 2018, the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act was signed into law and mandated that that no later than one year after enactment, the Attorney General, in consultation with the HHS Secretary, promulgate final regulations and the procedure for obtaining the registration. The DEA has yet to issue an interim final rule. Before the end of the COVID-19 PHE, the DEA must promulgate the special registration rule and establish clear rules of the road, which would permanently allow DEA-registered practitioners to prescribe controlled substances, such as certain kinds of medication-assisted treatment, without an in-person medical evaluation.

Most individuals spend 99.9% of their time outside of the healthcare system left on their own to manage their health. The time is now to reorient and modernize our healthcare system. Digital health technologies will play a critical role in the evolution of patient care, ensuring more equitable, accessible, and affordable health care for more Americans and we encourage the Biden Administration to continue supporting key policy reforms to expand access to care.

Sincerely,

Claudia Duck Tucker
Senior Vice President, Government Affairs & Public Policy
Teladoc Health

March 31, 2022

Submitted Electronically

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

The Telehealth Equity Coalition (TEC) thanks you for the opportunity to provide comments in response to the *Strengthening Community Health Through Technology* RFI. We believe telehealth and other digital health tools can be used to make significant inroads in combatting existing health inequities by addressing or eliminating barriers to care.

The Telehealth Equity Coalition is a group of diverse stakeholders[1] encompassing non-profits, academia, community leaders, industry, and others. We believe telehealth has the power to dramatically increase access to quality, affordable health care, especially among those who have been left out or left behind.

Barriers; Successful Models within the U.S.
The RFI identifies several categories of barriers that prevent individuals and communities from making use of digital health technologies. To varying degrees the named barriers are all present community-to-community. Some communities do not have broadband access at all, while in others, individuals lack the funds to access sufficient internet services. For many, insufficient digital literacy makes using digital tools very difficult, if not impossible. Other compounding issues include lack of language support on health apps or portals. Even if an individual has the necessary hardware and internet connection, as well as digital and health proficiency, they could still have issues meeting with a provider who can provide culturally competent care to meet their needs. The obstacles that prevent people from utilizing digital technologies to access care are many[2].

The complexity of this issue means there is "no one size fits all" solution. However, there are a wide variety of organizations across the nation that are working to help individuals overcome each of these different hurdles. For example, TEC member Digitunity addresses the need for a connected device by providing refurbished and repurposed computers and other smart devices to those who lack them[3]. The City of San José Mayor's Office of Technology and Innovation,

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[1] https://files.ctctusercontent.com/fc6b4fe1801/5ff7e6ff-8a96-4bee-a0fb-24b1af94238a.pdf?rdr=true

[2] https://www.telehealthequitycoalition.org/barriers-to-telehealth-adoption.html

[3] https://www.telehealthequitycoalition.org/solutions-for-connectivity-and-hardware-barriers-to-telehealth-equity-from-tec-members.html

another TEC member, provides digital literacy training to enable members of the community to access care that they might have not been able to reach otherwise[4]. Other organizations represented within our membership, such as the Mid-Atlantic Telehealth Resource Center (and other telehealth resource centers[5]), use their expertise to educate community partners, nonprofits, and health systems on how best to combine several of these solutions to best serve their communities[6]. These organizations are representative examples of the many doing important work in communities across the country.

Proposed Government Actions
The *Infrastructure Investment and Jobs Act* passed last year allocated $65 billion in funding for broadband infrastructure. A significant portion of those funds is set to be distributed by the National Telecommunications and Information Administration (NTIA) through grant programs. While funding is a crucial element of a successful program, an understanding of the specific barriers that stand between a community and full connectivity is needed**.** Program leadership must include grassroots organizations and community organizers who best understand the needs of their communities. TEC's recently released white paper, *Underfunded Infrastructure: Impact on Health Equity*[7], examines the need for such inclusion and provides examples of past successes of these partnerships, including recommendations on how to implement and design successful programs.

Health Equity
Just as there is no one way to make digital health technology work for each community or individual, there is no one path to achieving health equity. However, digital health tools are an important tool as we move toward a more equitable healthcare system. Telehealth visits, for example, can provide a 'foot in the door' in many situations – scenarios in which individuals would otherwise go without care entirely. People can miss out on valuable care that they need for many reasons. While digital health tools cannot solve for all barriers to care, they can help ease transportation or commuting burdens, allow greater access to distant providers (including specialists or those with specific cultural competencies), and facilitate more flexible patient-provider interactions, among other benefits. These unique attributes may, in some cases, be the difference in whether someone receives care.

One clear result of longstanding health inequities is the higher rate of chronic disease experienced by communities of color. For many chronic conditions, regular visits with a primary care physician and medication adherence, treatment regimens, and lifestyle changes can positively impact patient health by slowing, halting, or reversing disease progression. Telehealth can provide a medium for efficient and convenient routine visits, thereby incentivizing individuals to seek and continue care. Virtual visits can also enable more culturally competent care – for example, connecting a patient with a provider who is of the same

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[4] Ibid.

[5] https://telehealthresourcecenter.org/

[6] https://www.matrc.org/

[7] https://www.telehealthequitycoalition.org/documents/TEC-2022-White-Paper.pdf

background or is fluent in their language. For these and other reasons, digital health technologies are crucial for ensuring a more equitable system – individuals need to be empowered to seek care they might otherwise have difficulty accessing in a way that is comfortable for them.

Telehealth visits are a useful tool for providers as well. For example, a primary care provider may elect to conduct visits virtually for a variety of reasons, either in real-time or via asynchronous technologies when appropriate. Telehealth visits can also overcome barriers related to provider shortages, such as enabling specialists to visit with patients in a much wider geographic area than otherwise possible. In other situations, particularly in rural areas, specialists can provide their expertise to community health providers who would otherwise not have that knowledge and experience. Empowering health professionals to connect with underserved and unserved communities more easily is integral to building a more equitable healthcare system.

Thank you for the opportunity to provide comment on these important issues. We look forward to working with OSTP and the administration to deliver on the promise of digital solutions facilitating access to and improving health care for all patients throughout the U.S.

Sincerely,

The Telehealth Equity Coalition

Provided are comments for the RFI on Strengthening Community Health Through Technology, based on my experience as a Director of Telemedicine with my employer, WellMed Medical Management, Inc., (WellMed), and based on my role as an Advisory Board member with HopeOneSource (H1S), a fast growing verified network. WellMed provides healthcare services to primarily Medicare eligible patients in Texas, New, Mexico, and Florida, and H1S is a non-profit organization based in Arlington, Virginia that leverages technology to connect verified people and services, while prioritizing those most vulnerable, including those experiencing homelessness.

Successful Models within the U.S.

H1S has found that the ability to provide tailored bulk text messages has greatly equitably improved access to community health resources. According to Pew Research, 90% of low income Americans have a phone, and those residents that do not can qualify for a federally subsidized phone and plan at no cost through the Federal Communication Commission's USAC Lifeline program. All cellular carriers of this program provide unlimited text messaging. H1S leverages this to help provide partnering service providers with streamlined outreach. Within the five communities served as of February 2022, H1S has successfully leveraged their geolocated personalized bulk personalized text messaging platform to provide streamlined follow-up on the experience and outcomes for assisting nearly 40,000 people with accessing almost 5,000 verified services. A case study can be found <u>here</u> that shows the impact supporting DC Government with reducing hypothermia deaths.

The H1S technology driven network is built on years of research, including using the methods the founder, Timothy Underwood, used in a three year quality improvement study he spearheaded and co-authored with the Department of Veteran Affairs (VA). The study (<u>published here</u>) detected, then reduced, and finally eliminated disparities to equitably access services for African American veterans compared with Caucasian veterans, both old and young in age, at select VA service providers within 30 communities nationally. This successful user experience model is built on objectively measuring the right metrics and quickly getting the lessons learned back to key stakeholders for continuous improvement. Personalized bulk text messaging is a proven outreach model with no downloads, clicks, or internet connections required to send and receive real-time information.

WellMed was able to successfully increase the use of telemedicine platforms at the beginning of the pandemic due to an integrated platform for every clinician offering "scheduled visits." WellMed clinicians were each given the option to perform visits with a remote patient who registered for an account. Prior to the pandemic, the utilization of this method was less than 5% of overall business, and it quickly grew to 38% in the early stages of the COVID-19 pandemic in 2020. Since late 2021, telemedicine is consistently used approximately 10 to 15% of the time for all visits.

WellMed also adopted a solution that did not require the patient to log into an application or website. Referred to as "quick connect video visits," this enabled a clinician to send a one-time link to a patient via SMS (text message). This option was useful in cases when the patient was unable or unwilling to create an account in the scheduled visit platform. It also provided a back-up connection method. Overall, around 95% of patients who used telemedicine stated they had an excellent experience and would use it again.

Another highly successful offering provided by WellMed early in the pandemic was an easy to use, elderly-friendly tablet, delivered to a patient's home or offered to patients in their vehicle but parked outside of the clinic (referred to as a "curbside" visit). The tablet has built-in network services, eliminating the need for an external Wi-Fi or cellular connection. In addition to enabling "curbside visits," WellMed was also able to re-purpose its transportation department to deliver tablets to patients who did not have the ability to leave their home. Transportation officials delivered the tablet along with peripheral devices, such as thermometers, blood pressure cuffs, and other vital sign equipment, on the morning of the patient's scheduled visit. Clinicians and patients report high satisfaction with this product and platform because it solves for access and capability barriers, and is easy to use.

In 2021, WellMed stood up the delivery of on-demand telemedicine services with a team of clinicians who provide 24/7/365 on-demand telemedicine to eligible WellMed patients. This model is unique in that the clinicians providing this service have access to WellMed patient's medical record and history, and are able to document an episode of care directly into the patient's medical record. We also ensure care continuity for patients managed by non WellMed clinicians by electronically transmitting information regarding the visit to the patient's primary care provider. **Patient responses to post-visit surveys have indicated that at least 46% of patients avoided a trip to the emergency room or urgent care clinic due to on-demand telemedicine services.** By contrast, only 15% of patients avoided going to the emergency room or urgent care clinic when able to have a scheduled video visit with their primary care provider. Additionally, nearly 50% of patients who received a telemedicine visit from their primary care provider indicated that they would have done "nothing," indicating that these patients that would have most likely not sought out the necessary our routine care needed if telemedicine was not an option.

Barriers

Based on user feedback, the top barriers to patients being able to access healthcare through technology are lack of language diversity of the platform's patient-facing interface, lack of an e-mail address in order to create an account, and lack of a reliable Wi-Fi or cellular service across all geographic areas. In Rio Grande Valley specifically, approximately 80% of patients do not have a telemedicine capable device or they are unable or unwilling to register for an account due to lacking an e-mail address. For these patients, delivery of a tablet or use of a "quick connect" video visit sent to their phone via SMS are the only viable options.

Clinics are highly reliant on the physical structure provided by the actual facility, in which many layers of roles and inter-professional staff have clearly defined tasks during the

patient's journey of an in-person visit. Thus, the ability for a clinic to close its doors for a period of time can greatly impact access. If clinical staff are better trained and equipped to provide virtual healthcare to patients while working remotely, this will greatly improve the patient's ability to consistently access healthcare services through their primary care provider. This would also improve the working conditions of clinicians and support staff who are in an already strained industry and being further strained by the pandemic.

In general, internet equity and accessibility is a well-known issue, and one solution to bridging this issue is to provide incentives for healthcare companies to procure, maintain, and provide telemedicine-capable devices that have an enclosed network, and to ensure companies provide transportation and delivery services to deliver and pick up these devices. This would greatly aid in reducing healthcare disparities across socioeconomic status or other factors.

Proposed Government Actions

It is the position of many governing and certifying organizations within healthcare advocate that CMS should continue to reimburse telemedicine and telehealth related services at levels equivalent to in-office in addition to waiving or minimizing co-payments. Patients may use telemedicine to triage whether they need to be seen in a hospital or clinic setting. If the patient is subsequently required to be seen in person, patients must pay two co-payments.

Another major push to continue access to healthcare through telemedicine is to address licensing rules based on the patient's location. Some initiatives are already moving in this direction by creating separate licensing requirements for telemedicine, or states joining interstate compacts to make it easier for health care clinicians to practice in multiple states (https://www.imlcc.org/a-faster-pathway-to-physician-licensure/).

Finally, I propose that the Telephone Consumer Protection Act provide more exception to healthcare companies sending a text message to a patient when it is related to healthcare. The requirement for prior express consent creates additional administrative tasks for healthcare companies, and legal interpretation of the requirement for healthcare companies remains unclear at best. Additionally, healthcare companies often have multiple platforms that send text messages for different purposes for varying care coordination needs. I propose that a one-time consent is able to be obtained and ought to be applicable to multiple platforms and delivery methods, as long as the text message is for the purpose of coordinating healthcare.

In general, it is clear that telemedicine and telehealth tools are significantly beneficial to addressing community health needs. I strongly advocate that these tools continue to be supported through funding and incentives, and considered a standard of care for any setting ranging from specialized healthcare to any of the social determinants of health.

February 28, 2022

Stacy Murphy
Operations Manager
White House Office of Science and Technology Policy
1650 Pennsylvania Avenue NW
Washington, DC 20502

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Ms. Murphy,

The Michael J. Fox Foundation for Parkinson's Research (MJFF) appreciates the opportunity to provide the White House Office of Science and Technology Policy (OSTP) with comments on how science and technology can increase access to care and improve health for people living with Parkinson's disease (PD).

PD is a chronic, progressive neurological disorder affecting over one million people in the United States. Currently, there is no treatment to slow, stop, or reverse the progression of the disease, nor is there a cure. Estimates indicate that one in six Americans suffers from a neurological condition, and PD is the fastest growing neurological disease in the world. It is also the second most common condition after Alzheimer's disease. In 2022, PD will cost the United States at least $58 billion – roughly half of which is through Medicare in caring for people living with PD. By 2037 – just 15 years from now - that cost will balloon to around $80 billion when more than 1.6 million Americans are projected to be living with PD.

MJFF has advocated for Medicare telehealth expansion and eliminating barriers to care for years because of its ability to increase access to care necessary to diagnose and treat PD. Nearly 90 percent of people living with Parkinson's receive their health coverage from Medicare, and the telehealth flexibilities and waivers issued by the Centers for Medicare and Medicaid Services (CMS) during the COVID-19 public health emergency (PHE) have helped people living with PD access the care they need while limiting exposure to the dangerous virus. We fully support the temporary Medicare telehealth flexibilities and are urging Congress and the U.S. Department of Health and Human Services (HHS) to continue them on a permanent basis. Individuals living with PD, their family caregivers, and health care providers need certainty that telehealth will remain an option for patients to have improved access to care to manage the physical and emotional symptoms of the disease. Progress on health care access will be lost and care continuity will be interrupted if telehealth access becomes restricted again.

Accessing care from home
MJFF supports permanently eliminating Medicare originating site restrictions, which will allow the program to continue to reimburse for visits furnished via telehealth in patients' homes once the PHE expires. Waiving these restrictions has allowed providers and patients across the country to remain connected during the PHE and helped providers get a sense of patients' home environments. Through telehealth, providers can observe patients' ability to take care of themselves and navigate their home, as well as offer suggestions to make their surroundings safer. This is especially important for people living with PD because falls are a significant cause of disability, lost independence, and reduced quality of life. Providers can help prevent falls by recommending improvements to patients' homes during telehealth appointments. It is crucial that Medicare originating site restrictions are permanently eliminated so providers can continue to provide care to patients in their homes once the PHE expires.

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Access to PD specialists
MJFF supports allowing all Medicare providers to remain eligible to provide services via telehealth to both new and established patients once the PHE ends. The expansion of telehealth has enabled people living with PD to seek virtual visits with doctors and specialists that would have otherwise been inaccessible. Movement Disorder Specialists (MDS) are neurologists with additional training in Parkinson's disease and other movement disorders, and these specialists are often located only in major metropolitan areas and are not accessible to those living in suburban and rural areas. Additionally, people with Parkinson's experience limited mobility and may be unable to travel to receive care. Telehealth has helped overcome workforce and transportation barriers and provided access to care for more people with PD and often at a lower cost.

Audio-only telehealth services
MJFF supports the use of audio-only telehealth for Medicare beneficiaries. For many Medicare beneficiaries, audio-only is the only format to receive telehealth care services. During the summer and fall of 2020, over half of Medicare beneficiaries who had a telehealth visit reported only using a telephone to access care. Allowing audio-only telehealth helps patients who lack transportation, adequate broadband connection, or a technological device to use for virtual care, whereas requiring video visits will leave certain patients behind and exacerbate inequities along geography, race, income, and disability status. It is necessary that audio-only options for telehealth services are allowed to ensure equitable access to care.

Remote patient monitoring for DBS
MJFF supports the use of remote digital technologies, including those for Deep Brain Stimulation (DBS), that enable providers to help people living with PD control and manage their symptoms. DBS is the most common surgical procedure for PD that can treat movement symptoms such as tremor, slowness, stiffness, and can decrease medication needs. Before the pandemic, DBS management typically required an in-person visit in which clinicians ensure the device is working properly, monitor battery life, and adjust settings to optimally control symptoms. Visits tend to be frequent in the first several months after DBS surgery as doctors tweak settings and medications to find the best combination. However, with the expansion of telehealth, DBS management has transitioned into patients' homes. New DBS remote patient monitoring devices communicate with clinicians and can be adjusted from home or another location with Wi-Fi or cellular access. It is important that providers can continue to use remote digital technologies to help people living with PD control their symptoms and avoid unnecessary in-person visits once the PHE expires.

Ensuring continued access to telehealth and expanding and improving digital technologies used in remote patient settings are top priorities for the PD community. Once again, thank you for allowing MJFF to provide comments on ways to strengthen health through digital technologies. Please contact Mason Zeagler at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ you have any questions or require further information.

Sincerely,

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Senior Vice President, Public Policy

Jacqueline Ward, PhD
Senior Policy Advisor for Health and Life Sciences
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
Attn: Community Connected Health
1650 Pennsylvania Avenue
Washington, D.C. 20504

RE: Connected Health RFI

Dear Dr. Ward,

The National Center for Primary Care (NCPC) at Morehouse School of Medicine (MSM) is pleased to respond to your request for information on Strengthening Community Health Through Technology. We commend the Office of Science and Technology Policy on its commitment to seek and promote innovation in science and technology to enhance the health and well-being of all Americans. We write to provide specific input on how health information technology, digital health tools and related policies have been and can continue to be leveraged to advance health equity, particularly in community-based, safety-net primary care settings who serve historically underserved and underrepresented communities.

MSM, located in Atlanta, Georgia, is a historically black college and university (HBCU), one of only four HBCU medical schools in the nation and our vision is *leading the creation and advancement of health equity*. The NCPC is one of MSM's core research institutes with a mission of s*trengthening the primary care system through education, research and training to improve health outcomes while advancing and sustaining health equity*. The NCPC has developed a substantial portfolio of research studies, programs, and initiatives centered around technology, innovation, and equity. This response combines insights from several initiatives across the NCPC, including the NCPC's Health Information Technology Division, the National COVID-19 Resiliency Network (NCRN), and the Digital Health Tools Study (DHTS).

Successful models within the US
HI-BRIDGE Solutions (formerly GA-HITEC) is a provider support network in Georgia that has provided practice management support, education, and training to more than 5,000 primary care practices and 50+ rural hospitals. With its initial funding from the HITECH Act in 2010, GA-HITEC was the only regional extension center (REC) in the state funded to support small, rural, and Medicaid-serving practices in their adoption of electronic health records and compliance with the Meaningful Use (MU) program. As MU evolved from voluntary to mandatory, and then transitioned into Promoting Interoperability, HI-BRIDGE continues to provide direct technical assistance (TA) and other critical services related to use of technology, implementation of quality improvement models, and value-based payment programs. Our staff has worked through many challenges with these practices, who are often working with very limited resources (funding, personnel, and infrastructure). HI-BRIDGE's **Funding and Technical Assistance model** has proved vital to support and sustain primary care safety-net

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settings in communities with high healthcare needs and large burdens of social determinants of health across the state. This model has created shared learning and collaboration opportunities, increasing their capacity to innovate and expand services across their communities.

National COVID-19 Resiliency Network (NCRN)
The NCRN leverages a **community-driven model** that includes more than 400 national and local partners aligned to mitigate the disproportionate impact of COVID-19 on racial and ethnic minority and other socially vulnerable communities across the country. NCRN links people to healthcare and preventive services in their communities. NCRN relies on both formal and informal partnerships, a robust data platform and data sharing arrangements, and robust methods of community engagement to inform its activities. NCRN has used community-based prevention marketing to develop and disseminate culturally and linguistically tailored messages and health information. Community Health Workers (CHW) have been a critical, trusted resource for delivering culturally and linguistically appropriate information to diverse communities throughout the pandemic.

Barriers
The Digital Health Tools Study (DHTS) identified gaps in adoption and use of digital health tools (DHT) by primary care clinicians serving underserved communities across four southeastern states (GA, KY, NC, TN). We surveyed more than 1,200 clinicians and found:
- More than 50% reported using telemedicine for the first time due to COVID-19.
- Approximately 70% of survey respondents reported being connected to their state health information exchange, yet less than 50% reported actually using the service.
- Top 3 barriers to adoption and use of DHTs were *time, cost, and limited workflow integration*.
- Small, rural, and Medicaid-serving clinicians often lack the resources needed to implement new technologies and to sustain these technologies beyond initial investments.
- Federal policy was key to support adoption of electronic health records and has boosted adoption of telemedicine during COVID-19. More funding and resources targeted towards these clinicians and practices is needed, especially to support their use of technology and participation in value-based payment models.

Proposed government actions
Addressing digital inequity is fundamental to improving health outcomes of rural, tribal, and other underserved communities. While the flexibilities and waivers which allowed for expansion of telehealth during the Public Health Emergency (PHE) were critical, they also revealed deep inequities and drew renewed attention to the digital divide. Digital inequity encompasses digital literacy, broadband access, culturally and linguistically appropriate services, and access to digital health tools by patients and clinicians. For healthcare services, the increase in use and coverage of telehealth services was critical to facilitating safe access to health care during the PHE, providing many people with the opportunity to use telehealth for the first time. The NCPC supports the adoption of permanent policies that expand access to telehealth and provide flexibilities that were piloted during the COVID-19 PHE, particularly:
- the removal of geographic eligibility requirements and originating site restrictions;
- coverage of audio-only, video, and asynchronous telehealth modalities, prioritizing clinical appropriateness and patient informed consent;

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- and broadband and end-user technology expansion policies targeting the digital divide.

As much of the barrier for adoption and use of digital health tools lies in the cost of technology and who the technology is developed by, we encourage you to consider approaches that would align technology development processes with users and clinical processes, to make the technology affordable and easily implemented, integrated, maintained, and upgraded.

As we found through implementation of the Meaningful Use and Promoting Interoperability programs and was reinforced by our DHTS findings, significant challenges remain related to sharing of health data across clinical and community settings. Data sharing is critical to improving health outcomes and advancing health equity, the structure and financing of our healthcare system does not align with this goal. While the federal government is advocating for (and even mandating) interoperability, it is unclear whether federal policies are working and how the government can better leverage its authority to advance data sharing across the healthcare ecosystem.
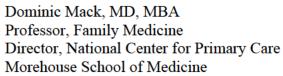
Finally, we encourage you to consider creating and funding new technical assistance and community-driven models that will support safety-net primary care settings and the communities they serve. Models like HI-BRIDGE Solutions and the NCRN have successfully supported, provided, and sustained critical services to communities across the state of Georgia and the country.

Health Equity
Racial and ethnic health inequities are persistent and costly, resulting in $35 billion in excess health care expenditures, $10 billion in illness-related lost productivity, and nearly $200 billion in premature deaths. As a nation, we are seeing an unprecedented investment and unification of efforts to advance health equity. It is in the interests of all stakeholders, including policymakers, communities, public health and healthcare organizations, and individuals to target disparities and implement effective interventions to eliminate them. We will continue to prioritize health equity in all of our work and look forward to partnering with you and others to achieve this goal.

Thank you for your leadership, and for the opportunity to provide a response to the Community Connected Health request for information. If you have questions, please do not hesitate to contact me.

Sincerely,

Dominic Mack, MD, MBA
Professor, Family Medicine
Director, National Center for Primary Care
Morehouse School of Medicine

NATIONAL HEMOPHILIA FOUNDATION

for all bleeding disorders

March 31, 2022

White House Office of Science and Technology Policy

RE: Connected Health RFI

The National Hemophilia Foundation appreciates the opportunity to provide information on barriers to telehealth faced by patients with bleeding disorders.

NHF is the nation's leading advocacy organization for individuals with bleeding disorders like hemophilia. Our mission is to ensure that individuals affected by hemophilia and other inherited bleeding disorders have timely access to quality medical care, therapies, and services, regardless of age, sex, financial circumstances, or place of residence. NHF is also a Healthy People 2030 Champion and is committed to advancing health equity for all Americans.

About 70% of hemophilia and bleeding disorders patients receive their care from one of approximately 140 hemophilia treatment centers in the U.S. The HTC network was created by Congress in the 1970s and HTCs are one of the original statutory grantees in the 340B program. Bleeding disorders patients receive the optimal standard of care at HTCs through a comprehensive approach that integrates the many specialists involved in a patient's care under one roof. This approach is well suited for telemedicine as a patient can be seen by a number of specialists in one visit. In addition, hemophilia patients have access to and are familiar with many smart phone-based apps for monitoring their condition and maintaining infusion logs.

Because of this longstanding network of specialty care facilities for bleeding disorders patients, HTCs – as the medical home for most patients - were utilizing telemedicine successfully well before the COVID pandemic[1,2] Nevertheless, HTCs faced the same barriers that other providers face. During the pandemic, telemedicine provided continuity of care, reduced face to face contact and the expense of personal protective equipment, allowed timely intervention, counselling, and shared decision making. Older persons with mobility issues and women benefited significantly. Tele-visits and in-person visits waxed and waned with the difficulties of the pandemic often leading to hybrid visits (Virtual visits alternating with in-person visits).

Digital health technologies are being used and could be used in the future in the treatment of bleeding disorders to supplement/enhance (not replace) some in-person ambulatory care and

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[1] Kulkarni, R., Use of telehealth in the delivery of comprehensive care for patients with haemophilia and other inherited bleeding disorders. *Haemophilia.* 2018; 24:33-42. https://doi.org/10.1111/hae.13364.

[2] O'Donovan M, Buckley C, Benson J, et al. Telehealth for delivery of haemophilia comprehensive care during the COVID-19 pandemic. *Haemophilia*. 2020;26:984–990. https://doi.org/10.1111/hae.14156.

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provide diagnostic, education, treatment, and follow up health care services. However, challenges remain.

Technological and Financial: The technical expertise and cost required to set up originating and delivery sites can be prohibitive, especially in rural areas where a provider may be serving only one patient. Some rural clinics that could potentially be used for telehealth visits do not have the technology or staff capacity to partner with HTCs for telehealth visits. There also may be challenges with broadband connections, firewalls, and connectivity issues related to the use of diverse types of equipment or incompatible platforms between the originating and delivery sites. In addition, patients may lack access to the high-speed Internet service required for an effective synchronous encounter (audio or video) or for timely asynchronous uploading of patient data, e.g., large image files.

The systems currently used for telehealth are often clunky, inhibit a multi-disciplinary approach to care, and are variable. This can lead to disruptions in care on the patient/family end resulting in an inadequate visit experience or loss of communication.
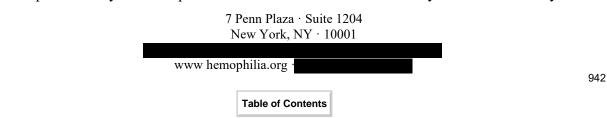
The actual platform used for the virtual visit varies depending on the institution where the HTC is located and/or the availability to "host" within the electronic health record. Technology can be a challenge for providers, too. Is there a backup system available? How do you communicate that to a patient on the other end of the visit?

There are also legal considerations involving secure and HIPAA-compliant data transmission of electronic health records, as well as the ongoing storage and protection of that data.

The use of telehealth may negatively impact some large institutions that house HTCs which may lead to providers being penalized for practicing telemedicine. For example, hospital-based outpatient clinics typically charge insurers (e.g., $500.00) just for the clinic room. The use of telemedicine leads to an empty clinic room which leads to revenue loss for the hospital. HTC outpatient care via telemedicine is viewed fiscally unfavorable to hospital finances.

Patients: While the data from the two HTC studies indicated widespread patient satisfaction with telemedicine that doesn't mean all patients will have the same reaction. Some patients, especially those who may be averse to technology, or have cognitive, visual, and hearing challenges are almost certain to prefer the face-to-face interaction with their primary health care provider. Telemedicine may lessen, or at least change, the patient-provider relationship.

Patients currently underserved by the health care system due to economic status, race, or geographic location also may see themselves left behind by the advance of telemedicine. Many of these patients may lack adequate access to the Internet or familiarity with the necessary

technology. They are also left behind in participation in research that includes clinical trials, e.g., gene therapy. Although trials allow digital monitoring, almost all require in-person visits.

Personnel: Telemedicine is time consuming for the PCP as well as the specialist. Workforce shortages make it challenging to provide care. Other challenges include different EMR systems at originating and delivery sites, as well as time differences if out of state physicians are being considered. Another noteworthy challenge is access to a laboratory.
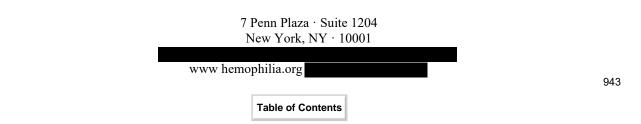
Insurance and Reimbursement: One of the chief obstacles to widespread use of telemedicine is parity in commercial insurance coverage and reimbursement telehealth delivery. Parity in coverage refers to insurers covering the same services delivered via telemedicine and in-person clinical care. Parity in reimbursement means insurers paying providers the same rates for services delivered through telemedicine or in-person.

Fixing payment levels at the equivalent level of an in-person encounter may eliminate potential cost savings from the use of telemedicine. Conversely, setting inadequate payment levels may lead to significant underpayment by payers and an unwillingness by providers to participate. Reimbursement needs to be optimal, not merely adequate. It needs to include team-based care, and it needs to include advanced practice providers, practicing at the full scope of their license.

For rare disorders, payers' narrow provider networks often are a barrier to patients/families gaining access to the few specialty teams who are expert in rare disorder care. Clinics serving patients with rare disorder clinics (e.g., affiliated w/subcontract in HRSA U.S. HTC network) must be reimbursed optimally for telehealth services even if not in the patient's insurance network.

Legal and Regulatory Issues: Healthcare delivery by providers across state lines remains a problem. Obtaining multi-state licenses can be cumbersome and often costly. Many HTCs are working on getting all providers licensed in all states served but it takes a huge amount of time and money. Multi-state licensure for individual providers is resulting in financial and administrative impacts at the HTC level in order to provide care across state lines - a particular issue with western states where there are fewer HTCs serving vast areas. Patients have driven across state lines to sit in a parking lot and have a virtual visit, hardly an ideal care setting. Linking labs or other services to a telehealth visit is complicated, especially for specialty labs, for a multitude of reasons.

The requirement for a patient and provider to have a prior in-person relationship before telemedicine can be delivered is also a barrier. In addition, states have varying policies that determine which providers are allowed to provide telemedicine. For example, physical therapists

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and some clinical providers are limited in being able to see patients via telehealth because of state licensing issues.

Restrictions on practicing medicine across state lines is a particularly relevant problem for states that lack expertise in medical specialties or for rare conditions. COVID-related state telehealth policies (which include cross-state licensing allowances and Medicaid program flexibilities) are normally based on state declarations of emergencies and many of them have already expired, leaving the patchwork landscape of policies that existed prior to the pandemic. This creates confusion over telehealth regulations and covered activities. Certain activities were allowed during public health emergency declarations that may be ending, depending on the state.

Medicare: Under permanent law, Medicare has significant restrictions on coverage of telemedicine services including the type of services, type of provider, type of healthcare facility, and the geographic location of the patient. Under the national Public Health Emergency many of these restrictions were loosened. The 2022 Consolidate Appropriations Act extended these flexibilities another 151 days. At the end of the PHE those flexibilities will expire.

NHF looks forward to working with the Biden administration, Congress, and the states to fulfill the promise of telemedicine and remedy some of the historical racial, cultural, and geographic disparities in health outcomes that persist in our country.

Sincerely,

Nathan Schaefer
Vice President of Public Policy

February 28, 2022

Dear Acting Director Nelson:

As a digital healthcare company working with patients in all 50 states, we want to thank the Biden administration for its initiative in leveraging digital health technologies to reduce health inequities and improve people's health across the country. We know firsthand how valuable telehealth can be in reaching under-served populations and we are pleased to submit the following comments in response to the Request for Information on connected health.

The Pill Club is a mission-driven telehealth company, working to expand access to affordable, convenient, and accessible healthcare for women and people who menstruate. We have a team of ~100 advanced practice nurse practitioners and collaborating physicians, operating across 49 states and the District of Columbia, and serve patients in all fifty states. To ensure more people are able access care they need, we accept cash payment and have some of the broadest insurance coverage in the space, including Medicaid in some states.

Money and geography are significant barriers to seeking care, and the COVID-19 pandemic exacerbated those barriers, yet telemedicine proved essential and highly effective in reaching underserved communities. Since 2018, our team has conducted visits with patients in 71% of counties that contain a health care provider shortage area and have reached patients in 99% of contraceptive deserts.[1] However, there is still a lot of work that needs to be done to make telehealth provision more effective and efficient and proactively address some of the barriers that could prevent people from accessing telehealth.

Digital Health Reduces Wait Times and Increases Patient Satisfaction
Telehealth consultations on The Pill Club's platform have significantly shorter waiting times when compared to traditional healthcare. The average wait time to get an appointment with a new OB-GYN is 26 days.[2] The average wait time for a Pill Club patient for a synchronous audio-video visit is 1.5 minutes or 2.3 minutes during business/non-business hours respectively. Such visits obviate the need to take time off of work or organize childcare to travel to an appointment, significantly lowering barriers that prevent many—especially women and caretakers—from seeking care. More so, a recent survey shows that 82% of The Pill Club's

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[1] https://powertodecide.org/what-we-do/access/birth-control-access
[2]
https://www.merritthawkins.com/uploadedFiles/MerrittHawkins/Content/Pdf/mha2017waittimesurveyPDF.pdf

patients were satisfied or extremely satisfied with the care they received, compared with an average of 27% across traditional healthcare.

The Promise of Asynchronous Medical Consultations

Asynchronous care (including via texting) plays an important role in reaching communities that have historically been underserved by traditional healthcare, including more effectively reaching people in rural and low-bandwidth/low-connectivity areas, those that lack access to devices, and those that face other barriers to accessing traditional healthcare modalities.

Increasing Access to Care

While the COVID-19 pandemic put a spotlight on telemedicine, a number of prior studies confirm the validity, utility, and cost-effectiveness of asynchronous telehealth across disciplines.[3] As regulations have changed at the state level, The Pill Club's medical group has seen how patients benefit from expanded access to asynchronous care:

- When synchronous visits are offered to patients as an additional benefit, we see no change in patient uptake of that offer, even when offered for free.
- When New Jersey and Nevada changed telehealth rules to better accommodate asynchronous visits, the proportion of prospective patients that were able to receive care through The Pill Club rose from 62% to 88% and 74% to 95% respectively compared with when synchronous visits were required.

Serving Patients Out of Normal Business Hours

Our experiences underscore how valuable asynchronous care can be for those struggling with competing demands on their time such as schooling, multiple jobs, and childcare, with a significant number using our services outside of normal business hours. Depending on the service, between 22% and 47% of The Pill Club's medical visits are conducted outside of business hours.

Asynchronous Care Increases Privacy Options

In addition, text-based asynchronous care can help people with limited privacy or who live in unsafe environments. A recent internal survey found that privacy concerns/lack of private space were the primary hurdle for 15% of patients that did not complete synchronous visits.

Health Equity and Home Delivery of Prescriptions

Prescription home delivery can be a key component of digital health care. For The Pill Club, it is incredibly effective in reaching populations that may lack local access to health care providers and/or pharmacies. This is especially true for contraceptive access. We have been able to reach

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[3] See, inter alia: https://www.jmir.org/2021/7/e24047,
https://journals.sagepub.com/doi/10.1177/193229681000400323, and
https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2020/02/implementing-telehealth-in-practice

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99 percent of contraceptive desserts and equally meet the needs of patients in urban, rural, and suburban areas.

Our data show that our service is already making inroads in reaching underserved communities across the country. We recently undertook an analysis with the help of an outside data firm with access to consumer file information, which shows that The Pill Club is able to reach:

- **BIPOC communities**: At least 40% of patients seeking care are women of color, including 15% Black and 20% Latinx;[4]
- **Young people**: A population that historically forgoes health care, almost 90% of patients seeking care are under the age of 40, and 64% are under 30;
- **Low-income populations:** Most patients seeking care are low-to-mid income women, earning less than $75,000 per year;
- **Individuals with lower educational attainment:** We estimate that only 35% of patients seeking care have a college degree or higher and a majority (63%) likely only have a high school diploma; and
- **States and regions hostile to reproductive rights**: Many of the patients seeking care live in the South (38%) and Midwest (20%), both regions expected to be hit hardest by the growing attacks on reproductive rights.

Proposed Government Actions

- **Update Medicaid rules.** Telehealth is criticized as a care model only for the white and wealthy, but Medicaid populations are disproportionately limited in their healthcare options because of antiquated restrictions that make it difficult to access telehealth and at-home prescription delivery. Specific areas of opportunity are in amending brick and mortar pharmacy requirements that artificially limit patient choice in providers.
- **Allow for the safe adoption of asynchronous visits in appropriate clinical settings.** We urge further clarity on new patient-provider relationships established via asynchronous visits and to further study barriers presented by synchronous requirements.

As providers, we have seen firsthand how telehealth and at-home prescription delivery make it possible for more people to get high-quality care they deserve on their own terms and from providers they love. There is always more work to be done to ensure that the benefits of healthcare are available to all Americans and appreciate your consideration of our submission.

Thank you,

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Stephanie Bryson Swartz, Senior Director - The Pill Club

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[4] Because of biases in consumer file data, which tends to favor Americans who have been historically overrepresented, such as White Americans with higher educational attainment and income, this proportion is likely actually higher than 40%.

February 28, 2022

Office of Science and Technology Policy, Docket 2021-28193
Request for Information on Strengthening Community Health Through Technology

RE: Federal Register Docket 2021-28193 Notice of Request for Information (RFI) on Strengthening Community Health Through Technology.

The Texas A&M Institute for Advancing Health through Agriculture (IHA), a unit within Texas A&M University System's AgriLife Research and Extension agencies, welcomes the opportunity to supply information for the Office of Science and Technology Policy on how digital health technologies are used, or might be used, to transform community health, individual wellness, and health equity. We are academic researchers who utilize digital health technologies. AgriLife is a diverse, statewide organization that supports research and outreach in public health. With 250 county offices and 900 professional educators, AgriLife reaches every Texas county and people of all ages and backgrounds. One aim is to deliver research-based guidance, educational programs, and solutions for all Texans, and ensure that health-promoting innovations and technologies are available to all.

Successful models within the U.S. Organization-supported mobile applications (apps) focusing on employee wellness are one example of digital health technologies that enable healthier lifestyles. These technologies can decrease employer healthcare costs and increase employee satisfaction. Technology components include personalized health alerts, health assessments, and health behavior change programs using competition, goal-based feedback and inputs, and social interaction. Measuring multiple biometric characteristics simultaneously (using eye tracking, facial expression analysis, neural signals, galvanic skin response, heart and respiration rates, and dermal scans for carotenoids) can bring data into one easy-to-read program. This data could be integrated into a wearable with an app. 'Gamification,' the use of game design elements, in the context of positive health motivation supports the desire for community, feedback, accomplishments, and rewards. Apps using gamification can help modify health behaviors (e.g., exercise, diet, prescription compliance) and have been successful in employee wellness programs, patient self-management, and individual goal-setting and tracking. The IHA Healthy Living team, led by Dr. Seguin-Fowler and based at Dallas, as well as the Human Behavior Lab, led by Dr. Palma, are among the experts in these areas.

Buy-in from stakeholders, clinicians, and patients/users is necessary to support scale-up beyond individual organizations. To be adopted, new technologies must fit with current practices and workflow, work with existing technologies in the organization, and align with decision-makers' agendas. Community health connectors, who span sociocultural boundaries, can use emerging health technologies to improve healthcare for at-risk populations. Community health connectors use mobile technology to collect health data in the field (e.g., digital blood pressure monitoring devices, glucometers, spirometers), create alerts and reminders, facilitate health education sessions, communicate, support decision-making, and more. Emerging technologies such as artificial intelligence (AI), the Internet of Things, the Internet of Medical Things, the Internet of

People, 5G technology, big data, and cloud computing are essential to improve health technologies, including improving real-time communication between individuals and smart devices, also known as the sensory emotive web or Web 5.0. One AgriLife project that uses health technology and connects people to appropriate, accessible and relevant (e.g., culturally relevant, need-based) resources is the Texas Community Engagement Research Alliance (CEAL) Against COVID-19 in Disproportionately Affected Communities Consortium, funded by NIH. We convened a diverse Community Advisory Board (representing African American, Latino, older adults, young adults, urban, rural, and faith-based communities) and conducted virtual focus groups on content, development, design, and architecture of a curated online repository (e.g., educational content for community health educators, informational materials for consumers). A 'My Kit' feature integrated e-commerce technology to let users create personalized kits of resources and tools.

Barriers. <u>Technical barriers</u>: Poor internet connections, technical problems, and lack of user-friendliness can be barriers to community-based health technology, particularly for at-risk populations. <u>Lack of user comfort</u>: For some users, barriers include difficult to use/understand technology, fear of using technology, lack of interest in technology, language and literacy problems, lack of healthcare provider support, and security and privacy concerns. For providers, barriers include lack of evidence supporting use of the technology, data privacy and security concerns, increased work and responsibilities/lack of compatibility with workflow, lack of integration with medical records, impersonal care delivery, and lack of customizable features. Pilot projects, focus groups, and beta testing can help alleviate user comfort barriers. For example, a forthcoming study at IHA Healthy Living will adapt an evidence-based cardiovascular disease prevention program for delivery through smartphones. The intervention will use a beta app, informed by focus groups of potential participants. <u>Cost barriers</u>: The cost of smartphones and other devices, data plans, and other technology may limit use, particularly in underserved and limited resources communities. <u>Reimbursement barriers</u>: Data from other countries indicate that changes in reimbursement can increase providers' investing in tools, processes, and training for effective health technologies. <u>Additional barriers</u> to health technology adoption include buy-in across organizations, licensing issues (e.g., telehealth providers licensed only in one state), and regulatory issues (e.g., in malpractice coverage or prescribing controlled substances in telehealth).

Trends from the pandemic. Most programs stopped or postponed in-person community-based program delivery and evaluation during the pandemic. Some of AgriLife's programs shifted to at-home measurements facilitated by mailed biometrics; participants sent photos or conducted measurements while videoconferencing with researchers. After the pandemic, virtual program delivery and evaluation will continue in many cases. Thus, the pandemic highlighted the importance of easy access to technology and broadband. Real-time wearable devices now need additional investment.

User experience. To tailor technology, characteristics of users' health conditions need to be considered. Other key factors include personalization, engagement, the possibility of modification/adaptation, and dissemination of updated, evidence-based information on acceptance, adoption, and maintenance. Furthermore, several factors are often overlooked or undervalued in development of health technologies. These factors include accessibility, validation of translations, and literacy. For telehealth, privacy and confidentiality can be concerns,

particularly for underserved populations and those in crowded living conditions. These concerns may be alleviated by chat features, headphones, and yes/no questions. A concern for providers using telehealth may be discomfort diagnosing without an exam or labs; best practices are needed for sensitive telehealth exams (e.g., uploading photos via health portals).

Tool and training needs. Frontline health worker programs need to include digital skills as a core component of education and training, merging 'high-tech' with 'high-touch' skills. Along with commonly recognized skills (e.g., digital health ethics), digital skills to address include automation bias and interpersonal skills in relation to health technology. Organizations must dedicate time and means for training current managers, clinician-leaders, and support staff. Virtual trainings allow for expanded reach. As part of our CEAL project, our partners conducted live, culturally and linguistically tailored virtual trainings to community health workers across Texas. One topic was helping patients navigate clinical trials (e.g., COVID-19 vaccine trials) to aid in recruitment and retention of ethnic/minority populations.

Proposed government actions. Financial support is needed for dissemination (scale-up) of effective programs that incorporate health technology, particularly programs with multisector partners (e.g., extension, community-based organizations, healthcare organizations, insurers). Additional government actions include a long-term vision and sustained investments, investment in universal broadband, improved accessibility standards, support for development of a skilled workforce (formal and informal education, particularly in rural areas), and support for navigating FDA and HHS laws surrounding the development of mobile health apps.

Health equity. Health technology could inadvertently maintain, sustain, or increase health disparities. To mitigate unintended effects, we must work to understand the challenges at-risk groups face in achieving ideal health; this means engaging affected populations at all stages of design, implementation, and evaluation to be inclusive of cultural, literacy, and linguistic needs. To work toward health equity and address social determinants of health with technology, we need tailored, dynamic, and user-centric models, interventions, and programs. For example, to address social determinants of health, technology integration models using electronic health records could be employed to identify potentially at-risk patients. Those patients could receive AI prompts for wellness check-ins or to connect with a curated, locally tailored resource inventory, similar to what was built in the My Kit process for our CEAL project. Any AI models or other health technology must be validated across diverse populations prior to widespread implementation efforts. Broadband and device access are essential.

We appreciate the opportunity to comment on these important topics. If you have any questions, please contact Rebecca Seguin-Fowler, Ph.D. and registered dietitian, associate director for healthy living, Texas A&M Institute for Advancing Health Through Agriculture, at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Sincerely,

Patrick J. Stover, Ph.D., Director

Strengthing Community Health Through Technology

The IRIS Approach and Community Health Workers

Successful Approaches

Developed in 2016 by the University of Kansas Center for Public Partnerships and Research (KU-CPPR), IRIS is an online bi-directional referral tool that streamlines communications between community providers offering services to individuals and families. Built upon evidence-based practices and supported through collaborative relationships, the Integrated Referral and Intake System (IRIS) helps partners identify available resources, make referrals, and monitor whether families receive the help they request. In addition, the IRIS tool is paired with an implementation process that guides communities in facilitating change and connecting families to health and social service programs.

Adopting innovative technologies such as IRIS relies on collaborative learning, taking risks, and embracing failures. All IRIS networks are led by local leaders who build relationships with service and care providers to create an interconnected system that supports families. The roles and responsibilities of many Community Health Workers (CHWs) lend themselves naturally to this work. Their intimate knowledge of the community provides the experience necessary to guide partners through successful implementation and to champion IRIS adoption in their community.

CHWs involved in implementing IRIS in their community seek to improve care access through advocacy, education, connections, and trust that advances individual and community health. IRIS supports CHWs as they work to create coordinated referral networks to assist the communities they serve. Through an approach like IRIS (referral technology paired with collaborative relationships and process alignment among community partners), CHWs can implement referral best practices efficiently by building relationships with partners and connecting them to a broader network of services. All community partners can make effective referrals by knowing available service options, explaining eligibility requirements and potential accessibility barriers, and monitoring referral progress and loop closure.

IRIS also provides communities with the agency to choose what information they collect from their clients to identify referral barriers. Depending on the community's vision and needs, clients' data might include race and ethnicity, gender, primary language, income, insurance status, etc. Reviewing this data in the context of referral outcomes allows CHWs, and their community partners, to understand and address inequities in access to services. The connections built through IRIS enable all community organizations to cultivate relationships, building a strong net to ensure families are seen, heard, and provided with quality care and resources.

In many instances, CHWs champion existing efforts in communities to promote the health and well-being of their constituents by addressing systematic challenges. Through this process, their knowledge and understanding

of the collaboration landscape support organizations by providing partner service and resource coordination to their community. When positioned as IRIS leaders, CHWs can reach diverse audiences within communities, which is crucial to overcoming common implementation stress points – such as a lack of partner buy-in, systemic inequities, or under-represented community voice.

The IRIS approach strengthens collaboration and communication between families and service providers. Committed to supporting visions for positive change, IRIS seeks to ensure the needs of organizations and families are met by willingly collaborating with community champions, partners, and policymakers to build networks that allow communities to thrive.

Conversations with developers, funders, and community partners need to recognize the benefit of technology that supports partnerships and meets the unique needs of organizations and the families they serve. The IRIS approach, paired with the platform and led by the community, fosters a collaborative, cross-system approach to build a successful multi-sector coordinated network to ensure communities are connected to support thriving families. Most importantly, individuals and families experience positive health and social well-being outcomes with the support of the communities where they live and work.

THEORIA
MEDICIAL

Email to: ███████████████████

Subject Line: Connected Health RFI

Respondent Type: Healthcare Providers and Technology Developers

Responders: Mida Pezeshkian, PhD | Chief Innovation Officer,
Andrew McUsic, PhD | Vice President of Product Management

User experience: Skilled Nursing Facilities (SNFs) play a critical role in ensuring positive outcomes for patients who have recently experienced an acute episode after receiving acute care during a hospital stay. A successful care journey for a skilled patient means an optimized length of stay and return home without episodes of returns to the hospital or emergency room visits (ER). Health technologies and continuous care by the nursing and medical staff play a critical role in achieving these outcomes. Unfortunately, post-acute care organizations trail significantly behind health systems and smaller healthcare entities such as primary care practices in implementation and adoption of new health technologies. In addition, health technology companies tend to build and innovate with less industry pressure and at a slower pace. Disjointed systems and lack of integration between the hospital/facility electronic health record (EHR), the laboratory electronic medical record (EMR), and the medical staff EHRs further complicate real-time access to patients' medical records, critical to clinical decision making efforts by the medical staff at the facility. These, along with the current staffing shortages induced by the COVID-19 pandemic, have led to higher return to hospitalization (RTH) and poor outcomes in SNF and long-term care facilities.

Theoria Medical, PLLC, an innovative physician group and health technology company specializing in post-acute and primary care, has experienced its fair share of encountering these barriers to providing highest quality care to skilled and long-term care patients. Similar to other healthcare practitioners in post-acute care, Theoria launched its evaluation and management services in SNFs using a market-leading third-party EHR solution designed for geriatric care to document patient visits and handle the operations of providing medical services at our partner facilities. It became evident that this commercial EHR solution did not meet the demand of providing quality care and at critical times, served as an impediment to our operations and delivering quality patient care. These health tech deficiencies may be directly linked to the

software developer's lack of clinical user-focused design requirements and prioritization of commercial goals over developing new solutions to improve quality care. Our team set out to identify systematic barriers characteristic of the third-party EHR and interviewed our clinical and administrative staff to understand their barriers as users. With these findings, we set out to self-develop and certify our own proprietary EHR, ChartEasy™, to ensure building our solution to specification, leveraging innovative tools such as AI/Machine Learning and automations to design key features not met by our previous solution. These workflows solve critical problems impacting quality patient care and significantly increase our providers' performance and ensure real-time access to patient documents to the facility partners so the nursing team can support our patients' care. These features include clinical decision making support and compliance measures to ensure complete and timely visit documentation and efficiencies to assist with daily management of our providers' tasks at the facility while they physically round or provide telemedicine coverage.

Through this process, clinical and administrative staff are surveyed, interviewed, and consulted to define/design efficient workflow for their use. Additionally, the users participated in alpha and beta testing and trained on best practices prior to feature release. This workflow guarantees the software solution is designed and delivered to improve efficiency and delivery of highest quality care to our patients. The system is continually updated to introduce new improvements. Furthermore, the outdated manual/paper processes are critically understood and redesigned into scalable automated workflows with the user in mind. Analytics is collected and shared with the users to improve clinical quality performance and also to continuously improve and obtain valuable feedback to incorporate into future builds. Theoria has successfully leveraged and combined provider experience with an in-house technology development team to create the ultimate EHR for post-acute care to improve continuity of care and promote collaboration across all care team members with the ultimate goal of improving patient outcomes, engaging family members, and reducing inequities in the patient population as it pertains to access to quality healthcare. This journey is grounded in exchanging ideas within a merit-based system that promotes a culture of excellence, and it has given our team the opportunity to hear one another's perspectives with a single goal to build a system that improves patient care.

Health Equity: In recent years, considerable financial and regulatory emphasis has been placed on ensuring equitable patient access to their health information to improve patient outcomes. These investments have slowly worked their way through large health systems but have not fully reached the SNF and long-term facilities. The patient population in many post-acute care and skilled nursing facilities is skewed toward

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disadvantaged, underrepresented populations. The patient census demographics (race, ethnicity, age, gender) across Theoria's facilities exhibits a diverse mix of patients of color (African American, Asian, and American Indian or Alaska Native), as well as patients over the age of 65. As such, they may experience healthcare inequities impacting the quality of care afforded to them. As their physician group, Theoria recognizes these populations deserve the same level of care afforded to those with greater agency and access to healthcare; therefore, Theoria has designed workflows and models of care to improve patient outcomes, removing the influence of resources as a determining factor for the level of care provided to our patients. An example includes implementation of Chronic Care Management, a program designed by the Centers for Medicare and Medicaid Services (CMS) to improve outcomes for eligible long-term care patients with two or more chronic conditions. Coupled with a mobile-device friendly Patient Portal and provider-to-patient (or guardian/caregiver) communication, these initiatives serve to lower the technical and knowledge barriers to accessing the details needed to properly manage chronic conditions.

A deep sense of responsibility is placed on health technology developers to identify current barriers and build better solutions to improve quality and access to healthcare providers and patients. We believe regulatory bodies and government agencies share in this responsibility and can be a resource to change by setting useful regulation and fostering partnerships with private entities innovating in this space.

THINKMD and Connected Health RFI

Attention: Jacqueline Ward
Re: Connected Health RFI

The following details input from THINKMD, a social impact company based in Burlington, Vermont, as <u>a technology developer stakeholder</u>, on how digital technologies are used to transform community health, individual wellness and health equity.

THINKMD Overview

THINKMD, founded in 2014, is transforming global digital health at the frontlines of care with clinical intelligence and data analytics to enable better decisions, better data and better health to anyone, anywhere. A social impact company based in Burlington, Vermont, THINKMD's clinical intelligence technology helps any user identify how sick a person is, what illness they may have and what appropriate next steps to take. The [scientifically validated technology](#) has shown a 94% adherence to the World Health Organization (WHO) protocol for assessing and managing illness in children under 5 years of age (IMNCI), which aims to reduce death, illness and disability, and promote improved growth and development among infants and children.. THINKMD empowers users, healthcare delivery organizations and governments with acquired data that informs accurate clinical and public health decision-making.

Successful models of strengthening community health through digital health technologies within the United States and abroad

THINKMD's platform is currently active in 10 countries, with priority given to countries where need is the highest, including Bangladesh, Indonesia, Kenya, Somalia, South Africa, Sudan, Nigeria, Zambia and Togo. We work with a variety of local and international implementing partners including [Save The Children](#) (Bangladesh, Indonesia and Kenya), [Integrate Health](#) (Togo), [Healthy Learners](#) (Zambia), [Alight](#) (Sudan and Somalia), [eHealth Africa](#) (Nigeria), with funding from partners such as the Bill & Melinda Gates Foundation, the Pfizer Foundation and the UBS Optimus Foundation.

To date, the functionality of our clinical intelligence and data platform has focused on maternal, newborn, child and adolescent health (MNCAH), but will be expanded in 2022 to include adult health. Typical use cases for the platform:

1. ***Clinic-based curative care:*** THINKMD's clinical assessment decision support tool is used by nurses and physicians to clinically assess the health of newborns and children under 5 using an IMNCI compliant platform. Assessments are performed in the clinical setting and THINKMD software provides treatment recommendations based on age & weight of the patient.
2. ***Community-based preventative care:*** Community Health Workers (CHWs) and School Health Workers use THINKMD's point-of-care decision support technology to triage the health of a patient and refer based on severity of the assessment. Assessments

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are often performed in a community, home or school in an offline environment in the local language of the user.

3. ***Consumer self-care:*** Through a telecommunications partner in South Africa (Mondia Media) and a pharmacy chain in Kenya (Goodlife Pharmacy), consumers are able to use the platform to conduct assessments on themselves or their babies, facilitating better decision-making for health seeking. In Kenya, when high clinical risk is detected, moms and/or babies are referred directly to a doctor via MyHealth Africa's telehealth service.

Over the last five years, THINKMD has built its core competency around creating evidence-based digital health platforms to deliver quality healthcare across the MNCAH continuum of care. As physicians and clinical researchers, the founders of the company developed an organization founded on the belief that the person we serve is always the patient. THINKMD's platform is built on strong technical and clinical expertise. This founding principal of clinical excellence was paired with modern systems design to create a sophisticated clinical platform that uses the most up-to-date Frontend (Vue.js) and Backend (Node.js) Frameworks on highly available and scalable infrastructure (Heroku, AWS). This modern architecture allows us to quickly patch and release bug fixes, test and rollout new product features, and customize the platform to each customer's unique requirements. Furthermore, delivering quality healthcare is central to the company's core thesis, which is why, even as a small company, we develop our technology under a Quality Management System that is compliant with FDA 21 CFR Part 820 and ISO 13485.

A proven strength has been in maximizing partnerships to achieve large scale and impact. As a small, experienced team we have formed partnerships with some of the world's leading public and private entities that specialize in delivering MNCAH services in variety of settings - homes, schools, clinics, communities and pharmacies. This has allowed a small, dynamic to distribute its technology to hundreds of thousands of users across nine different countries in less than three years.

To date, our platform has facilitated half a million quality health encounters across the aforementioned countries, where accessing healthcare is a critical challenge. Over 250 unique disease risks are assessed each time the software is used. This means that we have completed over 6.7 million clinical risk assessments for adolescents, children, newborns and pregnant and new mothers to date, supporting them with high quality healthcare and guidance so that they can make better health decisions, including seeking timely and appropriate care.

Barriers to uptake

The following barriers are relevant to LMIC settings.

In a landscape characterized by dependence on donor funding, THINKMD chose to operate as a benefit corporation to leverage the power of an enduring for-profit business model to accelerate innovation and impact to deliver solutions to those who need it most. The company aims to shift the paradigm from donor dependent digital health solutions to deliver sustainable and dynamic technology solutions at a low cost due to the ability of the product to scale within both the public and private sectors. This, however, remains a challenge.

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Secondly, operating in across different national contexts and settings, through different types of organizations involves considerable research to understand the unique barriers for each country. However, common barriers include funding for long-term use of digital health tools and data platforms, scalability beyond project-to-project parameters as well as government and Ministry of Health buy-in and support. Healthy Learners, and its support by Ministries of Health and Education, is a strong case study for how these barriers can be overcome and solutions can be scaled with the support of government.

Health systems in LMICs are going through tremendous change; many are laying the framework for modern digital health systems to improve healthcare capacity, delivery and outcomes for their most vulnerable populations. This transition is complex and involves many interdependent platforms - from workflow and case management to supply chain and electronic health record systems, all of which need to 'talk' to each other to feed information into larger, consolidated health information systems with the intention of utilizing insights to improve health outcomes on a national level. This process can be confusing and complex, and government and program staff are often overburdened trying to re-evaluate health impact goals, manage collaborative relationships, and understand what they need, when they need it and how it will seamlessly integrate with systems that are already in place.

We have found that being nimble, cost effective and innovative are key ways to address these challenges, as a way to deliver high-quality digital health platforms. Another key learning has been working closely with implementing partners to build locally-owned and managed data analytic and visualization systems generated from the data collected by the use of the platform. Since platform use generates extensive program, population and individual health data sets, partners are able to effectively monitor user and program performance, population health and the impact of implemented interventions in their program catchment areas.

THINKMD has also found that by offering ongoing support with data, as well as having a platform that can be used by anyone, anywhere regardless their level of clinical training – and available offline – has removed training challenges as a barrier to entry. Training through implementing partners has been simple and straight forward, with partners choosing the level of support they want with data management. THINKMD being able to provide these groups with data reports against their donor reporting key performance indicators (KPIs) is especially valuable.

Trends from the COVID-19 pandemic

THINKMD developed a **COVID-19 screening & educational tool** that guides people through a COVID-19 assessment. At the height of the pandemic in 2020, it could be used by a trained provider, nurse, telemedicine operator, or even an individual in the absence of a test. It could be used on-site or via a telemedicine consultation to determine if an individual had none, some or many of the infectious and presenting features associated with COVID-19. The tool was available in over 13 languages, as a progressive web-based application that was functional on any desktop, tablet or mobile smartphone. In addition to acquiring COVID-19 specific clinical data, the tool also acquired critical time-specific population health and epidemiology data for disease surveillance and predictive outbreak modelling. This points to

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the need during the pandemic for tools that supported decision-making around COVID-19, but as the disease as adapted and evolved, the clinical data points for determining symptoms of COVID-19 have been increasingly difficult to track. What is significant is that the COVID-19 pandemic has accelerated the acceptance and use of telemedicine and remote diagnostics. Telemedicine is an emerging market for THINKMD and is expected to grow at annual rate of 15.1% globally and approximately 11% in Africa and the Middle East.

How user experience is measured

THINKMD works closely with all implementing partners on projects, gathering feedback on user experience regularly. This includes conducting frequent focus groups with those on the frontline of healthcare, such as Community Health Workers, doctors, nurses and school teachers, who utilize our platform to understand their experiences. This process has been integral to product development.

The need for tools and training and the effect on health equity

The world will have a shortage of 18 million frontline health workers by 2030. We cannot train our way out of this deficit. Our only hope lies in improving quality care offered by the many cadres who are stepping up to offer healthcare and guidance to their families and communities: parents, community health workers, school teachers, pharmacists, nursing assistants and nurses and doctors themselves. Digital tools are key to providing this quality.

In 2019, it was estimated that 5.2 million children under the age of five died from preventable and treatable causes, while 810 women die every day from preventable causes related to pregnancy and childbirth. Not being able to access healthcare has created an inequitable world that directly impact health outcomes. THINKMD's mobile digital health platform increases the clinical capacity of frontline health workers to reduce child, adolescent and maternal deaths. The scientifically validated technology has shown a 94% adherence to the Under 5 World Health Organization (WHO) protocol, which aims to reduce death, illness and disability, and promote improved growth and development among infants and children aged less than 5 years.

Ideas for potential government action

Systems change takes time and will require the equal participation of local and global leaders that have both in-country and cross-country expertise to build the capacity of healthcare workers and the systems they support. Effective systems change will require new innovators to act as a bridge between the public and private sector. It is this intersection between the public and private sector, and their combined experience and expertise that will lead to collaborative, sustainable and scalable solutions that will improve health outcomes. Zambia can be referred to as a successful example of this, where consistent and continued government support has facilitated the scaling of a successful school health model, supported by THINKMD's clinical intelligence and analytics.

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March 3, 2022

My name is Toria N. Pettway, MSW, LBSW, and I am a Public Health Social Worker with the Jefferson County Department of Health (JCDH). Currently, I am working on a grant through the Centers for Disease Control and Prevention (CDC) known as Overdose Data to Action (OD2A). The grant goal is to support recipients in getting high quality, complete, and timely data on overdose to inform prevention and response efforts (CDC, 2019). Therefore, technology plays an essential role.

I function as the Peer Recovery Support Specialist Liaison (PRSSL) on the OD2A grant. As the PRSSL, one of my primary roles is coordinating and implementing new emergency department (ED) protocols and procedures, which includes linking Certified Recovery Support Specialists (CRSS) with individuals in the ED actively experiencing an overdose. In addition, I serve as a liaison for the CRSS. The CRSS are individuals with a previous history of substance use who have sustained recovery (for two years or longer), completed a training certification through the state, and provide support to individuals in active substance use. Research supports that individuals in active substance use who receive assistance from a CRSS experience the following (SAMSHA, 2017):

- Decreased criminal justice involvement (Rowe et al., 2007; Mangrum, 2008),
- Decreased emergency department utilization (Kamon & Turner, 2013), reduced relapse rates (Boisvert et al., 2008),
- Reduced re-hospitalization rates (Min et al., 2007), and
- Reduced substance use (Bernstein et al., 2005; Boyd et al., 2005; Kamon & Turner, 2013; Mangrum, 2008; O'Connell, ND; Rowe et al., 2007; Armitage et al., 2010).

Based on my experience, this response will discuss **barriers, trends from the pandemic, user experience, tools and training needs, and proposed government actions** to help strengthen community health through technology.

Barriers
The COVID-19 pandemic presented an extreme challenge for JCDH implementing substance use disorder (SUD) harm reduction interventions into the ED. One of the harm reduction interventions involved the placement of CRSS in the ED. When the COVID-19 pandemic was declared in March 2020, many local hospitals limited non-employee hospital visitation including CRSS.

An alternative method involved the PRSSL using technology to break the COVID-19 barrier. The PRSSL conducted virtual meetings via a video platform with ED Directors to introduce a new web-based system that connects individuals in active substance use to care. The web-based system quickly locates a substance use CRSS via text messaging. Initially some hospitals expressed concern about protecting the patient's protected health information (PHI); however, the proposed system links patients without using PHI. Benefits of using this type of technology resulted in more efficient communication and workflow leading to timely access to substance use support. If technology were not available, our local health department would not have been able to implement this technology in multiple hospitals, during the pandemic in less than 12 months.

Trends from the pandemic:
Alabama experienced a 36.8% increase in fatal overdoses from January to October 2020 (CDC). Both illicit and prescription drugs resulted in fatal and non-fatal overdoses. These overdoses resulted in increased ED utilization in combination with COVID-19. The web-based system allowed the CRSS to contact the patient without entering the hospital. In addition, the CRSS met the patient's needs by speaking with the patient via phone following the "peer alert," notification within the system. Based on the outcomes documented by the CRSS from March 2021 to October 2021, 62% of the individuals with a "peer alert" received linkage to care.

Tools and training needs:
Initially, JCDH provided a pre-recorded virtual training of the web-based system for the hospital staff. This virtual training allowed JCDH staff to honor the hospital's visitation policy and decrease the risk of JCDH and CRSS exposure to SARS-CoV-2. Additionally, the virtual training allowed the hospital staff to learn the appropriate use of the web-based system in the comfort of their work environment, at a self-paced speed. Trainees did not note any significant concerns about using the system. Virtual meetings took place between the hospital, peer organizations, and JCDH to ensure the development and implementation of a standard operating procedure (SOP) that helped staff understand when to enter the referral. Shortly after that, the hospital developed its SOP, and the hospital staff regularly entered referrals for the patients presenting to the ED requesting assistance with SUD.

Proposed government actions
COVID-19 presented a substantial financial and physical strain on our nation's health systems. Hospitals can benefit from additional governmental funds to implement technology-based platforms, to help those with substance use, mental health, and co-occurring disorders. Currently, Jefferson County, Alabama OD2A grant funds are being use to cover the costs to use the web-based system. Once the grant is over, it is uncertain if hospitals will continue using this platform due to cost, as sustainability is a concern. JCDH began using the web-based system in March 2021. The aggregate data documented by our peers as of January 2021 reported the following outcomes:

- One hundred eighty-seven peer alerts from the hospital requesting assistance for those with SUD
- Linkage to care occurred for one hundred twenty-three individuals with SUD, including but not limited to receiving assistance with medication, accepting harm reduction interventions, detox, inpatient treatment, outpatient treatment, and diversion from the behavioral health unit.

The government can play a huge role in maintaining similar web-based systems that can help individuals with substance use disorders and mental health and co-occurring disorders. Sustainable government funding for the hospitals, 911 call centers, drug courts, and law enforcement agencies to utilize these systems can help to decrease opioid use disorder nationwide, post OD2A efforts.

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1. Introduction and Context

Transform Health's overarching goal is to ensure the accelerated adoption and use of digital technology and data so that everyone has access to Universal Health Care (UHC) by 2030. We believe governments can achieve this by putting **communities at the centre of the digital transformation of health** by **providing** them with opportunities for meaningful participation in the planning and implementation of digital transformation of their health services, including the way their health data is used. Towards this vision, we have set the following **objectives:**

1.1 Our Objectives

- **Stronger political will** that will lead to effective leadership and governance and create the enabling environment, including effective and appropriate national legislation, regulations, policies and funding to enable the sustainable digital transformation of health systems that will deliver health for all by 2030;
- **A global health data governance framework** that will guarantee individual rights to privacy and security while enabling health data to be used for public good purposes. To achieve this, we need a public conversation that will lead to a new social contract, based on trust between individuals, the government and healthcare providers and researchers.
- **Increased and coordinated investment** that will ensure the right levels or resourcing, in the right areas and sequenced to strengthen digitally enabled primary healthcare systems.

1.2 Our Approach

Transform Health's approach is based on the creation of inclusive, multi-stakeholder spaces that forge consensus and work constructively with authorities to influence decisions that will deliver tangible outcomes. Transform Health's contribution to the broader digital health ecosystem is based on the following:

- Taking a local to global approach and ensuring the positions and concerns of frontline healthcare workers, marginalised communities and affected populations are reflected and represented at regional and global events.
- The ability to forge consensus across sectors and enable a dialogue with government authorities, and others, on challenges within the broader enabling environment that are slowing or preventing the adoption of digital solutions at scale and in a sustainable manner.
- Supporting and funding national coalition platforms able to lead advocacy efforts focused on addressing national and sub-national realities and needs.
- The benefits of neutrality and disinterested engagement (Transform Health does not promote any one digital health solution, product, or approach). This ensures our partners can engage and address broader systemic challenges that affect all digital health providers, (public and private) without competing for brand attention or market share.

1.3 Mechanisms for Engagement and Implementation:
- **National Coalitions**

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Transform Health's global strategy has identified six priority countries [1](Indonesia, Kenya, Ecuador, India, Mexico and Senegal) where the coalition will establish a presence between 2021 and 2023. The purpose of these national coalitions is to localise Transform Health's strategy and broaden the reach, relevance, and impact of the coalition. The localisation process begins with a national landscape analysis to assess the country's enabling environment that will ensure effective digital health interventions can be scaled and sustained by being integrated into the health system to accelerate UHC. Transform Health uses a franchise model to localise the coalition across different countries and contexts. This model allows local and national partners to leverage the coalition's resources and use the platform, while maintaining their institutional identity, to advance the strategy developed with country level partners.

- **Regional Advocacy**

Transform Health aims to influence existing regional bodies so they develop shared commitments, standards and processes for the digital transformation of health systems across the region and for the sharing of data that will enable each country's health systems to achieve universal health coverage by 2030. To achieve this Transform Health works with regional partners and supports them to develop their capacities to engage in more advocacy and policy related work with the aim of coordinating regional efforts towards changes within regional institutions like PAHO, the OAS, ASEAN, the ADB, the East Asian Summit, SAARC, AU, SADC, the African Union Commission, NEPAD, ECOWAS etc. Examples of such regional partners include HELINA (Health Informatics in Africa), RECAINSA (Central American Health Informatics Network) etc.

- **Global Advocacy**

Transform Health engages around key global influencing meetings and mechanisms (e.g. World Health Assembly, UN General Assembly, G7, G20, World Bank meetings, etc) to advocate around our asks and objectives. These efforts are further concentrated by the approaches mentioned above in order to amplify national and regional calls via global fora and mechanisms, in addition to translating, socialising and adapting global commitments at regional and national levels, including ensuring accountability around these.

2.1 Transform Health Indonesia

Transform Health Indonesia is the coalition structure whose purpose is to work together to localise Transform Health's campaign strategy, based on a landscape analysis that was carried out in Indonesia. Transform Health Indonesia aimed at building consensus on what the government needs to address to ensure the digital transformation of the health systems so that the Country can achieve UHC by 2030. Transform Health Indonesia will work together to influence the Government of Indonesia and others to ensure necessary changes and reforms are made to enable digital transformation of the health system.

IAKMI (selected as the national coordinating partner) works with other partners to coordinate and leverage the technical expertise, information, and networks they have developed through their programming work to advance the objectives of the Coalition in Indonesia. As of January 31, 2022, there 20 organisations joined the Transform Health Indonesia Coalition, consisting of three research institutions, six health professional organisations, three associations, one civil society organisations, one community-based organisation, one private sector, four youth organisations, and one women organisation. Transform Health Indonesia's goal is to support the creation of *A fully digitalization and integration of primary health care services in Indonesia by 2030.*

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[1]Selection of countries was done through a vigorous and consultative process in order to determine via a mix of variables which countries would be most suitable for Transform Health to set up the National Coalitions.

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In order to achieve this goal, the initial focus of Transform Health Indonesia will in support of The Ministry of Health's blueprint, entitled "Blueprint of Health Digital Transformation Strategy 2024[2]". Transform Health Indonesia has identified the following areas that provide a challenge for the implementation of the blue print as well as the objectives the coalitions will aim to achieve over the coming years.

Challenge	Objectives of the Coalition
Weak human resource to provide quality Primary Health Care (PHC) services: Frontline health workers do not currently have good digital health skills and they have little or no IT support Health science students are not provided with adequate digital health training	Integrated digital health curriculum in Indonesia by 2024
There is a lack of integrated and interoperable health data systems	Integrated and interoperable health data in Indonesia by 2028
There are no integrated and interoperable electronic-personal health record	Integrated and interoperable e-personal health record in Indonesia by 2028
There are no mechanisms for multi-sectoral dialogue with the government on the implementation of the Digital Health Blueprint that engages youth, women and marginalised groups	Enabled digital literacy of community by 2028
The resources allocated to the implementation of the Digital Health Roadmap at the Provincial level are inadequate to achieve the necessary changes.	Identification of mechanisms for advocating for increased investment, implementing the necessary actions that would increase investment

Submitted by:

Mandy Govender : Business Development Transform Health

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[2] The digital health blueprint aims to lay the ground for building architecture of Indonesia Health Services Ecosystem. This blueprint has three priority activities that includes: (1) Integration and Development of Health Data System; (2) Integration and Development of Healthcare Application System; and (3) Development of Health Technology Ecosystem. The blueprint outlines a roadmap of health technology transformation by year for 2021-2024.

Inspired by patients.
Driven by science.

Dr. Alondra Nelson
Director
White House Office of Science and Technology Policy
Sent via Email ███████████████████

February 28, 2022

RE: Request for Information (RFI) on Strengthening Community Health Through Technology

Dear Dr. Nelson:

UCB is a global biopharmaceutical company with U.S. headquarters located in Atlanta, Georgia. With more than 8,000 employees globally, we are inspired by patients and driven by science. Our focus is on innovating new medicines to treat severe, chronic neurological, immunological, and rare conditions. UCB is committed to ensuring that all patients have affordable access to the right medicine at the right time, regardless of age, ethnicity, geography, or economic circumstance. Patients are at the heart of everything we do at UCB, from where we invest our research dollars to how we engage with other stakeholders to bring new therapies to market. Every day, we work to ensure that patients have the best individual experience while promoting access to high-quality, coordinated, affordable care and equitable access to medicines for all patients.

UCB appreciates the opportunity to provide comments to the White House Office of Science and Technology Policy (OSTP) in response to its Request for Information (RFI) on Strengthening Community Health Through Technology. UCB offers the following comments for the OSTP's consideration:

Health inequities are unfair and avoidable differences in an individual or specific population's health, impacting their opportunities to improve their health, due to circumstance. Many dimensions of disparity exist in the United States. Race or ethnicity, sex, sexual identity, age, disability, socioeconomic status, and geographic location all contribute – either positively or negatively – to an individual or population's ability to access quality healthcare and achieve optimal health outcomes.[1] The Centers for Disease Control and Prevention (CDC) identifies health disparities as, "preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations."[2] Health disparities impact patients', or groups of patients', ability to access care, the quality of care available, and, thus, ability to achieve optimal health. Addressing inequities is important to mitigate the disparate impact of chronic disease, improve the nation's overall health, and reduce avoidable healthcare costs – particularly, as the ongoing COVID-19 pandemic has exacerbated existing inequities.

At UCB, we have a fundamental commitment to improving the lives of people living with severe diseases, enabling them, their caregivers, and their families to live their best lives. This also means ensuring access to needed medications for *all* patients, regardless of race, ethnicity, gender, sexual orientation, disability, socioeconomic status, or geographic location.

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[1] *See* https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities. Accessed December 2021.
[2] *See* https://www.cdc.gov/healthyyouth/disparities/index.htm#1. Accessed December 2021.

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A. Telemedicine has the potential to be leveraged to increase access to care among patient groups that may have traditionally faced barriers to in-person care.

Telehealth can increase access to high-quality care, particularly for those patients that may face difficulty accessing care due to economic or geographic circumstances or disability. Telehealth offers many patient benefits, such as:

- Patients with mobility issues are spared the time, effort, and expense of getting to the provider's office;
- Patients with chronic conditions may access specialists that would otherwise be unreachable (e.g., epilepsy is typically treated by specialists, yet less than a quarter of Hispanic patients have access to an epilepsy specialist, compared to 57% of white non-Hispanic[3] patients);
- Patients with chronic conditions can see their provider virtually to stay on track with treatment;
- Virtual appointments are less likely to be missed by a patient and may allow providers to spend more uninterrupted time with their patients; and
- In the long-term, telehealth has the potential to provide a valuable and cost-effective mechanism for providers to reach and treat patients where they are and to tailor care to each patient's individual needs.

In light of these important benefits, UCB encourages the OSTP to work to improve and enhance telehealth flexibilities, in order to maximize patients' access to high-quality, appropriate care; this includes making permanent increased telehealth flexibilities extended during the COVID-19 pandemic, such as the ability to conduct telehealth visits via audio only and allowing for physician supervision via telehealth. These flexibilities allow patients access to care and specialists that, previously, may have been inaccessible.

Telehealth should include delivery of patient care via audio *or* video. The use of audio-only telehealth offers value to patients and should be included in the discussion. For example, audio-only telehealth options may be the only access available to epilepsy care providers for patients living in rural, remote, or technology-deficient areas (e.g., lack of broadband internet making video impossible, discomfort with video technology). Additionally, UCB encourages the OSTP to work with the Department of Health and Human Services to ensure that providers, including multi-disciplinary care team members, are reimbursed equitably; consider flexibilities that may reduce issues related to liability and licensing across state borders; and allow flexibilities and/or regularly reevaluate model design to allow for utilization of improvements in technology to optimize access for patients and providers.[4] While telehealth cannot replace all in-person clinical assessments, it is a valuable service that can help reduce inequities in healthcare.

B. Objective and prioritized approaches to identifying inequities and measuring progress are needed.

An objective and prioritized approach to addressing health inequities necessitates a systematic assessment to identify those health inequities that lead to the greatest increase in risk of poor health outcomes. In order to effectively address health inequities, we must understand where they exist, how they impact the quality of care, and the impact on outcomes experienced by specific patient groups. The more we understand health inequities, the better we can work to close gaps in patient's ability to access care and treatment. UCB is committed to working with other stakeholders to identify health inequities and close those gaps to ensure that all patients, regardless of race, ethnicity, gender, sexual orientation, disability, socioeconomic status, or geographic location are able to achieve optimal health.

As we begin to identify health inequities and take actionable steps toward improvement, it is important to clearly define the issue. The definition of "poor health outcomes" must be clear. While this definition can be flexible and

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[3] Nathan, C. L., & Gutierrez, C. FACETS of health disparities in epilepsy surgery and gaps that need to be addressed. Neurol Clin Practice. 2018;8(4):340–345. https://doi.org/10.1212/CPJ.0000000000000490.

[4] *See* American Epilepsy Society. Telehealth Position Statement. Sept. 2020.

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Inspired by **patients.**
Driven by **science.**

include a range of outcomes (e.g., emergency room visits, hospital readmissions, costs or clinical outcomes), we must articulate a standard measure. Similarly, we need to develop objective measurements to determine if, and how well, the efforts are working.

Data are necessary to determine where disparities exist, design actionable steps to address identified disparities, and measuring progress. Without adequate data, inequities remain unseen and unaddressed. [5] In order to collect the comprehensive and valuable data, UCB encourages the OSTP to coordinate with experts and stakeholders (including other administrative agencies) to ensure that they are collecting and measuring the correct data. We also encourage expanding data fields beyond the standard data collected, in order to identify previously unseen inequities. For example, races and ethnicities that do not fall into the top two or three groups should not be identified as "other". Gender identification should expand beyond male or female. Additionally, we encourage the OSTP to collect information on less traditional data fields such as a patient access to reliable transportation. Lastly, data collection methods should be dynamic. While many variables are fixed and will not change over time, some variables, such as socio-economic status and payer type, are not static and will need to be updated over time.

C. Conclusion

UCB appreciates the opportunity to comment in advance of CMMI's Health Equity Roundtable. We welcome further discussion and look forward to working with CMMI to continue improving care and access for all patients. Please direct any questions to Amanda Ledford, Director of U.S. Public Policy, via email at ███████████████████████ or by phone at ██████████████

Sincerely,

Patricia A. Fritz
Vice President, U.S. Corporate Affairs
UCB, Inc.

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[5] *See* Kaiser Family Foundation. Advancing Health Equity Requires More and Better Data. Oct. 2021. https://www.kff.org/policy-watch/advancing-health-equity-requires-more-better-data/.

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Unite Us Response to White House
Office of Science and Technology Policy Connected Health RFI

Background on Unite Us

Founded in 2013, Unite Us is a technology company that provides an end-to-end solution to connect health and social care. Our goal is to ensure every individual, no matter who they are or where they live, can access the critical services they need to thrive. Through technology paired with on-the-ground community engagement, Unite Us seeks to increase equitable access to health and social services, address the fragmentation of services that makes our health and social care systems so challenging to navigate, and confront barriers to health equity such as poverty and lack of access to basic services.

The suite of Unite Us technologies enable an end-to-end approach for social care. Our tools and services support: 1) Proactive identification of at-risk individuals and their social needs; 2) Enrollment in programs and services to meet those needs; 3) Delivery of care via an accountable network of providers and bi-directional referrals for health and social services; 4) Data to monitor and inform the maturity of those systems of care; and 5) Billing and invoicing functionality that allows community providers to get reimbursed for services provided. The Unite Us core platform is built on a modern cloud-based technology stack with intuitive UX and open APIs. Unite Us is HITRUST-, SOC 2 Type 2-, and National Institute of Standards and Technology (NIST)-certified and follows the highest security frameworks in the industry. We are HIPAA-compliant, and fully align with the strictest federal privacy regulations, including 42 CFR Part 2 and the Family Educational Rights and Privacy Act (FERPA).

Unite Us has successfully built and scaled our coordinated care networks in 46 states across the country and expects to be active in all 50 states by the end of 2022. While our technology serves as the foundational digital infrastructure, it's really these accountable, integrated networks of providers using the technologies that drive positive impact on community health. These networks of CBOs, health plans, health systems, hospitals, government entities, and public programs are elevating the delivery of health and social care. Unite Us technology powers the workflows across these networks that connect people with behavioral health, diabetes prevention programs, early childhood education, COVID wrap-around services, community re-entry programs, and more.

Unite Us appreciates the opportunity to submit comments in response to the Connected Health RFI released by the Office of Science and Technology Policy. Our comments are grounded in our experience working with community-based organizations and providers, healthcare stakeholders, and state and local government to improve community health and advance health equity.

In recognition of the barriers preventing use of modern technology in community-based settings, our recommendations include: 1) Advance policy that provides direct and long-term funding for community health infrastructure; 2) Support sustainable funding for community-based social services and the providers delivering these services; and 3) Drive federal standards that elevate the importance of outcomes and accountability in the delivery of community-centered, whole-person care.

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(1) Advance policy that provides direct and long-term funding for community health infrastructure.

Community-based providers are increasingly leveraging care coordination and referral infrastructure, which connects health and social service providers in a common ecosystem, to address the unmet needs of community members, reduce health disparities, and improve community health outcomes. Serving as the connective tissue between historically siloed healthcare and community-based care settings, this shared technology infrastructure provides communities with a powerful tool that enables screening for unmet health and social needs, closed-loop referrals with the ability to track outcomes, collaboration and communication with a local network of providers, and comprehensive data related to unmet need and local service provision. With proper technical functionality and person-centered product principles in place, community health infrastructure serves as a powerful backbone for upstream, whole-person care delivery that meets individuals in the community rather than focusing solely on clinical settings.

Unite Us has deployed this technology infrastructure in over 46 states in the US in direct partnership with community, healthcare, and government stakeholders to aid COVID-19 pandemic response efforts, invest in community health, and drive health equity. In Virginia, Unite Us established the statewide technology infrastructure Unite Virginia in partnership with the Office of the Virginia Secretary of Health and Human Resources, the Virginia Department of Health, Optima Health, Partnering for a Healthy Virginia, Kaiser Permanente, Virginia Mental Health Access Program, Virginia Department of Social Services, and the Virginia Hospital & Healthcare Association. Through the partnership, state agencies, community-based organizations, and hospitals in the Commonwealth use the Unite Us Platform as community health infrastructure to send and receive electronic referrals, address people's social needs, and improve health across communities. Since the network's inception in December 2020, Unite Virginia has supported collaboration across over 800 community organizations. The large majority of needs identified and met by the network focus on housing, food assistance, income support, and physical health.

While this health infrastructure continues to become more common in communities across the country, there remains an enormous opportunity for OSTP and its federal government partners to advance policy that provides direct and long-term public funding for community health infrastructure. In the Unite Virginia example, Governor Ralph Northam leveraged flexible CARES Act funds to jumpstart the initial implementation of the community infrastructure across the state; however, in this example and in others, partners would benefit from additional, ongoing public funding streams dedicated to digital infrastructure growth and maintenance as there is no federal program that currently supports or promotes such community-based technology across all the relevant government agencies and programs.

(2) Support and incentivize sustainable funding for community-based social services and the providers delivering these services.

In order to sustain community health strategies, build local capacity, and enable long-term resilience, OSTP can work with HHS and other federal partners to develop and mature new, sustainable funding streams for community-based organizations, social services, and community workforce. In the health and social sectors, local organizations have traditionally been tied to time-limited grant funding and often operate at a deficit, impacting both the service as well as the resource quality. These providers often present the most accessible and culturally-competent touchpoints to care for underserved and historically marginalized individuals. In response, OSTP should advocate and advance policies that incentivize sustainable funding for community health partners for the critical services they deliver at the local level. One example is to further Medicaid reimbursement policies for health-related social services and normalize these investments by treating interventions as quality improvement activities for medical loss ratio purposes.

UNITE US

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OSTP may consider North Carolina's Department of Health and Human Services' (NCDHHS) innovative work under their [Healthy Opportunities Pilots](#) as an example of the value and importance of dedicated funding for community- and network-based infrastructure to improve whole-person health. Under this pilot initiative, NCDHHS is leveraging their 1115 Medicaid Demonstration Waiver to reimburse community providers delivering non-medical services related to housing, food, transportation, interpersonal safety and toxic stress to high-need Medicaid beneficiaries—with the goal of improving overall wellbeing for residents and building social care capacity. Unite Us is supporting the implementation of this Healthy Opportunities Pilots with our [social care payment](#) product. This payment product builds on our statewide care coordination network and provides social care providers with invoicing and billing functionality that allows for direct social care reimbursement. In summary: While policies and legislation—such as the American Rescue Plan, CARES Act, and changes to 1115 Waiver flexibilities—are providing some community providers with needed funding, OSTP can work with federal government partners to enable sustainable social care financing models across the country.

(3) Drive federal standards that elevate the importance of outcomes and accountability in the delivery of community-centered, whole-person care.

As the delivery of care in community-based settings becomes increasingly common, OSTP should continue to provide leadership that ensures an outcomes-focused approach with appropriate data and technology requirements. The healthcare system has been shifting to focus on outcomes and value rather than simply paying through fee-for-service arrangements. But there continues to be a lack of focus around outcomes and value in the community health space especially as it relates to the delivery of whole-person, wraparound services.

To support this shift, the Unite Us infrastructure critically captures a clients' longitudinal care journey. It also supports structured referral-outcomes data and reporting that sheds light on important questions related to local resource capacity, disparities in care delivery, and other trends posing barriers to accessing services in a community. In one example from [our work in Oregon](#), Unite Us' care coordination network has served as a powerful community health tool during the pandemic. We have powered multiple counties' wrap-around services to those quarantined or in isolation due to COVID-19 exposure. We are able to do this in part because of our ability to track not just referrals but the outcomes of those referrals; organizations are held accountable to ensure individuals receive needed services. OSTP and the federal government can incentivize this type of work by requiring organizations that receive federal funding to report not just on the traditional process metrics but also on outcomes. This simple shift accelerates efforts to emphasize value and outcomes in the delivery of community-based health and social services and can serve as a powerful tool in support of population health initiatives.

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If you have any questions or if there is any additional information we can provide, please feel free to contact me or Eric J. Beane, VP, Regulatory & Government Affairs at ▮▮▮▮▮▮▮▮▮▮▮▮

Sincerely,

Read Holman
Policy Director
▮▮▮▮▮▮▮▮▮▮

Submitted: March 31, 2022

UNITE US

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9900 Bren Road East, MN000-T000, Minnetonka, MN 55343

Office of Science and Technology Policy
Request for Information on Strengthening Community Health Through Technology
March 1, 2022

Submitted Electronically: ████████████████████

UnitedHealth Group (UHG) is pleased to provide comments to the White House Office of Science and Technology Policy (OSTP) regarding the promotion of community health using technology. UHG is a mission-driven organization dedicated to helping people live healthier lives and helping our health care system work better for everyone through two distinct business platforms – UnitedHealthcare (UHC), our health benefits business, and Optum, our health services business. Our workforce of 325,000 people serves the health care needs of 142 million people worldwide, funding and arranging health care on behalf of individuals, employers, and the government. We not only serve as one of the nation's most progressive health care delivery organizations, we also serve people within many of the country's most respected employers, in Medicare serving nearly one in five seniors nationwide, and in Medicaid supporting underserved communities in 31 states and the District of Columbia. UHG is strongly committed to improving health care access and outcomes through various technological solutions such as telehealth and digital engagement.

Digital health can be broadly defined as the ecosystem of technologies, services, and interactions allowing individuals to engage with the health system in a digitally-enabled, convenient way. Digital health care approaches designed with equity and users in mind (or co-developed with users) lead to better health care results. According to a systematic review of research compiled by the Agency for Healthcare Research and Quality, telehealth has proven effective in the delivery of services to a wide variety of patients, especially for counseling and remote monitoring of patients with chronic health needs and in the treatment of behavioral health conditions.[1] Similar studies compiled by the American Hospital Association indicate that telehealth services offered by hospitals provide lower-cost care with improved outcomes.[2]

The COVID-19 pandemic significantly increased patient use of digital health options and accelerated perceptions and policies of digital health as a key component of care delivery among providers, public and private payers, and state and federal regulatory agencies. Telehealth use initially increased to 38 percent of all provider office and outpatient visits in April 2020 and has since stabilized after removal of certain pandemic restrictions, ranging between 13 to 17 percent across all specialties which is still higher than pre-pandemic levels.[3] Telehealth visits among UnitedHealthcare members grew from 1.2 million in 2019 to almost 34 million in 2020. Among Optum patients, telehealth visits grew from 1,000 in 2019 to 1.3 million in 2020.[4]

We appreciate the focus OSTP is bringing to this issue and are hopeful that collaboration between public and private stakeholders on digital health will expand access to more effective and higher quality care for all Americans. Our comments below highlight several UHG digital health initiatives, identify potential barriers to technology use in community health, and offer recommendations for addressing technology adoption challenges.

Putting Technology into Action: Optum Digital Health Initiatives

Optum's digital health approaches include access to specialized virtual care, home care, mental healthcare, and

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[1]Agency for Healthcare Research and Quality, *Telehealth: Mapping the Evidence for Patient Outcomes from Systematic Reviews* (June 2016) accessed at: Telehealth: Mapping the Evidence for Patient Outcomes from Systematic Reviews [Internet] - PubMed (nih.gov)
[2] American Hospital Association, *Telehealth Delivering the Right Care. at the Right Place, at the Right Time* (July 2017) accessed at: telehealth-case-examples.pdf (aha.org)

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integrated physical care.   As part of these programs, Optum Everycare provides a combination of telehealth and digital applications linked with in-person care giving patients with access to virtual urgent care across 50 states and primary care across 11 states.   The Optum Telehealth Solution promotes use of wireless connected devices such as scales, blood pressure monitors, pulse oximeters, and thermometers. The information collected through these devices is shared securely with both patients and their providers, arming both with vital data to help people get and stay healthy or live with a chronic condition. Optum Behavioral Health offers a suite of evidence-based virtual care and digital self-help tools enabling patients to access an extensive network of providers and personalized emotional well-being resources. For clinicians, the development of clinical decision support tools that enables personalized evidence-based care at the point of care is valuable. Taken together, Optum's digital care offers a next-generation opportunity to address clinician labor shortages and patient access challenges in ways that are cost-effective and responsive to the Quadruple Aim by (a) enhancing the patient experience; (b) reducing costs; (c) improving healthcare outcomes; and (d) improving the clinical experience.

Barriers to Digital Health Adoption

There are many statutory, market, and cultural challenges to adoption and use of digital health. Many of these barriers disproportionately affect older adults, people with disability or special needs, and other populations traditionally underserved by the healthcare system.

- Cost to purchase equipment and devices and to maintain wireless connections.
- Lack of broadband access in certain regions, especially rural areas.
- Variations in health and digital literacy.
- Language and other access barriers (e.g., providing services for seniors with limited mobility or patients with vision or hearing impairments).
- Lack of trust in the healthcare system among certain populations.
- Perception of lower quality with digital care approaches.
- Variations in access to in-person providers who offer telehealth and other digital health services.
- Provider education and changes to practice patterns to deliver appropriate digital care services to patients (e.g., use of digital health assessments to identify patients who will benefit from virtual care opportunities).
- Lack of permanent coverage of these technologies by government health programs causing providers to underinvest in equipment and service offerings.

Recommendations to Address Delivery Challenges

The following approaches should be considered to enable expanded access to digital health:

- Encourage Congress to make permanent make permanent telehealth and digital health COVID-19 related flexibilities:

  o Allowing HSA qualified high deductible health plans to cover telehealth or other remote care services before the deductible is met.

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[3] McKinsey & Company, *Telehealth: A Quarter-Trillion-Dollar Post-COVID Reality?* (July 9, 2021) accessed at: Telehealth: A post-COVID-19 reality? | McKinsey

[4] Fierce Healthcare, *Here's Why UnitedHealth Group's CMO Says Digital Health is a "Game Changer"* (January 25, 2022) accessed at: Here's why UnitedHealth Group's CMO says virtual care is a 'game changer' to reach underserved populations | Fierce Healthcare

- Removal of the requirement that health care providers receiving Medicare reimbursement for telehealth services must have treated the patient within the last three years or be in the same practice as a physician or practitioner who treated the beneficiary in the same time period.
- Allowing Federally Qualified Health Centers and Rural Health Clinics to serve as a distant site for telehealth services (i.e., be the actual provider of the services) and receive reimbursement under original Medicare.
- Waiver of the requirement that home dialysis patients must have regular in-person consultations with a physician to have coverage for telehealth services.
- Allowing use of telehealth services to recertify patient eligibility for hospice care compensated by original Medicare.

- Permanently repeal the Medicare geographic and originating site restrictions for telehealth and eliminate the in-person visit telehealth requirement for mental health services.
- Permanently repeal the in-person evaluation requirement before a provider can prescribe Medication-Assisted Treatment using telehealth to treat substance use disorders.
- Direct the Department of Health and Human Services to analyze the impacts of telehealth access on Medicaid and Medicare beneficiary access to care and health outcomes.
- Expand Medicare and Medicaid coverage options for devices, internet services, and training for technologies that help individuals with disabilities access and utilize telehealth.
- Enlist the services of existing community structures (such as YMCA, libraries, community centers, virtual associations, etc.) and grassroot non-profits to assess needs and mobilize acceptance of solutions related to digital literacy and access.
- Provide states with guidance and best practices for addressing the digital divide for patients, especially populations that face added access challenges as noted above.
- Adopt lessons learned from digital health initiatives in Lower- and Middle-Income Counties:

  - Making allowances for the level of digital savviness in development of digital tools for communities, for example instances where text-messaging could be helpful.
  - Exploring opportunities for empowering those closest to the community such as faith-based organizations (e.g., the Baby Shower Initiative), community health workers, and school systems, with relevant digital tools could help promote adoption of healthy behaviors.

- Invest in technological infrastructure and expand support for pilot programs – such as the Federal Communications Commission pilot project to expand telehealth services for low-income individuals – that ensure greater access to broadband and devices to enable digital health.
- Support initiatives to educate health care providers, family caregivers, and patients on best practices for and benefits of digital health approaches. In particular, these programs should focus on underserved and vulnerable patient populations and their health care providers.
- Ensure adequate data privacy protections for consumers using digital health technologies and work with health plans and providers to reduce the risk of waste, fraud, and abuse.

February 28, 2022

Dr. Alondra Nelson
Acting Director
White House Office of Science and Technology Policy
725 17th Street NW
Washington, DC 20500

Dr. Jacqueline Ward
Assistant Director
White House Office of Science and Technology Policy
725 17th Street NW
Washington, DC 20500

Sent via ███████████████████.

RE: Request for Information on Strengthening Community Health Through Technology

Dear Acting Director Nelson and Assistant Director Ward:

United States of Care is pleased to submit the following comments in response to the White House Office of Science and Technology Policy's Request for Information (RFI) on Strengthening Community Health Through Technology. Our comments will focus on areas 2, 6, and 7 of the RFI.

United States of Care (USofCare) is a nonpartisan, nonprofit organization founded in 2018 with a mission to ensure everyone has access to quality, affordable health care regardless of health status, social need, or income. We were established by a diverse Board of Directors and Founders Council to advance state and federal policies that solve the challenges people face with our health care system. We seek to understand people's unique needs to drive health policy innovation and partner with elected officials and stakeholders to pass and implement those ideas.

As part of those efforts, USofCare has brought together partners from across the health care system to understand how to use virtual care to remove barriers to access for those who faced challenges accessing care before the pandemic, while also making health care more convenient for those who did not face access challenges. In pursuit of our mission to put people at the center of health care, USofCare researched how virtual care tools—including telehealth—could best be used to address health care access using a mix of research methodologies—including literature reviews, expert input, key informant interviews, national public opinion surveys, and conversations with everyday people. We have focused our response to your information request on opportunities to advance access to health care services through telehealth based on our findings from this research.

United States of Care's Responses to RFI: Opportunities to Further Use of Telehealth to Support Access to Health Care

Comments in response to the RFI prompt: Barriers

Through our mixed methods research approach of listening to people, we know that people like using virtual care but also have faced barriers to using it to its full potential. Our research indicates that for those who have used virtual care, the majority 1) like using it, 2) find it safer and more convenient than in-person visits, 3) report that it saves time and money, and 4) are able to connect with the provider.

We have learned from people that they face the following barriers in using virtual care:

1. **Comfort using technology and digital literacy.** People experience lack of comfort or unfamiliarity with technology, including computers, tablets, and remote monitoring devices, as well as online platforms. For example, 13% of adults aged 50+ reported in a NORC 2020 survey not being able to get the technology to work for their virtual care visit, and in a 2020 USofCare National Poll 23% of adults aged 50+ cited trouble with technology as what they liked least about their virtual care experience.
2. **Reliable and accessible internet.** Some people have limited, inconsistent, or no access to internet services. Pew research analyses found that only about 60% of older adults aged 65+ are home broadband internet users and that rural Americans are 12% less likely to have broadband at home compared to urban and suburban Americans.
3. **Quality and personalization.** People report concerns that there will not be a personal connection to a provider via virtual care. People also feel concerned that their unique healthcare needs will not be met. In December 2020, the West Health National Poll found that 13% of respondents had used virtual care but did not think it was personalized.
4. **Concerns about receiving an accurate assessment.** People experience concerns that their providers would miss something or would not be able to conduct a thorough physical exam virtually: A NORC 2020 survey found that 20% of adults said that they didn't trust the provider could get an accurate assessment with virtual care, and 25% were concerned that the provider would miss something.

We know from our research that people want to continue to have the option to use virtual care in the future, but they do not want virtual care to replace in-person visits. It is important that virtual care be designed as a complement to in-person care, and that we remove barriers so that people have the option to use virtual care when clinically appropriate.

Comments in response to the RFI prompt: Health equity

We believe that virtual care has the potential to close longstanding gaps in access, but only if approached in the right way. Our research has focused on those who have historically faced barriers to accessing the health care system, and our recommendations aim to promote better access for more people. Virtual care has already shown success in eliminating barriers to accessing care, such as transportation, stigma, and time-loss–for example, an FQHC in California found that telehealth reduced their no-show rate by 10-15%, and those types of lessons can be used to design equitable approaches moving forward.

Without deliberate effort and careful attention however, a rapid move to virtual care could worsen health inequities rather than reduce them, given that some people lack resources to participate in a virtual care platform. For example, a JAMIA published study conducted in New

York City, utilizing data from March 20 through May 18, 2020, found disparities in telehealth usage connected to race, age, and language preference. Researchers also found that Black and Hispanic patients, older adults, and non-English speaking patients utilized telehealth technology platforms less often than other groups.

Comments in response to the RFI prompt: Proposed government actions

Based on our research, we have identified the following opportunities for policymakers to ensure access to quality virtual care options:

1. **Blend in-person and virtual care:** People should have the flexibility to choose whether to receive in-person or virtual care. Policymakers should ensure providers are not incentivized to steer patients to certain methods of care and strive to prioritize value over volume.
2. **Expand access opportunities:** Bring broadband access and audio-only options to all communities. Eliminate barriers people face to getting reliable, quality virtual care. Ensure adequate reimbursement for a multitude of virtual care technology options to ensure equitable care.
3. **Maximize care locations:** Permanently remove location-based reimbursement restrictions to expand access to virtual care in a variety of settings to meet people where they are, including their homes, beyond the pandemic.
4. **Enhance research:** Look at successes and challenges among different populations and locations. Consider quality, cost, and equity implications of care models. It is critical to consider existing disparities in any data collection and measurement activities. Above all, ensure that policy is people-centered and gets them the care they need.

Conclusion

Even though significant barriers to virtual care exist, there are also tremendous opportunities to close gaps and improve access to care. We arrived at the suggestions in this response so that policymakers, providers, patients, payers, and others can work effectively to use virtual care to remove barriers to access. The virtual care system of the future must be centered on people's needs in order to close such access gaps and improve equitable outcomes. At United States of Care, fostering such collaborations and taking deep dives into the experiences people have with virtual care and combining those learnings with leading research forms the basis of our work.

Thank you for the opportunity to respond to this important RFI. If you have questions or are interested in further discussion on this or any other health care issue, don't hesitate to get in touch with Jennifer DeYoung, Senior Director, at █████████████████

Sincerely,

██████████████

Natalie Davis
Co-Founder and Chief Executive Officer
United States of Care

United Ways of Alabama

8 Commerce Street, Suite 1140
Montgomery, Alabama 36104

[redacted]

United Ways of Alabama

March 30, 2022

United Ways of Alabama Response to
White House Office of Science and Technology Policy (OSTP)
Strengthening Community Health through Technology

Submitted Electronically to: Connected Health RFI [redacted]

Submitted by: Becky W. Booker, Executive Director, United Ways of Alabama
[redacted] **or direct** [redacted]

211 Connects Alabama was among the first States in the nation to make dial code 211 available with the Alabama Public Service Commission designation in 1999. Then, it was one center than took calls for the Montgomery, AL MSA. In 2004, the Commission transferred authority of the dial code to United Ways of Alabama from the Montgomery Area United Way, now known as River Region United Way. By 2005, the United Ways in Alabama worked together to fund, build, and make 211 available to every citizen in every community in Alabama.

211 currently provides four unique assets which can't be replicated at scale across the country by any individual technology vendor:

1. 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. Alabama's 211 system is unique in that it is a mix of United Ways, HandsOn, and Crisis Centers. There are nine (9) centers, but it is a statewide system with one database, a single texting platform, and one telephony solution all funded by the United Ways of Alabama. These Centers work together collaboratively to ensure that when someone contacts 211, someone is there to answer. This is essential to individuals who can't self-serve information due to access, ability, or preference. It's also essential that a human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2. 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3. 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s, including 211 Connects Alabama, share their community needs data on public dashboards such as www.211Counts.org.

4. The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

In Alabama, we are partnering with the Alabama Department of Human Resources and USDA to use 211 to screen callers to identify SNAP recipients to connect them with Employment and Training opportunities. Not only does this program helps individuals become employed or become better employed making a higher wage, while also helping clients receive GEDs, ESL services, and many other needed wrap-around services such as day care.

211 Connects Alabama is collaborating with the Alabama Department of Education to identify homeless students, or students at risk of becoming homeless; working together to ensure every public-school student, no matter where they live, get what they need to stay in school as well as the items needed to get the education they are entitled to. We can provide invaluable information back to the ASDOE regarding public school students and their needs.

United Ways of Alabama and 211 Connects Alabama are also part of a statewide network, using 211 to identify those who are uninsured be connected to our 211 Healthcare Navigators. Together, our system is working hard to ensure that every Alabamian that contacts 211 and is eligible for healthcare coverage through healthcare.gov becomes insured.

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

211 Connects Alabama early on partnered with Alabama AARP to ensure Alabama's senior citizens had the information he/she/they may need to be tested, and/or receive vaccines, including boosters, and be connected with transportation partners, even in rural areas.

211 Connects Alabama is also collaborating with Alabama's United Ways and the Alabama Department of Public Health to provide wrap-around services to those quarantined due to COVID. This has helped thousands of Alabamians to stay home, get better, and not spread COVID; while at the same time not worry how they would feed their families, buy cleaning supplies, or personal items such as diapers and baby formula.

In states impacted by natural disasters such as hurricanes, wildfires, or tornadoes, state and local leaders have come to rely on 211 as an important partner in emergency preparedness and response planning. Many statewide 211 systems in areas prone to natural disasters maintain Memorandum's of Agreement with 211 partners in other parts of the country to ensure readiness and plans for support when disasters occur.

In Alabama, 211 Connects Alabama is part of the State's official disaster plan as the number to call or text for all non-emergency (i.e., 911) needs. Our 211 has been responding to disasters as a 24/7 system since 2004 and our response to Hurricane Ivan. Alabama's 211 is no stranger to disasters, responding to tornadoes, to floods, and hurricanes, along with everyday disasters. In days following April 27, 2011, Alabama's 211 system handled over 40,000 disaster calls/texts/chats in the 10-day period that followed the super tornadic breakout, the massive weather event that led to the death of 253 Alabamians and carved a total path length of about 1,200 miles across countless communities in Alabama.

It is common for 211 to provide guidance to citizens seeking pre-event shelter refuge, aid help seekers during the actual storm event (211 coordinate accordingly with local 911 officials) and to provide navigating support to impacted individual and families suffering losses because of a disaster event. Often 211 provides critical information to FEMA teams as they seek to understand the needs facing specific communities post disaster; however, no systematic agreement is in place nationally between FEMA and the US 211 network.

Important Considerations for Success
When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and childcare deserts.

To facilitate successful data-sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems if there are data categories with shared definitions across sectors.

United Way of Anchorage (Alaska) Response to White House OSTPI/RFI

Strengthening Community Health Through Technology

United Way of Anchorage (UWA) is a community-focused 501(c)(3) non-profit organization governed by a volunteer board of directors and is part of the United Way Worldwide network which strives to improve the health, education, and financial stability of every member of every community. UWA is a leader in mobilizing the resources of individuals and organizations in strategic collaborations to advance the common good. Equitable access to quality health care is a primary area of focus which is why UWA serves as a Navigator organization. UWA is both a past HHS Navigator awardee and a current HHS Navigator awardee with enrollment and outreach efforts focused on the entire state of Alaska.

We appreciate the efforts of the Office of Science and Technology and thank you for creating this opportunity to participate in this important discussion.

Alaska presents unique challenges for reaching the uninsured and providing aid. Alaska is approximately one fifth the size of the contiguous United Sates with the lowest population density of any state. Alaska has an estimated population of 731,545, about 12 percent of which is uninsured. About three-quarters of the population lives on the state's limited road system with 40% of state residents located in the Municipality of Anchorage, a large urban city whose school district reports a diverse student body which is 60% non-White, with over 100 languages spoken at home. Much of Alaska's remaining population lives in communities of less than 1000 spread across a roadless territory accessible only by air or by water.

Alaska has many areas which are designated as medically underserved and that have a shortage of health professionals. Outside of Anchorage and Mat Su Borough, and the two other largest cities of Fairbanks and Juneau, 32% of Alaskan adults report not having a designated personal care provider. Among other health disparities, Alaska has a high suicide rate, a high uninsured rate, and a high prevalence of two or more average adverse childhood experiences.

Today, many health experts promote the importance of identifying patients' Social Determinants of Health (SDOH) and linking them to social services to effectively manage their health conditions and to improve health outcomes. 2-1-1 Centers play a key role in connecting people to services to address unmet needs as well as opportunities to partner across multiple sectors to address those needs. Multiple 2-1-1 Centers have been actively engaged in SDOH work for nearly 20 years while others may be early in their implementation and understanding on how SDOH impacts a person's overall well-being.

United Way of Anchorage has operated the 2-1-1 system for the state of Alaska since its inception in 2007. The 2-1-1 system is a national phone exchange with a mission to connect people in need with information and referral services.

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At its core, the 2-1-1 system is a relatively simple operation. It relies on a staff of highly trained Community Resource Specialists, a robust updated database managed by a Database Curator and technology. It is an easy three-digit number for residents to remember with caring, knowledgeable Alaskan staff answering hundreds of calls, text, and email messages every day. It's where more and more Alaskans turn for help as it is a credible and trusted source of information.

Some of the changes we've seen over the last 15 years include the marrying of systems like 2-1-1 with other systems (like primary healthcare provision and delivery). Community Information Exchanges have sprung up in many communities across the nation. A notable example is the work being done in San Diego, CA. For this exchange of information to succeed, significant work has been done to establish a common language that is used within the software to digitally transfer requests back and forth between the systems, encrypting information so no privacy rules are broken.

Another development in recent years is the emergence of private sector vendors that have identified and monetized a digital information and referral business model. What is often missing from such private sector models are the local/statewide on-the-ground relationships with the providers and the flow of information back and forth that enables an updated database of resources. Without these critical relationships and information-flow, large, scraped databases are out of date and incomplete. Conversely, with the 2-1-1 model United Ways have developed, individuals searching for information (often in crisis) benefit from a caring, empathetic, and community-based liaison who is knowledgeable about the ebb and flow of resources. Alaska 2-1-1 also uses Language Line which is a service that provides for translation of over 170 languages and is accessible 24/7. The Alaska 2-1-1 website located at www.alaska211.org is also formatted to use Google Translate.

In 2020, during the Covid-19 pandemic, Alaska 2-1-1 received over 70,000 calls, a 300 percent increase from the previous years. Alaska 2-1-1 became the go-to-resource to connect community members in need with the right resource. 2-1-1 provides a lifeline for people to find resources to meet their immediate needs and is a valuable, real-time data source for funders and organizations whose missions are to improve our community. During the pandemic calls for resources in the basic needs category remained high as Alaskans struggled to find food for their school age children (due to school closures), rent, mortgage and utility assistance, and primary medical providers.

As mentioned above, there are 2-1-1 operations working across the nation and in Canada with community health stakeholders to build compatible technologies to benefit their constituents. Information gleaned over 8+ years as a healthcare navigator grantee has taught us how best to reach marginalized, left-behind members of our community/state and seek out partnerships like

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community health workers who are touching all members of the community. These trusted community leaders are sharing information about 2-1-1 and helping to remove the barriers in enrolling in healthcare and using the 2-1-1 system. We have also placed a healthcare navigator in the 2-1-1 call center to create direct access to information and enrollment support including language translation services when needed.

Alaska's vast land mass and small population drive innovation and partnership. Bringing in the two largest telecommunication vendors to help design and support the system paid off during the pandemic when ongoing and non-interrupted service was mandatory. Benefiting from counseling on purchase of the type of telephonic technology was also a plus. The choice to use a high level advanced telephonic technology (which was far more expensive than a lesser optioned telephone system) allows for more sophisticated connections like three-way transfer, call monitoring, and advanced messaging options. During the pandemic it was very important that there were multiple ways in which information could be shared and accessed. Ensuring a solid connection in times of great stress builds trust.

Finally, access to affordable healthcare has been a goal of United Way for many years. To that end, we have undertaken the continued role of healthcare navigator grantee (since 2013) and sole operator of Alaska 2-1-1 (since 2007). Both roles place our organization in a unique position to assist with the daily needs of individuals all over our state, meeting people "where they are," understanding and connecting them with the resources they need.

Alaska 2-1-1 and the healthcare navigation team have integrated technology tools that are useful and that can be sustained. At times the integration has been a slow process. Certainly, more direct financial support from the government would be helpful. We continue to refine the ways in which we meet Alaskans where they live with the information that they need.

Thank you for this opportunity to share information about United Way of Anchorage's critical role in response through our healthcare navigation efforts and the operation of Alaska 2-1-1.

Please direct questions to:

Sue A Brogan

COO, United Way of Anchorage

March 31, 2022

Responding to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

Dear Office of Science and Technology Policy,

Thank you for the opportunity to respond to the RFI issued by the OSTP.

My name is Hannah Eisenberg and I manage the 211 information and referral line for Central New Mexico. Our helpline is one of eight 211s in New Mexico and has served nine counties throughout New Mexico for over 20 years. We connect our callers from our communities to resources in their local area. While the majority of our calls are for rental and utility assistance, we help locate resources for all concerns related to physical and mental health, of which there are many. New Mexico struggles with illiteracy, homelessness, and poverty, and we play an important role in supporting the area. We strive to meet industry standards for Information and Referral helplines by participating in the Alliance of Information and Referral Systems (AIRS). We regularly attend AIRS trainings sessions to gain the latest knowledge in how best to support our callers and maintain and accurate resource database. We've used this experience along with the data we collect from our helpline to work alongside the community, discovering new ways to support New Mexicans. This is our nonprofit way.

In early 2021, we sought out to find a new tech platform to utilize for our helpline. We landed on an organization called iCarol for a few reasons. They work closely with information and referral helplines to ensure their product best meets our needs, they put the trust in our organization to make those calls, they offered an affordable but quality product to track our caller data and maintain our resource database. I have enjoyed this collaborative relationship with iCarol.

Our experience with other companies that provide similar services have not had the same collaborative nature. We were introduced to a large tech company early last year through a community partner. Initially we were impressed by the technological capabilities of the platform but quickly became concerned about the initiatives and expectations of this business. In the discussion of data sharing a one-way relationship was always proposed, that is, they could "ingest" our data. Further questioning revealed they were willing to receive our resources and our confidential caller data, without sharing data back. We've heard similar proposals that other 211s have received. Some 211s solely use this platform to log their calls and resource data and still are unable to retrieve the data they have entered themselves. This is concerning for a few reasons. Namely our data is used to improve the community and provide accessible

information to those in need, to meet gaps of care and understand human need in the area. A one-way relationship with data sharing disrupts the ability for easy access to this much needed data in our geographic area. This specific for-profit company commodifies resource data that is then used as a leveraging point to sell their platform, creating exclusive data that cannot be shared for the benefit of all. This hinders already established systems that support community health throughout our country, creating barriers to data for information and referral helplines for profit company can disrupt important tools in the area of social determinants of health.

In previous meetings, we've heard from this business that they are solely a tech provider and are looking to partner with nonprofit and governmental agencies to create closed loop information and referral systems. I have found this to be untrue. While in some places they are creating partnerships, in others they are stepping in to provide the community with direct services that are traditionally held by nonprofit organizations like United Way. We've found this through numerous job postings in our area for Community Engagement Managers, where their goals are to build networks between healthcare and nonprofit organizations to solely use their platform, further alienating organizations that already provide these services and have done so for long periods of time, and those who use other existing software. In some areas they have even gone as far as to establish information and referral hubs that take the place of 211s. These information and referral hubs lack the knowledge developed from working locally in a geographic region as well as education provided to organizations working in the nonprofit sector, decreasing the quality of support provided to help-seekers. As well, multiple systems makes our work of obtaining accurate and reliable resource information from community organizations, and then passing that info along to our callers, more difficult. The local knowledge and existing infrastructure provided by 211s across the country is jeopardized by the lack of collaboration with software companies.

While we welcome advancements in the arena of information and referral and commend the technological leaps these businesses have made, there are many concerns revolving around the initiatives of these businesses. We appreciate the opportunity to speak to this issue.

Best,

Hannah Eisenberg

211 Manager

United Way of Central New Mexico

Response to White House RFI on
Strengthening Community Health Through Technology

March 31, 2022

Submitted Electronically: Connected Health RFI ███████████████████████████

United Way of Connecticut

The mission of United Way of Connecticut is to help meet the needs of Connecticut and its residents by providing information, education, and connection to services. Our work as an organization falls under three primary areas:

Since 1976, United Way of CT has provided free, confidential, 24/7/365 service through 211 service for Connecticut residents. We offer information and referral to address a wide range of needs (basic needs support, child development support, health care access, work supports, benefit information) as well as crisis support. 211 CT is the most comprehensive database of community and health and human service resources in CT, and our services in both information and referral and crisis support are frequently cited as models at a national level. Since September 11, 2001, we have also provided through 211 emergency and disaster preparation, response, and recovery support, working in close coordination with partners in state government.

United Way of CT serves as the statewide association for Connecticut's 15 local United. In this role, we work with the CT United Way network to provide research that illuminates through state-specific data the financial struggles of the 38% of households in our state who live paycheck-to-paycheck or are falling behind in meeting the costs of basic needs. Together with our national partners in this effort, we call this population ALICE (Asset Limited, Income Constrained, and Employed). United Way of CT leads the work of the CT United Way network to educate elected leaders and the public about ALICE and to advocate for policy measures that will meaningfully improve the financial stability of this population.

Progress on community health outcomes and improving health equity demands community-oriented solutions. Technology is a vehicle to achieve this, but it is not the sole solution. The future of this work should be a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange.

211 Strengths and Assets to Support Health Outcomes and Health Equity

211 currently provides four unique assets which can't be replicated at scale across the country by any individual technology vendor:

1) 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. This is essential to individuals who can't self-serve information due to access, ability or preference. It's also essential that a

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human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2) 211 is the only community resource database that is curated as an asset of the community. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3) 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s share their community needs data on public dashboards such as NC 211 Counts

4) The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

211 systems are non-profit organizations with missions to serve their communities by improving access to information and resources. In fact, many 211 systems are based within and/or are largely funded by United Way organizations across the nation. With the connection to a United Way, a 211 system holds a direct connection to the community it serves. And community engagement is the real key to success. A collective strategy requires trust and collaboration. This is a primary strength of United Way and 211.

211 CT is deeply involved in efforts to better address Social Determinants of Health so that our residents and health systems can reach the health outcomes they seek, as individuals and for our communities. Our phone and internet referrals are a critical part of connecting people in need to the resources that can help them. 211 CT is the backbone of the referral structure to connect with community resources on which our healthcare partners rely.

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains.   Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus.   211 helped citizens access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

In states impacted by natural disasters such as hurricanes, wildfires, or tornadoes, state and local leaders have come to rely on 211 as an important partner in emergency preparedness and response planning. Many statewide 211 systems in areas prone to natural disasters maintain Memorandum's of Agreement with 211 partners in other parts of the country to ensure readiness and plans for support when disasters occur. Since September 11, United Way of CT has played an integral role as a partner in our state's emergency response and management system. 211 is the go-to, helping to inform residents and assisting them in connecting with needed resources – during extreme weather events, disasters, and most recently, the COVID pandemic. The Governor of CT asked 211 to take on the role as the state's call center to help residents get appointments for the vaccine: we responded to more than 500,000 calls and helped 285,000 residents to get life-saving vaccination appointments. During the height of the pandemic, 211 CT shared real-time data regarding basic needs inquiries, providing important insights

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about needs on the ground that allowed our emergency management authorities to plan and respond effectively.

It is common for 211 to provide guidance to citizens seeking pre-event shelter refuge, aid help seekers during the actual storm event (211 coordinate accordingly with local 911 officials) and to provide navigating support to impacted individual and families suffering losses as a result of a disaster event. Often, 211 provides critical information to FEMA teams as they seek to understand the needs facing specific communities post disaster; however, no systematic agreement is in place nationally between FEMA and the US 211 network.

Important Considerations for Success

When institutions invest in referral platforms, they often create silo-ed navigation systems backed by financial resources which could be better invested in human service organizations who are providing the services that they seek to navigate the community toward and are taxing community organization systems without aligned revenue.

Community health solutions can't leave behind the smallest organizations that often serve the most vulnerable among us. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and child care deserts.

To facilitate successful data-sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors.

211 Background

In 1996, the FCC designated 2-1-1 as a simple 3-digit dialing code for the public to access health and human services resources. Today, 211 information and referral systems maintain a community-based presence in 96% of the United States. The majority of 211's provide 24/7/365 accessibility to information and resources available through a free and confidential contact from an individual to a 211 Community Resource Specialist. Nationally, 211 systems provide the service in more than 150 languages and meet the needs of deaf and hard of hearing individuals. Leadership and staff of 211 systems are members of the communities they serve.

Each hour of the day, Americans turn to 211 to locate available help in their local communities to meet critical needs, including social determinate related to health needs, pandemic economic recovery needs and recovery solutions after a natural disaster impact. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. The promise is to answer the call for help and to provide equitable access to all. The 211 backstage preparations to deliver on this promise are largely rooted in systematic technology tools and grassroots community collaborations.

The US 211 Network reports that more than 41,425,273 Americans leveraged 211 to secure help and information in 2020 and 2021. The top five nationwide needs presented to 211 over the last two years were consistently related to Housing, Food, Health Care, Utilities, and COVID-19. As a result of these personal interactions with help seekers, it is estimated that 51,000,000 connections were made to needed help and information during this time period.

United Way of Dane County (WI.) Response To White House OSTPI / RFI

Strengthening Community Health Through Technology

United Way of Dane County (UWDC) enters 2022 proud of the services and programs we have provided to our neighbors and communities for 100 years. Throughout our service to the community, we have watched and adapted to the constant evolution of change in technologies we use to address multiple social needs. One of the most important projects we have been involved in is evaluating and addressing the Social Determinants of Health.

Family health starts long before the need for medical care. It begins in our homes, neighborhoods and communities where people live, learn, work and play. The World Health Organization defines Social Determinants of Health (SDoH) as the conditions in which people are born, grow, live, work, and age. They include place-based conditions such as socioeconomic status, education systems, safe environmental conditions, well-designed neighborhoods and availability of healthful food. These circumstances are shaped by the distribution of money, power, and resources at global, national and local levels, and are largely responsible for health inequities between different populations.

We understand that 80%+ of health issues are the result of factors outside of health care, and directly relate to life outcomes. This includes health behaviors such as obesity, substance abuse, socio-economic factors, racial disparities, the physical living environment, and the availability of services for those in low-income families. To move the needle on availability of services, implementing a technology based closed-loop system to address the SDoH is critical.

UWDC has operated the 2-1-1 system in a 7-county area in southern Wisconsin for over 20 years, serving a population of 900k+ annually. The 2-1-1 system is a national phone exchange that's sole purpose is to connect people in need with information and referral services. Every year, the UWDC 2-1-1 system answers tens of thousands of calls, and spends hundreds of thousands of minutes providing critical assistance to those in need. The vast majority of those services involve issues affecting the SDoH in that caller's life. Things like food pantries, unstable housing, homeless shelters, warm clothing needs, infant care, substance abuse, and mental health issues. Callers speak to a real person, not a recording or an automated response. It is an unmatched, critical, and confidential service to connect people to essential needs.

UWDC is currently working with multiple health care providers and EPIC to create a closed -loop care coordination system that coordinates SDoH needs for Black birthing persons in our community. This project will include implementing a universal risk assessment that identifies patient SDoH needs, which will then lead to referrals to community-based organizations based on locally available resources curated with the UWDC 2-1-1 system.

The 2-1-1 system is the recognized expert in the field of information and referral services, with an established trust level and acceptance. All 2-1-1 systems provide free, anonymous access to assistance. They maintain their databases of resources available in their geographical area of responsibility, which are continuously curated to assure that they are up to date and answer the needs of the community. With the advent of SDoH services and closed loop referral systems, the anonymity of clients is somewhat compromised to deliver on the mission of improved outcomes.

Technological advances in delivery of medical services have been rapidly advancing, with an urgency precipitated by the ongoing Covid pandemic. Many private sector social service database vendors have stepped into this potential market, where they have identified an obvious profit motive. By scraping internet sources for potential services, they create an often-un-curated referral system. Some have partnered with various United Way and other 2-1-1 systems as a facilitated entry into the SDoH space with health care providers. It is not lost on the private sector that the United Way's dedicated mission to helping communities with social service programs is unsurpassed, and lends an appearance of acceptance that would be valuable in their market penetration.

The ability to access quality healthcare is not simply a technological solution, because the technology itself can be a barrier to those unable to afford devices or internet services that would allow access. The premise of the technological solution is that everyone who needs care will be skilled enough technologically to maneuver the process. Additionally, the lack of a device and/or internet service will disproportionately impact low-income households. The key to successful implementation of a technological health care support program will be the availability of devices and internet services to those in need, the provision of closed loop referrals, and staff to walk people through the process.

Telemedicine is not a new concept, and has been in use for several years. Utilizing telemedicine to address the SDoH is really what this proposition is focused on. The technology has been, and will continue, to evolve toward the benefit of the health care provider, the patient and the technology / software provider's bottom line. Not necessarily in that order.

2-1-1 systems have been at the forefront of information and referral services for decades. The majority of constituents we serve have traditionally been victims of racial disparity, have very low income, are elderly, disabled, or struggling with substance abuse or mental health issues. Additionally, in times of disaster or crisis, 2-1-1 systems spin up to provide critical information for those affected by the events. Often times, those interactions involve connecting people with medical or social service referrals in response to the crisis. For example, UWDC 2-1-1 partnered with Wisconsin Emergency Management during the significant flooding to Southern Wisconsin in the summer of 2018. Our program staff took all the disaster reporting forms (on which people report personal property damage) and sent them to emergency managers. We are a proven partner to assist with natural disasters and emergencies by providing easy access to information that needs to be communicated to our residents

With the relatively recent focus on SDoH, what is changing is the on-ramp for people in need to obtain medical help. Traditional barriers, such as transportation, patient contact, provider awareness, and competent remote assessment are being improved. However, without a closed loop system, where referrals are made and followed through on, the system fails. Essentially, the handoff from health care provider to social service assistance and referral is where the SDoH rubber meets the road.

Private sector database vendors have identified and monetized a digital information and referral business model. They provide clean and attractive web pages, intuitive control functions and large amounts of data on various service programs that is typically scraped from the internet. The weakness in these systems is the actual local knowledge and curation of what resources are truly available.

Our 2-1-1 system is a barometer for identifying needs or gaps in services in our community. It provides real-time, up-to-date information on health and human service needs, both met and unmet, for seven southern Wisconsin counties. Yet, curating reliable and accurate resources requires intentional outreach and maintenance. Unlike a simple google search that can lead to false-positive results or return outdated links, our 2-1-1 resource and call specialists curate each individual resource record that is added to our database system. This involves meticulous indexing against an accredited taxonomy system that is routinely checked for accuracy throughout the year.

Curation and updating of records is a critical component, which is something national companies with large scraped databases do not generally provide. There are many nuances and special instructions that go with a large number of resources. When those points are missed in a referral, the result is a client who does not achieve their goal or address their needs. And often times those goals and needs are critical.

Initially, we must focus on overcoming the availability of technology, which can involve simple things like creating private kiosks for people in safe areas such as senior or family centers, libraries, churches or faith-based facilities. Places close to where people are, can get to easily, or congregate.

Once those connections are made, and confidence in the technology is achieved, then comes the work of closing the loop so that the providers know there has been positive forward movement. Absent closing those loops, there is just a drifting unknown that leaves people and their health care provider without resolution. The best answer to this complicated problem is utilizing known and trusted 2-1-1 information and referral agencies to bridge the gaps to create successful outcomes.

Please direct questions to:
Ed Wall
Director 211
United Way of Dane County

Since its inception in 1997, United Way of Greater Atlanta 2-1-1 (UWGA 2-1-1) has helped individuals and families mitigate or recover from emergencies. As we continue to look for innovative approaches to enhance our work, connecting our data to improve upon healthy outcomes that address Social Determinants of Health (SDOH) is a regular part of our conversations with key stakeholders in the community.

To support the ongoing recovery and be prepared for the next disaster or pandemic, Georgia needs to both transform and expand 2-1-1s so that 100% of the state has access to this crucial infrastructure. Given this, 2-1-1 will increase child well-being, strengthen pandemic and disaster readiness, provide support in housing and other basic needs, as well as help address social determinants of health.

Studies show that some of the adverse effects of SDOH result in higher disease rates, poor quality of care, and limited access to care. While health care providers and organizations are acting by providing anything from free transportation to doctor's appointments, access to fresh foods, and housing, health outcomes in the U.S. continue to remain stagnant. According to a study by the Commonwealth fund, when compared to 11 other developed nations, the U.S. ranks last for health outcomes, equity, and quality.

During the 2020-2021 fiscal year, UWGA 2-1-1 assisted 144,292 contacts and 254,003 digital contacts. Over 137,000 of these contacts related to needs associated with SDOH, including employment, housing, education, food, and health care. Some of the highest needs were housing and food. A study of individuals living in the Greater Atlanta 13 county area has found that food insecurity is a severe problem. Many communities, particularly those with Title I schools (highest concentration of poverty), are food insecure.

In partnership with Neighborhood Nexus and the Atlanta Regional Commission, United Way of Greater Atlanta developed, with dozens of community partners, a "yardstick" for child well-being, a set of 14 population-level indicators the community can use collectively to assess the well-being of our communities. The measures enable us to track our progress and determine what "levers" are the most effective in taking us to a place where we can say "all the children are well."

One of the barriers faced by healthcare providers is the lack of a formal infrastructure that integrates SDOH into the current healthcare system. The U.S healthcare system has historically focused almost entirely on clinical interventions.

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Many healthcare providers are looking to software companies to help them reduce the risks of poor health outcomes for their patients. While this approach might seem like the answer; software companies tend to secure contracts with a healthcare provider through technology rather than through a community-based lens. UWGA 2-1-1 data provides supportive evidence to healthcare providers, community groups, healthcare initiatives, and internally that demonstrates a correlation between food insecurity, housing, and health outcomes for the 13-county metro Atlanta area.

There are more than 400,000 social service organizations in the United States. Many don't have experience contracting with healthcare organizations or implementing technology and processes to coordinate care with healthcare organizations.

One gem that many healthcare providers miss is the value add that the data from 2-1-1s across the nation can make. The community Information & Referral (I & R) sector has been working for years toward the principle of having every community database record maintained, according to national standards, by one steward available to everyone.

The ability to integrate multiple resource directories and any appropriate technology platforms developed by public or private organizations in the state for the purposes of communication, service coordination, referral management, data sharing and outcome tracking, and related services; are extended to manage resources specific to the social determinants of health and child well-being.

UWGA 2-1-1 has a long history of partnerships where data exchange has been significant to furthering the work of our organization around health, education, income, and homelessness in the community. For over fifteen years, UW GA 2-1-1 has laid the foundation for data sharing within UWGA and has served as a conduit to over 100,000 people annually in the metro Atlanta community who need social services.

For instance, UWGA 2-1-1 has partnered with Emory Prevention Research Center on such projects as the Smoke-Free Homes Program and the Healthy Homes programs. The Smoke-Free Homes project was a multi-phase initiative to design, test, and disseminate a brief smoke-free homes intervention. The Healthy Homes Program explored the relationships between diet, physical activity, and tobacco use across three settings, home, church, and worksite.

The bottom line is that scattered and outdated resource information creates inefficiencies in finding and connecting families and individuals to relevant resources. Inconsistent viability into the social needs affecting a population makes it challenging to prioritize interventions or advocate for appropriate help. 2-1-1 is the only community resource database curated as a community asset. Non-profits can trust that 2-1-1s maintain this database as an asset to the community while technology comes and goes. Further, many CBOs

rely on 2-1-1 to be their billboard and megaphone to get the word out to people who need it.

The past two years represent a historically high demand for 2-1-1s as our country navigated the COVID-19 pandemic and associated economic strains. Since the COVID-19 outbreak until December 31, 2021, the US 2-1-1 Network estimates that 11,300,000 customized connections to help and information meet needs relating to COVID-19.

UWGA 2-1-1 partnered with the Community Engagement team at UWGA and New York City consultants on a pilot project related to COVID-19 and testing. The purpose of the project was to coordinate a digital asset map. UWGA 2-1-1 was instrumental in providing a dataset for Clayton, Dekalb, and Fulton counties that included various resources around homelessness, hospitals, mental health, LGBTQ services, and rehab centers.

The experience of COVID has illustrated that the human touch is as valuable as ever. People appreciate being listened to and hearing someone who cares about their situation. Technology can help that happen—but it cannot replace it. Currently, funding related to SDOH is going into the private sector rather than the community-based sector. There needs to be a better balance in the allocation of funding. There should be more effort in developing models that focus on collaboration like the ones created by the US Administration for Community Living.

Ultimately, we all want the same thing: a collaborative framework between healthcare institutions, private sector technology innovations, a government that can make a difference, and community-based organizations geared to help individuals and families across the spectrum of human needs.

Thank you for the opportunity to respond to the (OSTP) RFI on Strengthening Community Health Through Technology.

Please direct any questions to:
Cheryl Stewart
Quality Assurance and Analyst Director
United Way of Greater Atlanta 2-1-1

Contact: Amy Price, Navigation Center Vice President, United Way for Greater Austin
Stakeholder: United Way for Greater Austin
March 24, 2022

United Way for Greater Austin's Navigation Center is the provider of 2-1-1 for our 10-county region. In Texas, 2-1-1 is offered through a public-private partnership between Texas Health and Human Services Commission. Our Navigation Center serves as front door, connector, and data resource to communities and Texans in need. Since the start of the pandemic, 211 Texas has continued to grow to support communities across the state with resources and referrals to services. 211 handled ever-increasing call volumes of up to 40%, as well as coinciding emergencies, including hurricanes and Winter Storm Uri. In 2021, our local 211 connected with over 90,000 community members providing human connection, connections to resources, and support in time of need. Top requests were for housing assistance, utilities assistance, healthcare, and food assistance.

As a trusted resource available across the state and country 24/7/365, 211 is a front door and connector for all Texans to critical, community-based services. 211 is available to all Texans, regardless of zip code, language spoken, citizenship, or any other barrier that can often restrict access to traditional healthcare opportunities. Calls can be anonymous and are confidential, ensuring that individuals can access support at their own level of comfort. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. People from all walks of life, particularly those underserved by traditional healthcare systems or those who lack financial means to access these systems, can find themselves in need of assistance and confronted with a maze of agencies and programs that are challenging to navigate. This is especially true when addressing social determinants of health – 211 connects the public to health and human service resources to address these determinants. Leveraging information and referral and community-based partnerships to address these barriers supports healthy communities and reduces long-term costs associated with medical care. Additionally, we provide community planners, funders, and policy makers real time information about community needs organized by geography, time, and demographic characteristics to inform resource allocation and decision-making.

In addition to 2-1-1, United Way for Greater Austin serves as the backbone organization for two systems-change, cross-sector initiatives called Model Community and Williamson County Pathways Accountable Health Communities. Both initiatives provide a governance structure, technology solutions, community convening support, utilize Community Health Workers, and other infrastructure to bridge social and health care to improve health and life outcomes. Improving community health outcomes and health equity in our state and across the country is an important task that demands collaboration and prioritizing community-oriented solutions. United Way for Greater Austin has been working in our community for decades alongside community-based organizations, health care entities, faith-based organizations, the public sector, and others to address these challenges and ensure all people can access services. **Technology is an important part of this work but cannot not be the sole solution. This work requires leveraging the assets of all community partners, systematic technology tools, and grassroots community collaborations to build true community information exchanges that benefit all community members. Systemic inequities can be deepened by depending on technology vendors who may have good intentions, but are also often profit-driven, to have ownership of community data and governance of community information sharing practices.**

LIVE UNITED

211 and ConnectATX

United Way for Greater Austin also offers a service called ConnectATX which serves as a compliment to 2-1-1 by offering a needs assessment that proactively assesses multiple needs and offers a holistic approach to connecting seekers with programs and resources. Connections are made through a "closed-loop" referral process that helps ensure needs are met, and collects longitudinal data on client outcomes and service gaps.

We offer a helpline for anyone who is unable to access or navigate the website, and the option to chat online or text with a professional Navigator. Through ConnectATX, we offer several support service to connect people to resources including scheduling free rides for callers with transportation barriers through a partnership with United Way Worldwide and Lyft, and a meal delivery program. ConnectATX services as the foundation for a broader community initiative called Model Community. **While ConnectATX depends on a social determinates of health software platform to provide service, the impact we provide is through human navigation, resource maintenance, and community engagement based on decades of developing trusted relationships.**

We believe our Navigation Center is a working model of how government, community organizations, and technology providers can collaborate in a process that provides funding to organizations doing the community engagement and referral work to connect their neighbors to local resources, supported by advances in technology that enhance and support the work of information & referral, and health-based organizations. Other positive models of collaboration include community information exchanges, being piloted and implemented across the country, which use a shared database and technology platform to streamline the referral process for clients and track data on usage and health outcomes. These person-centered interactions and interventions focus on clients and client outcomes, with community partners working together and leveraging technology to improve outcomes.
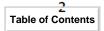
211s play a unique role in the work of information and referral to support health outcomes and health equity in our state, work that is necessarily human-led. Callers are looking for information, but they are also looking for connection, for a call specialist to listen and understand their current situation. Call specialists are trained to ask questions to determine the full scope of need and search for resources that will address all aspects of client's need. All this work in Texas is done by trained and certified call specialists in nationally accredited call centers. People can connect to 211 via websites, chat features, and/or text, and this variety allows 211 to meet the needs of all, including those who can't self-serve information due to access, ability, or preference. Additionally, the 211 community resource database is the only database that is curated as an asset of the community. Each call center has at least one database curator, a person who is connecting with community-based organizations, ensuring accurate information, and providing database updates on client eligibility, hours of operation, service options, and more. This is a costly, yet necessary investment, that is not profitable for many technology providers to offer, but provides the most accurate and complete repository of a community's resources.

Items for consideration to increase success
Policymakers interested in supporting community-driven efforts to address health equity and to leverage technology to support these efforts should take these key factors into consideration:

Support existing community-led collaboration
Community-based organizations and collaboratives are leading the way across Texas address SDOH.

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Oftentimes, when institutions invest in referral platforms, they create siloed navigation systems that duplicate other community assets and require community partners to update information across multiple platforms. Centering community-driven collaboration and supporting collaboratives across the state that already exist and are leveraging technology to support their community goals is a better use of resources for human service organizations and local, state, and national government(s) looking to support these efforts.

Ensure the ability of systems to meet clients where they are
Technology itself cannot address the many barriers Texans face to accessing digital health services. Almost 300,000 Texas households do not have access to broadband at minimum speeds, with almost 250,000 of those households in rural areas[i]. Only 67.6% of Texans who can access broadband subscribe, with many not subscribing due to lack of affordability. Beyond access and subscription, digital health navigation requires high-quality devices and digital skills to benefit from these services. Healthcare technology cannot address these real barriers to digital inclusion. 211 provides a phone-based way to connect and receive information and referral services, providing this accessible service to people least likely to have digital access.
Many clients call 211 for the anonymous experience of information and referral. Moving all of these interactions to closed-loop referral systems may exclude individuals who want to protect their privacy. Technology-based solutions should include protection of client data, including requiring client consent for information to be shared with multiple organizations across a technology platform.

Support local community-based organizations and decision-making
Health equity requires a targeted approach to center and serve the most vulnerable populations. Community health solutions must be inclusive of all organizations and accessible to them. Many smaller nonprofit organizations have basic client tracking services, rely on volunteers for data entry and client engagement, and open only at certain times each week for services. Tools and training for these organizations is critical if they are to engage with technology platforms. Investing in community engagement allows coalitions and anchor organizations like UW and 211 to support these organizations. Supporting existing community infrastructure, community information exchanges, and local health equity collaboratives should be a funding priority. Local collaboratives are trusted partners in communities and this trust is critical to ensuring access and usage of resources to improve health outcomes. These communities know best how to leverage technology and software solutions and funding decisions for these technology pieces should be made locally.

Data sharing
Bringing individuals, community organizations, local health institutions, and technology providers together to solve critical health challenges requires successful data-sharing and a shared data nomenclature. Advances in technology allow data to be shared amongst all these platforms if there are agreed-upon data categories. Protecting this data and ensuring that local community coalitions that collect and store this data have control over who can access it and how the data will be leveraged is another key component. Strengthening this will allow for robust data-sharing, reduce the need for repetitive data entry on the client and community organization side, and allow for increased efficiencies in serving our communities.

United Way and the 211 network have been in the mission work of supporting communities for decades. This work is an important resource to every community across the state. Looking to existing community organizations and collaboratives to lead this work, supported by technology produces that facilitate the connection of people to resources that improve health outcomes, will drive positive impact in communities.

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[i] Governor's Broadband report 2021

**United Way of Greater Houston Response to White House OSTPI/RFI
Strengthening Community Health Through Technology**

For nearly 100 years, United Way of Greater Houston (UWGH) has brought together diverse partners and approaches to get to the root of complex challenges holding people back. A critical component of this work is connecting people to local resources that can address immediate human service needs. A key component of this work is the 211 Texas/United Way Helpline.

As a trusted resource, available across the state and country 24/7/365, 211 is a front door and connector for all Texans to critical, community-based services. People from all walks of life, particularly those underserved by traditional systems or those who lack financial means to access these systems, can find themselves in need of assistance and confronted with a maze of agencies and programs that are challenging to navigate. This is especially true when addressing social determinants of health – 211 connects the public to health and human service resources to address these determinants. Leveraging information and referral and community-based partnerships to address these barriers supports healthy communities and reduces long-term costs associated with medical care.

Improving community health outcomes and health equity in our state is an important task that demands collaboration and prioritizing community-oriented solutions. Non-profits, community partners, and local organizations like United Way have been working together to address these challenges and ensure all people can access services. Technology is an important part of this work but cannot not be the sole solution. This work requires leveraging the assets of all community partners, systematic technology tools, and grassroots community collaborations to build true community information exchanges that benefit all Texans.

211 in Texas

211 Texas, a public-private partnership between Texas Health and Human Services Commission and a network of 25 Area Information Centers (AICS) - including 12 centers run by local United Ways- serves as front door, connector, and data resource to communities and Texans in need. In 2021, the 211 operated by the United Way of Greater Houston connected with over 1.1 million seeking help, providing human connection, connections to resources, and support in time of need. Top requests were for housing assistance, utilities assistance, healthcare, and food assistance.

211 plays a unique role in the work of information and referral to support health outcomes and health equity in our state. Helpline specialists are trained to ask questions to determine the full scope of need and search for resources that will address all aspects of client's need. Specialists often provide callers with more than one referral and provide referrals for 2-3 different needs. All this work in Texas is done by trained and certified call specialists in nationally accredited call centers. People can connect to 211 via websites, chat features, and/or text, and this variety allows 211 to meet the needs of all, including those who cannot self-serve information due to access, ability, or preference.

Additionally, the 211 community resource database is the only database that is curated as an asset of the community. Many community-based organizations rely on the work of 211 to spread the word about their services and don't have the capacity to curate their service information in multiple places. They also benefit from having a trusted non-profit partner in 211 to build trust and connection between the public and community-based organizations. Our 211 system is a barometer for identifying needs or gaps in services in our community.

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211 is available to all Texans, regardless of zip code, language spoken, citizenship, or any other barrier that can often restrict access to traditional healthcare opportunities. Calls can be anonymous and are confidential, ensuring that individuals can access support at their own level of comfort. Through this work, 211 can provide real-time information about levels of need in different areas and different services, and this aggregated data can support policymakers, healthcare providers, and community coalitions as they work towards positive health outcomes.

Positive models of collaboration

211 Texas can be a working model of how government, community organizations, and technology providers can collaborate to meet community need. One such example is the Health Equity Collective (HEC), a Houston-based coalition of more than 140 organizations with a singular mission of establishing a sustainable, data-driven, human-centered ecosystem of care that equitably addresses social determinants of health among residents of the Greater Houston area. To achieve this mission, the HEC seeks to build a cloud-based Community Information Exchange (CIE) linking various local community-based organizations (e.g., Houston Food Bank, United Way 211, and others) to facilitate care navigation for social services. The CIE seeks to use a federated model that will allow multiple organizations (healthcare and CBOs) with varied technologies to connect with one another for the purpose of coordinating care to meet social needs.

Items for consideration to increase success

Policymakers interested in supporting community-driven efforts to address health equity and to leverage technology to support these efforts should take these key factors into consideration:

Support existing community-led collaboration

Community-based organizations and collaboratives are leading the way across Texas address SDOH. Oftentimes, when institutions invest in referral platforms, they create siloed navigation systems that duplicate other community assets and require community partners to update information across multiple platforms. Centering community-driven collaboration and supporting collaboratives across the state that already exist and are leveraging technology to support their community goals is a better use of resources for human service organizations and local, state, and national government(s) looking to support these efforts.

Ensure the ability of systems to meet clients where they are

Technology itself cannot address the many barriers Texans face to accessing digital health services. Almost 300,000 Texas households do not have access to broadband at minimum speeds, with almost 250,000 of those households in rural areas[i]. Only 67.6% of Texans who can access broadband subscribe, with many not subscribing due to lack of affordability. Beyond access and subscription, digital health navigation requires high-quality devices and digital skills to benefit from these services.

Our 211 network is a barometer for identifying needs or gaps in services in our community. It provides real-time, up-to-date information on health and human service needs. Yet, curating reliable and accurate resources requires intentional outreach and maintenance. Unlike a simple google search that can lead to false-positive results or return outdated links, our 2-1-1 resource and call specialists curate each individual resource record that is added to our database system. This involves meticulous indexing against an accredited taxonomy system that is routinely checked for accuracy throughout the year.

Many clients call 211 for the anonymous experience of information and referral. Moving all of these interactions to closed-loop referral systems may exclude individuals who want to protect their privacy.

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Technology-based solutions should include protection of client data, including requiring client consent for information to be shared with multiple organizations across a technology platform.

Support local community-based organizations and decision-making
Health equity requires a targeted approach to center and serve the most vulnerable populations. Many smaller non-profit organizations have basic client tracking services, rely on volunteers for data entry and client engagement, and open only at certain times each week for services. Tools and training for these organizations is critical if they are to engage with technology platforms. Investing in community engagement allows coalitions and anchor organizations like UW and 211 to support these organizations. That's why the commitment and investment 211 makes in community engagement is critical. These organizations often are a key part of addressing SDOH, especially in areas that are not rich in accessible community resources. Supporting existing community infrastructure, community information exchanges, and local health equity collaboratives should be a funding priority. Local collaboratives are trusted partners in communities and this trust is critical to ensuring access and usage of resources to improve health outcomes. These communities know best how to leverage technology and software solutions and funding decisions for these technology pieces should be made locally.

Data sharing
Bringing individuals, community organizations, local health institutions, and technology providers together to solve critical health challenges requires successful data-sharing and a shared data nomenclature. Advances in technology allow data to be shared amongst all these platforms if there are agreed-upon data categories. Protecting this data and ensuring that local community coalitions that collect and store this data have control over who can access it and how the data will be leveraged is another key component. Strengthening this will allow for robust data-sharing, reduce the need for repetitive data entry on the client and community organization side, and allow for increased efficiencies in serving our communities.
United Way and the 211 network have been supporting communities for decades. This work is an important resource to every community across the state. Looking to existing community organizations and collaboratives to lead this work, supported by technology that facilitates the connection of people to resources that improve health outcomes, will drive positive impact in Texas communities.

Please direct questions to:
David Jobe
Assistant Vice President, 211 Texas United Way/Helpline

United Way
United Way of Lake County

March 10, 2022

White House Office of Science and Technology Policy (OSTP)
Re: *Request for Information (RFI) on Strengthening Community Health Through Technology*

Dear White House Office of Science and Technology Policy:

On behalf of United Way of Lake County (UWLC) in Illinois, thank you for creating the opportunity for community agencies to participate in this important discussion on strengthening community health through technology.

211s are a proven resource model that helps millions of people across North America find information and support for non-emergency life challenges each year. There are currently more than 230 contact centers that cover 96% of the U.S. In September 2019, UWLC launched 211 in Lake County, to provide individuals free, streamlined access to locally available resources to address financial, domestic, health, human services or disaster-related needs. UWLC 211 is now the central clearinghouse in Lake County for agencies, individuals and families and has made more than **100,000 connections** to critical services for Lake County residents. UWLC 211 referral system includes a partnership with **490 local agencies** and **1,204 local programs** in Lake County.

211 specialists are trained to provide quality information and referral by communicating one-on-one with individuals, identifying underlying problems, and connecting people in need with a wide range of available resources that improve and save lives. 211 is a first point of contact for individuals, providing access to free and confidential referral services. Individuals in Lake County contacting UWLC 211 for help are screened for and referred to eligible services. 211 expert navigators guide individuals to the help they need, regardless of the time of day or the language they speak. Fiscal Year 21 data:
- The race/ethnicity of 211 contacts are 31% Hispanic/Latino, 30% Black, 36% White, 3% AAPI, and 1% American Indian/Alaskan Native.
- Nearly 60% of all needs presented to 211 are related to Housing & Shelter and Utilities
- 62% of all contacts are related to COVID
- 27% of contact are made outside of normal business hours
- 78% of contacting UWLC 211 for rental assistance reported extremely low income

UWLC 211 provides a vital connection to community services and resources that address social determinants of health including shelter and affordable housing, supplemental food programs,

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access to health care and mental health services, addiction support and rehabilitation, crisis counseling, employment and education opportunities, and other critical needs. 211 trained specialists also work to identify underlying intersecting challenges related to basic needs and connect people with a wide range of available resources that improve and save lives.

The economic struggles from the pandemic magnified and accelerated the affordable housing crisis in Lake County. In response, UWLC 211 collaborated with Lake County Government and launched a coordinated, centralized and streamlined process through 211 for rent and utility assistance for eligible households financially impacted by COVID-19. So far this year, 211 provided 2,133 rental assistance referrals. UWLC 211 also partnered with The Alliance for Human Services to refer food insecure families unable to leave their home during the pandemic to free food delivery services. And UWLC 211 teamed up with the Health Department to provide vaccine promotion, education and referrals.

Moving forward, we welcome the development of new technology that can continue to make service delivery more effective and result in more positive outcomes. **In order to be successful, the stewardship of regional software systems designed to engage community-based agencies within the broader healthcare system must be <u>community-based</u> rather than vendor-driven.** The successful implementation of 211 in Lake County resulted from a collaborative vision and county-wide, multi-year initiative in partnership with the Lake County government and many other public and private partners. UWLC 211 partners and supporters include a variety of stakeholder groups: Lake County Government, City of Waukegan, Advocate Aurora Health, ComEd: An Exelon Company, Healthcare Foundation of Northern Lake County, Lake County Workforce Development, Lake County Workforce Investment Board, Metropolitan Mayors Caucus, North Shore Gas Community Fund, Northwestern Medicine Lake Forest Hospital, The Buchanan Family Foundation, Trustmark, BMO Harris Bank, First Midwest Bank, Libertyville Township, Lundbeck, NorthShore University HealthSystem Highland Park Hospital, Warren Township, Wauconda Township, AT&T, Benton Township, Comcast Maclean-Fogg, Village of Libertyville, Waukegan Township. UWLC's 211 Advisory Council also provides ongoing oversight. Please see a complete list of UWLC's 211 Advisory Council Members below.

In order to maintain the quality control of this vital community resource, it is essential that technology meet the national standards maintained by 211s for decades. 211s are run by nationally accredited programs with certified staff who have deep expertise in their community. Software vendors attempting to establish competing resource databases with different information that is not based on these standards will hurt individuals and families at a time when they most need help.

UWLC 211 works to support the capacity of health and human service delivery systems. **The creation of new and additional databases has the potential to create a duplication of resources that would cause unnecessary complexity while also increasing the existing**

workload of community-based agencies to document client data in multiple systems. Prior to 211 in Lake County, human service providers received many calls for services that would more appropriately be directed to another provider. This cost the agency time and money and reduced the agency's ability to focus on its core mission. Our current UWLC 211 system integrates information about a wide variety of health and human services through a single information network and supports health and human service agencies in their ability to more effectively and efficiently deliver care.

Thank you again to White House Office of Science and Technology Policy for creating the opportunity for community agencies to participate in this important discussion. We appreciate being able to share our background on what has been effective in Lake County, Illinois as you consider steps forward on supporting and strengthening community health through technology.

Sincerely,

Kristi Long, President and CEO

UWLC's 211 Advisory Council Members

Irene Hrusovsky MD, United Way of Lake County Board	Bruce Johnson, Nicasa Behavioral Health Services
Deanna Olmem, United Way of Lake County	Marc Jones, Waukegan Township
Betzy Berganza, YWCA of Metropolitan Chicago	Holly Kim, Lake County Treasurer's Office
Darren Boundy, ComEd, An Exelon Company	Anne King, Northwestern Medicine Lake Forest Hospital
Kelly Brown, Interface Children & Family Services	Mary Lockhart White, Community Action Partnership
Sol Cabachuela, Mundelein High School; Village of Mundelein	Kristi Long, United Way of Lake County
Steve Carlson, United Way of Lake County Board	Sara Martinez, United Way of Lake County
Alex Carr, Lake County Government	Billy McKinney, City of Zion
Michelle Crombie, United Way of Lake County	Scott McLellan, Heart of the City
Andrea Danks, North Shore Gas	Maureen Murphy, Catholic Charities of Lake County
Pat Davenport, A Safe Place; The Partnership for a Safer Lake County	Lori Nerheim, United Way of Lake County
Celeste Flores, Mano a Mano Family Resource Center	Quin O'Brien, Village of Gurnee
Eric Foote, PADS of Lake County	Brenda O'Connell, Lake County Community Development
Myra Gaytan-Morales, PhD, University Center of Lake County	Kathleen M. O'Connor, Libertyville Township
Julie Gordon, United Way of Lake County Board	Jennifer Ptak, Heart of the City
	Chief Tim E. Sashko, Lake County Board of Health
	Quinton Snodgrass, United Way of Lake County
	Donnovan Young, United Way of Lake County Board

31 March 2022

Responding to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

United Way of New York State (UWNYS) is a 501(c)3 non-for-profit organization that administers the 211 NY network of providers offering comprehensive information and referral services 24/7/365 covering all of New York State. 211 being the 3 digit phone number designated by the FCC to provider information and referral on health and human services.

I would like to thank the OSTP for creating the opportunity for community and government-based agencies to participate in this important discussion.

UWNYS welcomes the development of new technologies that can make service delivery more efficient, effective, and support increasing equitable access to services. Providers within the 211 NY network have been active participants in developing new technology tools to support connecting community members to services. However, UWNYS cautions that technology is only a tool and needs to be supported by community driven implementation and buy-in from existing providers in order to be successful in long term systemic changes needed that will support improved health outcomes.

We are concerned that with the proliferation of private health & human service technology software solutions driven by profit motive and market share, community needs and community voices will be left behind leading to further fragmentation and more challenges navigating systems.

In 2021 the 211 NY network answered 508,000+ calls, texts, emails and requests for assistance, connecting community members to programs and services for needs including: housing, food scarcity, COVID-19 vaccinations and information, income supports, legal services, mental health and health services among others. 211s in NYS supported state and local government with CARES Act programs, especially related to emergency rental and mortgage assistance.

The past two years represent a historically high demand for 211 as our country navigated the COVID –19 pandemic disaster and associated economic strains. Since the COVID-19 outbreak to December 31, 2021, the US 211 Network estimates that 11,300,000 customized connections to help and information

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were made to meet needs specifically related to COVID –19. 211 worked alongside countless state health agencies to address public questions related to the COVID-19 virus. 211 helped community members access curated facts about COVID-19, understand mitigation measures, locate testing and vaccination site locations, and even provided transportation to access vaccinations in some regions through the Ride United Partnership with Lyft.

While our staff, comprised of Community Resource Specialists, community health workers, social workers, and people with lived experience rely on technology to do their jobs, our communities rely on the human touch that 211 provides when they need assistance during stressful times navigating the challenging health and human services landscape. Providing someone who listens and cares about your problems is one of the most important aspects of 211's services and why our communities trust us and keep coming back to 211 when then need help finding help. 211 staff are AIRS accredited, follow standards and receive rigorous training in active listening, service navigation, de-escalation, and the local health and human service landscape.

211s maintain comprehensive community resource database which are up to date, reliable, and dependable. Health care, community-based organizations (CBOs), and individuals rely on 211's databases to find information on services and programs.

As dollars are beginning to be directed to address social determinants of health, private technology companies are seeking to enter this space driven by profit motives and responsible to shareholders. They are not collaborating with existing providers already doing this work, without collaboration their endeavors will fail.

211s and community-based Information & Referral (I&R) providers have been working for years towards the principle of having every community database record maintained, according to standards, by one steward but available to everyone. However, this progress is being reversed as 2-3 private companies parachute into a region already covered by a community-based I&R, and there are soon 3-4 community resource databases all with different information! If you are a small food pantry that has been updating its information with its local I&R for decades, why are you now being contacted by private companies to gather the same information?

As OSTP is exploring how to strengthen community health through technology, please consider:
- Governance of new community software should be through community collaboration and not by for-profit software companies, and that there are dangers of establishing private silos that control data

- No duplication of the existing work of community-based I&Rs/211s in maintaining resource databases that follow national standards
- Considerations for the additional work required by client-serving agencies who are being asked to document client transactions in multiple systems without recompense
- Reverse the current diversion of funding so that the majority of funding goes to agencies dealing directly with clients rather than venture capital funded software providers
- Locally driven and developed Community Information Exchanges like the one in San Diego, western New York, and St. Louis

Thank you again for the opportunity to share our expertise and experience in this area. Please feel free to contact me for further information. I would be happy to share in detail the innovative work happening in New York State.

Best,

Kelly Dodd
211 NY Director

March 31. 2022
Submitted Electronically: Connected Health RFI ███████████████████████

United Way of North Carolina (UWNC), the state association for 50 local United Ways in NC, administrator of the 2-1-1 dialing code and a key partner in building the first coordinated care system in the nation, NCCARE360. United Way of North Carolina is accountable to assure the three-digit dialing code provides easy access to health and human services and the services that support our communities needs. While we use technology to support our work, community engagement is the real key to success because a collective strategy requires trust and collaboration. This is a primary strength of United Way and 211. The community also recognizes that 211 maintains community resource data www.nc211.org, www.nccare360.org and needs data www.211counts.org as an asset to funders and state and local government to help inform disparities in local communities and gaps in service as well as successes in meeting local need.

UWNC also serves as the administrator of the 2-1-1 three-digit dialing code for North Carolina. In 1996, the FCC designated 2-1-1 as a simple 3-digit dialing code for the public to access health and human services resources. Today, 211 information and referral systems maintain a community-based presence in 96% of the United States having served over 21 million residents in 2021. Nationally, 211 systems provide the service in more than 150 languages and meet the needs of deaf and hard of hearing individuals. Leadership and staff of 211 systems are members of the communities they serve.

NC 211 provides 24/7/365 accessibility to information and resources available through a free and confidential contact from an individual to a 211 Community Resource Specialist.
Each hour of the day, Americans turn to 211 to locate available help in their local communities to meet critical needs, including social determinate related to health needs, pandemic economic recovery needs and recovery solutions after a natural disaster impact. In 2021, the team at NC 211 handled 160,937 calls representing 194,100 needs from North Carolinians. Our NC211.org website had 625,000 searches for local resources. Top needs of calls and web searches included housing, utility assistance, and COVID and healthcare related information and resources – all representing the most basic needs for health and well-being. While NC 211 leverages strong technology systems to efficiently deliver information and resources, it is the people of 2-1-1 that provide empathy and support to those in need as they face critical need. NC 211 is a trusted and reliable resource because the people that power NC 211 are members of the communities we serve.

NCCARE360 is a first of its kind partnership between government, community organizations, philanthropy, and the healthcare system to leverage a closed loop referral technology that can provide outcome data by individuals, organizations and communities. The speed of which technology can connect a person's need to a local resource is an advantage, as we know from 20 years of 211 service that often callers do not take initiative for themselves. The technology

allows the local agency to accept or reject a referral and to note the outcome of any interaction with a client. The successes of NCCARE360 is due to many factors, not just the functionality of the technology platform itself. The integration of comprehensive engagement strategies intended to achieve buy-in and support from community-based organizations of all shapes and sizes is critical to the success of any coordinated care network as without participants there is no referral and no data available. Although the technology provider had incorporated an engagement component within their work, it became clear early on that local champions (United Way, health departments, hospitals and local coalitions) made the difference in how effective the community engagement strategy played out locally.

Another lesson learned has been the willingness of local agencies to "open their doors" to more requests for services as funding, staffing and quality service delivery is impacted when surges in need occur. Having technology without community collaboration and buy-in; and funds to support local agencies is a recipe for failure. One example of success with NCCARE360 resulted from ongoing hospital users of NCCARE360, meeting with NCCARE360 funder, the Foundation for Health Leadership and Innovation, NC Dept of Health and Human Services, UWNC/NC 211 and our technology vendor, Unite Us. Hospitals identified resistance from local agencies to participate in NCCARE360 due to fear of depleting funding. A collaborative approach was put into place to offer grant funding to address the increase in potential needs and to focus on quality service delivery. As a United Way system, this is a positive aspect of identification of barriers to participation and in using data PLUS collaboration to ultimately solve local needs.

Additionally in North Carolina, the inclusion of NC 211, the existing statewide information and referral system providing 24/7/365 access to human services resources, was a critical component of the strategy. As a member of the vendor team UWNC's NC 211 serves two key roles on the NCCARE360 team.

1) NC 211's robust database of community resources representing all 100 counties across the state serves as the foundation for community engagement by identifying the most frequently used resources in communities as high targets for engagement and on-boarding. While community engagement is an on-going and labor-intensive process, the NC 211 database of more than 13,000 resources serves as the out-of-network resource set for the NCCARE360 platform allowing access to services for those utilizing the platform as the base of licensed agencies grows within the platform. The NC 211 database is curated and maintained by a team of professional staff, which have been certified by the Alliance of Information and Referral Standards (AIRS). The team adheres to AIRS standards in their work, utilizing templates and formatting to ensure resources are properly structured and readable at the 5th grade level. UWNC's role as the member association for 50 local United Ways ensures direct connection to the very community resources included in the database. Community based organizations of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need help.

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Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes. Without the ability to leverage NC 211's robust database, the existing platform would be severely lacking in its ability to meet the needs of individuals seeking assistance and support as we continue to grow licensed users on NCCARE360's technology platform.

2) NC 211 houses the statewide team of NCCARE360 Navigators. The role of Navigators is to provide high-touch support to those clients needing additional care and support. A Navigator achieves this through the following ways: by responding to assistance request forms individuals self-submit through the nccare360.org website, by supporting other users on the platform who are unable to identify a resource to meet their client's needs, and by handling cases where a client has multiple needs and requires a higher level of case support, such as a housing request. The Navigators play a critical role in ensuring clients do not "get lost" in the platform and provide the very necessary human touch that many people in crisis require.

Another important role that UWNC and NC 211 play in North Carolina is serving on the State Emergency Response Team (SERT). Through hurricanes, tornadoes, wildfires and pandemic, NC 211 has quickly and nimbly utilized its "people power" to respond to the ever-changing needs of North Carolinians quickly and nimbly during times of disaster. The national 211 network, which covers 96% of the US, collaborates and partners to provide support to each other during times of disaster. This ensures that any 211 system can increase capacity to meet call volume surge during a disaster and in real time catalog resources being deployed in communities before, during and after a disaster. While technology is a necessary tool to connect individuals impacted by a disaster, the empathy and support provided by humans is what is most essential during those trying times.

Innovative approaches to meeting todays' challenges are essential and technology can play an important role in making faster connections and documenting demographics and outcomes. Success however lies in the community and users behind the technology that provide the analysis to chart disparities, problem solve solutions and fund programs and services that can deliver.

Thank you for the opportunity to provide comments in support of this request for information. If you have any questions, please contact United Way of North Carolina, President & CEO, Laura Zink Marx ███████████████████████████; or Heather Black, NC 211 State Director, ███████████████████████████████.

March 30, 2022
Submitted Electronically: Connected Health RFI████████████████████████

The PA 211 system is led by PA 211, Inc., a non-profit organization which is a subsidiary of United Way of Pennsylvania, and coordinates a network of regional 211 providers with missions to serve their communities by improving access to information and resources. PA 211, Inc., is accountable to assure the three-digit dialing code access to health and human services. While we use technology to support our work, community engagement is the real key to success because a collective strategy requires trust and collaboration. This is a primary strength of United Way and 211. The community also recognizes that 211 maintains community resource data and needs data as an asset of the community, to be used by the community to improve health equity.

The national 211 network, reaching 96% of the US population, currently provides four unique assets which can't be replicated at scale across the country by any individual technology vendor:

1) 211 provides technology-centered access to community resources through publicly accessible web sites, text and/or chat, but it also maintains a network of contact centers which provide live navigation to community resources daily. This is essential to individuals who can't self-serve information due to access, ability or preference. It's also essential that a human be available to help support a person on the next steps of their journey when technology can't connect the person to what they need.

2) 211 is the only community resource database that is curated as an asset of the community. Community based organizations (CBOs) of all sizes and complexities rely on 211 to be their billboard and their megaphone to get the word out to people who need it. Most of these organizations don't have capacity to curate their service information in multiple places, and nonprofits can trust that 211 maintains this database as an asset of the community while technology comes and goes.

3) 211 collectively can provide the closest thing the United States has to a real-time barometer of human need. Many state 211s share their community needs data on public dashboards such as NC 211 Counts

4) The national 211 network has a unique capacity to quickly surge and meet the needs of communities impacted by disasters.

Successes
While 211 is historically known as a phone service, PA 211 also provides avenues to find help by text, chat, and self-serve by searching PA 211's resource database via pa211.org. From March 1, 2020, through December 31, 2021, there were 489,153 web sessions with access to the database of community resources. This medium provides individuals in need of help another point of entry that is even more confidential than calls and texts, plus the option to explore the variety of supports and services available in their community. In the early months of our launch of chat on the PA 211 web site, Pennsylvanians are using that service from all different age groups. The first stages of these chat conversations utilize artificial intelligence until the customer indicates they need more help, and then they are seamlessly connected to a live agent. While these technologies have been widely used in customer service for the private sector, 211 in PA is growing its use of technology to meet the

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expectations of our customers, and to help preserve our person to person contact with resource navigators for people who need to use the phone channel due to access, ability or preference. These solutions are not in use uniformly at all 211s across the United States, but it is achievable.

PA 211 Southwest has a regional pilot with Children's Hospital of Pittsburgh which is demonstrating successful outcomes with a very simple approach using tools widely available, like Excel, to track 211-to-patient family followup and outcomes related to Social Determinants of Health (SDoH) gaps filled by CBOs. PA 211 is preparing to launch a statewide project to make connections to community-based services that address SDoH needs and conduct followup to measure if or how those needs have been met in the community. This project focuses on individuals insured under Medicaid.

PA 211 is also looking toward the future and the potential to partner with third party technology vendors who want to resource and leverage 211's unique assets in SDoH solutions. In Pennsylvania's resource and referral tool procurement, PA 211 was included in two different finalist proposals as a subcontractor to provide community health resource data for third party vendor platforms, and SDoH navigation through our contact centers. While that procurement has been canceled, it demonstrates that 211 provides services which are marketable and have value in SDoH work.

Barriers
PA 211 believes that technology is a tool, but relationships are at the core of effective strategies for health equity. Technology can be a barrier to cooperation, particularly for the nonprofit sector which holds key solutions for strategies to address gaps in social determinants of health. The healthcare sector is frequently turning to CBOs to help address priority domains which impact health outcomes, health equity and the cost of health care in the United States. They should also be relying on partners like 211 to make data-driven decisions identifying priority SDoH gaps in a community. CBO partnerships also leverage trusted messengers who can connect with diverse and hard-to-reach populations.

Focusing exclusively on the platform decision does create silo-ed navigation systems, and reduces the number of CBOs which will be able to effectively participate in community health navigation and support. CBOs are not willing to work in multiple platforms, because organizational resources are already over-taxed and the mission is focused on meeting human needs, not case management documentation in multiple platforms. Approaches to community health solutions which require joining a network usually leave behind the smallest organizations that often serve the most vulnerable among our communities. Small, local agencies are often volunteer-driven, open several days per week and reliant on very simple client tracking systems. These organizations provide a key link to addressing social determinant of health gaps throughout our country, by serving people in areas which are not rich in accessible community resources, such as food and child care deserts.

The future of this work should be shaped around a strengths-based focus on leveraging the assets of all community partners and further developing capacity for distributed data-sharing models – a true community information exchange. Technology must fit service delivery systems, rather than service delivery systems being asked to fit within a network defined by the technology that is being used.

Trends from the Pandemic
The past two years represent a historically high demand for 211 as our country navigated the COVID – 19 pandemic disaster and associated economic strains, and this has also been the situation in Pennsylvania. According to the most recently available data on PA 211 Counts, https://pa.211counts.org/, from the start of the COVID-19 pandemic to present, March 1, 2020,

United Way of Pennsylvania and PA 211
20 Erford Rd., Suite 215, Lemoyne, PA 17043 • ▮▮▮▮▮▮▮ **• uwp.org • pa211.org**   1012

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through December 31, 2021, PA 211 has received over half a million call and text requests for a variety of supports and services. Top requested services are outlined in the chart below.

Service Type	Total Requested 3/2020 –12/2021
Housing & Shelter	223,056
Utility Assistance	87,256
Healthcare & COVID-19	49,139
Employment & Income	48,044
Food	41,347
Total (all requested services)	*549,060*

At the beginning of the pandemic, the United Way network, and our 211 partners, demonstrated that resiliency and strength was coming from local solutions. When circumstances were changing rapidly and daily, it's the local partners who convened to figure out how to keep essential services operating, secure necessary PPE or resources to work from different locations, how to keep homebound individuals stocked with food, and how to keep the community updated on service availability, volunteer opportunities and needs. Technology can support these strategies but is not the driver.

The pandemic and its impact on health outcomes has also demonstrated the necessity of trusted messengers to help connect hard-to-reach populations with COVID-19. United Way of Pennsylvania is administering a grant for the Pennsylvania Department of Health which funds hyper-local, grassroots nonprofit and faith-based organizations to partner with certified vaccine providers and help the populations they serve overcome barriers to vaccination. This demonstrates the types of human connections that are often necessary to engage under-represented and historically marginalized communities in community health work.

Proposed Government Actions
- To facilitate successful data-sharing, the United States needs a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. API technology allows data to be shared and ingested by different systems, if there are data categories with shared definitions across sectors. 211s across the country utilize AIRS taxonomy, so the idea of organizing data is strongly in place and ideally would be able to be crosswalked to a new shared data taxonomy across sectors.
- PA 211 has observed that government procurement practices can inhibit the potential for key community partners like 211. One example of this is procurements which are structured to include multiple functions within one bidding opportunity. Our for-profit partners have explained how resource-intensive it is to prepare bids, and have themselves observed that there is not equity in opportunity for nonprofit partners to succeed because it takes so many human and financial resources to prepare a bid response at the state or federal level. Just as there are incentives to encourage minority-owned and small businesses to secure government contracts, the federal government could explore procurement policy that encourages partnerships and contracts for nonprofit partners for priority issues where community investment and leadership is essential for success, including health equity solutions.

Thank you for the opportunity to provide comments in support of this request for information. If you have any questions, please contact PA 211 Executive Director Kristen Rotz at ████████████ or email ████████████ .

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20 Erford Rd., Suite 215, Lemoyne, PA 17043 • ████████████ **• uwp.org • pa211.org**   1013

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United Way of Rhode Island

United Way of Rhode Island Response to White House OSTPI: Strengthening Community Health through Technology

United Way of Rhode Island is a 95-year-old organization that traces its roots to the Providence Community Fund, which began in response to a growing number of private agencies raising funds individually. United Way focuses on generating measurable results to create a better community. We execute strategies that combine substantial public policy work, funding, and advocacy with measurable success. Our vision is a Rhode Island where everyone in every community has an equal chance for justice and prosperity.

In efforts to deepen our services to the Rhode Island community, we officially launched our 211 call center on June 1st, 2007, expanding on our preexisting helpline services. United Ways invests in technology, hires and trains nationally certified staff members to respond to the needs of Rhode Island. 211 is a free, confidential service that provides information & referral and is available in multiple languages, 24 hours a day/365 a year. United Way's 211 program in Rhode Island is the most extensive information and referral contact center in the state, with the most comprehensive database comprising 4,472 agencies encompassing 11,000 services.

Since 2008, 211 Rhode Island has responded to nearly two million phone calls. In 2021, United Way 211 Rhode Island handled over 260,000 contacts statewide. 211 services are available in a variety of modalities. Rhode Islanders can call, text, or chat online with a call center specialist. In 2016, we added a text feature to increase accessibility and convenience for those seeking aid from 211. Residents of Rhode Island have the most comprehensive means of accessing resources. 211 Rhode Island is often referred to as the "front door to social services in Rhode Island."

In times of crisis in Rhode Island, state leaders activate United Way 211 to triage calls and connect our most vulnerable citizens to critical resources they need to survive. During the Covid-19 pandemic, 211 provided services for the Office of Healthy Aging's Quarantine and Isolation Resource Center, supported the state's EBT card services for families receiving additional SNAP (food) benefits while children were out of school, and processed applications for the state's Safe Harbor Housing Program. Since the onset of the COVID-19 crisis, 211 call volume has nearly doubled from an average of 280 calls daily to over 500 calls, with Rhode Island citizens in distress over health issues, loss of jobs, food insecurity, and other urgent concerns. United Way 211 has a pulse on the happenings of our state at all times. We use that comprehensive data set to support United Way's grant making, partnerships, advocacy, and other efforts.

United Way 211 in Rhode Island is part of a national network of more than 200 contact centers that cover over 96% of the U.S. They are nonprofit and government programs providing free information and referral for community-based services across the country for all who call, text, or message their systems – answering more than 20 million calls a year that overwhelmingly address the basic needs of communities; food, housing, utilities, mental health, clothing, etc.

211s are present in their communities, attending local meetings, diving deeply into community issues, and providing solutions. 211s are not a "phone book"; their databases are complete, regularly

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United Way of Rhode Island

updated, and use the AIRS Standards and a detailed taxonomy of resources for their clients. This enables 211s to make and document accurate, relevant referrals. There are more than 2,000 nationally certified database curators and community resource specialists within the 211 network. For decades, 211s have worked directly with nonprofit, government, and faith-based programs to continuously update 211 databases, reducing the data-sharing burden of local organizations.

United Way of Rhode Island established a partnership with Unite Us, which connects clients with community resources more holistically and allows clinical and social service providers to have a feedback loop on the outcome of those connections. The Unite Us technology platform enables United Way of Rhode Island and network partners to coordinate and connect Rhode Islanders to social services more effectively. This flexible and scalable platform helps network partners track every step of a patient's total health and social service journey. Additionally, data generated by the platform highlights service standards, capacity constraints and elucidate gaps in services, allowing for more strategic growth and deployment of resources community-wide in pursuit of improved health. While we recognize the importance of the closed-loop technology, we also know that these systems still rely on the expertise of community based specialists. 211 database curators index every meticulous detail within the resource database and community resource specialists have distinct knowledge of the idiosyncrasies within these resources. A true, comprehensive system cannot be successful on technology alone.

While we strongly encourage the partnership of community-based providers, Information and Referral (I&R) service providers and private sector vendors, we urge you to take notice of the following concerns:
- Competitive market bids for closed-loop referral systems are often won by private software vendors
- This leads to duplication of work and often the creation of multiple resource databases
- Confusion within other social service providers and the community at large as to where to seek services
- Reduction in funding to local and statewide non-profits
- Additional workloads for agencies delivering services
- Competing and siloed data sources

We encourage you to look to effective Community Information Exchanges happening in San Diego, or the Community Referral Network developed by the Greater Flint Health Coalition as quality examples of community driven best practices.

We thank you for this opportunity and welcome future contact if further information is requested.

Please direct questions to:
Cortney Nicolato
President & CEO
United Way of Rhode Island

March 31, 2022

Responding to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

Thank you for the opportunity to weigh in on the importance of digital health technologies across our communities. United Way of Summit and Medina works to improve lives by mobilizing the caring power of our community to advance the common good. We are working to empower our community with tools to revitalize our neighborhoods, stimulate our local economy, strengthen families and help Summit and Medina counties find lasting prosperity.

United Way of Summit and Medina operates the 211 helpline that serves a nine-county region in Northeast Ohio. People can simply dial 2-1-1 or text their zip code to 898-211 to be connected to a trained specialist who will help them navigate our database of 22,000 available services. 211 is available 24 hours a day, seven days a week. We handle approximately 120,000 calls each year and even more online searches of our resource directory from residents in our communities who need help finding services such as food, utility and rent assistance, tax preparation services, and health care.

In addition to 211, our organization administers the Homeless Management Information System for Summit County, provides financial empowerment services, and is the primary entity distributing pandemic emergency rental assistance. Through the programs we operate and the partnerships we have in the community, we serve extremely vulnerable populations which have considerable health disparities, including chronically homeless individuals, low-income children, families, and older adults, minority populations, and immigrants. We maximize use of technology in serving these populations whenever possible and are also very involved in local and state conversations around how technology can support improvements in community health and reductions in health disparities.

BOLD GOALS. BIG RESULTS.

MANDEL COMMUNITY CENTER AT THE SOJOURNER TRUTH BUILDING | 37 NORTH HIGH STREET, AKRON, OHIO 44308 | | UWSUMMITMEDINA.ORG

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Based on our experience working with populations that have high levels of health disparities and many non-profit organizations in our community and throughout our state to improve community health, we have learned:

1. **Both individuals and organizations face barriers preventing the effective use of technology.** Barriers to individuals using technology include lack of broadband access and lack of comfort with technology among certain populations with lower educational levels or older adults. For organizations, one challenge is being asked to do work in several different systems (for example, hospital A wants to send referrals through one platform, hospital B through another, and a state funder requires all data be maintained in a third platform). Interoperability is key, as is trust in how the data will be used and user training. Cost is a significant barrier for both individuals and organizations.

2. **The pandemic changed the way those in need interact with technology.** Many residents in our community faced significant challenges when public libraries and other sites with free Wi-Fi closed. However, some schools, government offices and nonprofits helped reduce this digital divide by providing laptops, ipads or hotspots for people who did not have them. The use of telemedicine and virtual meetings has helped bridge transportation barriers people previously experienced and ███████████ws for meetings to be more easily fit in to a client schedule. We have ███████████ one video meetings to be an effective way to meet with clients in several of our programs, and we encourage government funders to allow these video meetings to continue in place of in person meetings in their contracts.

The experience of COVID has illustrated that the human touch is as valuable as ever. People appreciate being listened to and hearing someone who cares about their situation. Technology can improve that, but it cannot replace it. It is important that the human aspect of care coordination be funded in addition to the technology component.

3. **To expand access, user experience must be prioritized.** United Way of Summit and Medina has found that many individuals with low incomes and health disparities are able to engage digitally when it can be done through their mobile devices. We have had considerable success with implementation of applications on mobile friendly websites and use of virtual meeting software. However, there is an urgent need to integrate the digital experience to make it flow better.

4. **New technologies require new tools and training.** Small non-profit organizations often have limited technological capacity, as they tend to lack the necessary expertise or funding. Government investment in tools and training for community health workers and front-line case workers would be beneficial.

BOLD GOALS. BIG RESULTS.

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We propose the following government actions:

- Encourage the development of standards-based approaches for data sharing and interoperability. Vendors should be required to embrace interoperability so that data is not siloed and so that providers (hospitals, health care facilities and non-profit organizations) only need to enter data in one place.

- Support the development at the state or regional level of interoperable software systems designed to engage community-based agencies within the broader healthcare system. This should be community-based rather than vendor-driven.

- 211s have been maintaining community resource databases according to national standards for decades and these can be connected via API and the 211 National Data Platform to other software systems. Require the use of 211 resource databases in any government contracts or work for Medicaid/Medicare consumers.

- Support expansion of broadband for consumers.

Thank you for the opportunity to weigh in on this important matter to our communities.

Sincerely,

James Mullen
President and CEO
United Way of Summit & Medina

BOLD GOALS. BIG RESULTS.

March 31, 2022

Office of Science and Technology Policy
Executive Office of the President of the United States
Eisenhower Executive Office Building
725 17th Street, NW
Washington, DC 20500

Re: United Way Worldwide's response to Notice of RFI on Community Connected Health
        FR Doc. 2021-28193 (87 FR 492) and FR Doc. 2022-02289 (87 FR 6630)

United Way Worldwide is the headquarters organization for the global network of local, state and national United Ways, including more than 1100 United Ways in the United States. In 1997, the 211 information and referral service was established by United Way in Atlanta. Today, local United Ways across the U.S. operate, fund, or otherwise collaborate with 240-plus 211 call centers. In 2021, 211 made 23 million connections to critical services, with housing, food, healthcare, COVID, and utilities being the most common needs.

United Way has supported communities for 135 years and is committed to lowering barriers to healthcare by using digital health technologies. We are pleased to respond to the White House Office of Science and Technology Policy RFI. We respond to each area identified in the RFI and will share comments along with a request for caution and consideration around roles of nonprofits versus for-profit entities in any forthcoming action by OSTP and the White House.

Charitable nonprofits are established for a charitable purpose. Nonprofits are on the front lines providing help to individuals, families, and communities. Charities do that now through a variety of means, and that is their purpose. The end result of action by OSTP to "transform community health, individual wellness, and health equity" will require empowerment of charities to do our work better, more efficiently, and at greater scale.

The United Way and 211 Networks have invested heavily in data and technology solutions -- *and the human capital* -- to better support communities at the local, state, and national levels. We have the experience, scale, and infrastructure to be the starting point for the desired health outcomes. We desire to explore a greater partnership at the federal level to be positioned as a vital public resource.

Our essential functions contrasts with for profit entities, which are created for the purpose of profit. Whatever their business structure, for profits are established for the purpose of generating revenue. Indeed, a public company has a duty to its shareholders, not the public or people who need help. United Way and many other charities receive invaluable support from and partner with for profit companies. And we applaud companies that share our values and endeavor to do good for their employees, communities and society at large.

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But we have seen a trend in which for profit companies have identified business opportunities that usurp the public benefit role of charities to the detriment of charities and the people we serve. For profits use persuasive marketing and messaging to present themselves as benevolent. But they are nonetheless for profits whose goal is generating revenue. When a charitable endeavor is monetized by a for profit, only the portion of service that can generate revenue for the for profit is prioritized, and the other services are diminished.

Moreover, data and information about individuals who benefit from social services can be very valuable to for profits. The data of vulnerable individuals who have no choice but to turn to charities for help can become simply a commodity for a for profit business. Similarly, charities that have spent decades building databases of information about services that are available to individuals and families in any given community should not be forced to forfeit years of work because for profits find a way to turn that information into profit.

Technology companies and other for profits can bring immense value to this cross-sector effort to transform community health. But for profits will not be able to replicate or replace the role of a nonprofit in ensuring people who need help get help. Business can develop the technology and infrastructure that is desperately needed to make our system work better. For profits are a means to the end, but they should not inadvertently be allowed to exploit information and data gathered by nonprofits in course of providing services to people and communities.

Any action by OSTP should ensure that data about people is fully private and protected and data about services remains in the hands of and guarded by charities and other nonprofits that created it. This valuable information should not be monetized by for profit business. Individuals should retain ownership and control of their personal information and charities should retain ownership and control of data and information they have created.

Successful Models
United Way Worldwide has resourced, supported and observed many successful models across the United States where digital health technologies have contributed to improved health outcomes. This includes caregiver outreach programs in Wisconsin, hospital discharge navigation support in Florida, maternal care services in Michigan, kinship navigation in California, and asset mapping with resource deployment in Georgia. Each model includes a balance of community leadership and human engagement alongside deployment of health technologies. Automated and interactive voice response systems, website queries and data sharing models alone were not successful until coupled with trained navigators, case managers, or local coalition members and community-based organization leaders.

Barriers
The proliferation of databases, resource listings and care coordination platforms has fragmented service delivery and created new barriers for community-based organizations and the people they serve. Institutions have invested in siloed navigation systems that fail to bridge the gap between public health, community-based organizations, and healthcare practitioners. These failed

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integrations of governance or data sharing leave individuals, families, counselors, case workers and other navigators needing to learn multiple systems, log-ins, and reporting procedures without additional resources to accessing, staff, or support these systems.

Trends from Pandemic
More than 30 Governors and State Health Departments activated their local 211 service as the front door for information on COVID-19 symptoms, testing and vaccine access. Additionally, 211 services support the associated economic strains of housing, food, childcare and transportation issues resulting from the Pandemic. Requests for help surged 1,000% in some communities and 211 website searches and telephone requests continue to be 80%-100% higher since pre-pandemic levels. These indicators demonstrate a need for curated and accurate information from trusted sources as well as the need for personalized help-by-telephone and resource navigation during a crisis.

User Experience
User experiences need to include multi-lingual provision, access points not solely dependent on specific platforms and supported with human interaction.   During the Pandemic, many government programs offered free ride codes to people seeking transportation to vaccines but only provided free codes to people with a smart phone and had a credit card on file with popular ride apps. Designing programs, like United Way Worldwide's Ride United program, instead should use technology, like ride apps, but make them accessible via community-based organizations, like 211, for individuals without a smart phone or credit card. Platforms and programs designed for disenfranchised users is critical to bridging health care divides.

Tool and Training Needs
To facilitate successful data-sharing, we need a data nomenclature that can be used across government, healthcare providers, payers and community-based organizations who are essential to addressing Social Determinants of Health gaps. Supporting API technology development and deployment among providers could allow data to be shared and ingested by different platforms with data categories and shared definitions across sectors.

Health Equity
United Way Worldwide programs and 211 services are designed to provide equitable access to health, education, financial-stability, and basic needs. We offer technology-centered access to community resources through publicly accessible web sites and text and/or chat. This is combined with a multi-lingual, multi-cultural network of locations and live-support contact centers, which has positioned our association to reach people when and where they need help. This balance of technology and human connection is essential for equitable access to health. Platforms alone dehumanize human services and need to be deployed with a human touch.

Respectfully Submitted,

Steven S. Taylor
Senior Vice President and Counsel for Public Policy
United Way Worldwide

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Comments on White House OSTP RFI on Strengthening Community Health Through Technology

Contact: Molly Weiner, Director of Nonprofit Engagement, United Ways of Texas

United Ways of Texas creates lasting change in peoples' lives and in Texas communities by leading and collaborating with a trusted and powerful network of local member United Ways. Our members are local, independent, and diverse, and all work within their communities to improve the education, health, and financial stability of Texans to ensure strong communities. A critical component of this work is connecting Texans to local community and faith-based resources that can address immediate human service needs. While this takes place in multiple forms, from supporting partner agencies to running local information call lines, a critical part of this work is 211 Texas.

As a trusted resource available 24/7/365, 211 is a front door and connector for all Texans to critical, community-based services. 96% of the United States has access to free, confidential 211 services, including during times of emergency and disasters. People from all walks of life, particularly those underserved by traditional healthcare systems or those who lack financial means to access these systems, can find themselves in need of assistance and confronted with a maze of agencies and programs that are challenging to navigate. This is especially true when addressing social determinants of health (SDOH). 211 connects the public to health and human service resources to address these determinants. Leveraging information and referral and community-based partnerships to address these barriers supports healthy communities and reduces long-term medical costs.

Improving community health outcomes and health equity in our state and across the country is an important task that demands collaboration and centering community-oriented solutions. Nonprofits, community partners, and local organizations like United Ways have been working together to address these challenges and ensure all people can access services. **Technology is an important part of this work but cannot be the sole solution. This work requires leveraging the assets of all community partners, systematic technology tools, and grassroots community collaborations to build true community information exchanges that benefit all Texans.**

211 in Texas

211 Texas, a public-private partnership between Texas Health and Human Services Commission and a network of 25 Area Information Centers (AICS) - including 12 centers run by local United Ways- serves as front door, connector, and data resource to communities and Texans in need.

Since the start of the pandemic, 211 Texas has continued to grow to support communities across the state with resources and referrals to services that address the negative impacts of the pandemic. AICs managed ever-increasing call volumes of up to 40%, as well as coinciding emergencies, including hurricanes and Winter Storm Uri. In 2021, 211 connected with over two million Texas help seekers, providing human connection, connections to resources, and support in time of need. Top requests were for housing assistance, utilities assistance, healthcare, and food assistance.

211 and AICs play a unique role in the work of information and referral to support health outcomes and health equity in our state, work that is necessarily human-led. Callers are looking for information, but they are also looking for connection, for a call specialist to listen and understand their current

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situation. Call specialists are trained to ask questions to determine the full scope of need and search for resources that will address all aspects of a client's need. Specialists often provide callers with more than one referral and provide referrals for 2-3 different needs. This human interaction is also critical to support callers when technology cannot connect them to what they need. All this work in Texas is done by trained and certified call specialists in nationally accredited call centers. People can connect to 211 via websites, chat features, and/or text, and this variety allows 211 to meet the needs of all, including those who cannot self-serve information due to access, ability, or preference.

Additionally, the 211 community resource database is the only database that is curated as an asset of the community. Each call center has at least one full time database curator who is connecting with community-based organizations, ensuring accurate information, and providing database updates on client eligibility, hours of operation, service options, and more. Many community-based organizations rely on the work of 211 to spread the word about their services and do not have the capacity to curate their service information in multiple places. They also benefit from having a trusted nonprofit partner in 211 to build trust and connection between the public and community-based organizations. This is a costly, yet necessary investment, which is not profitable for many technology providers to offer, but provides the most accurate and complete repository of a community's resources.

211 is available to all Texans, regardless of zip code, language spoken, citizenship status, or any other barrier that can restrict access to traditional healthcare opportunities. Calls can be anonymous and are confidential, ensuring that individuals can access support at their own level of comfort. Through this work, 211 is able to provide real-time information about levels of need in different areas and different services, and this aggregated data can support policymakers, healthcare providers, and community coalitions as they work towards positive health outcomes.

211 Texas can be a working model of how government, community organizations, and technology providers can collaborate in a process that provides funding to organizations doing the community engagement and referral work to connect their neighbors to local resources, supported by advances in technology that enhance that connection and support the work of I&R and health-based organizations. Other positive models of collaboration include community information exchanges, being piloted and implemented across the country, which use a shared database and technology platform to streamline the referral process for clients and track data on usage and health outcomes. This work centers communities and local organizations, who then leverage technology to improve outcomes.

Policymakers interested in supporting community-driven efforts to address health equity and to leverage technology to support these efforts should take these key factors into consideration:

Support existing community-led collaboration. Community-based organizations and collaboratives are leading the way across Texas address SDOH. Oftentimes, when institutions invest in referral platforms, they create siloed navigation systems that duplicate other community assets and require community partners to update information across multiple platforms. Centering community-driven collaboration and supporting collaboratives across the state that already exist and are leveraging technology to support their community goals is a better use of resources for human service organizations and local, state, and national government(s) looking to support these efforts.

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Ensure the ability of systems to meet clients where they are. Technology itself cannot address the many barriers Texans face to accessing digital health services. Almost 300,000 Texas households do not have access to broadband at minimum speeds, with almost 250,000 of those households in rural areas.[i] Only 67.6% of Texans who can access broadband subscribe, with affordability as a main barrier. Beyond access and subscription, digital health navigation requires high-quality devices and digital skills to benefit from these services. Healthcare technology cannot address these real barriers to broadband. 211 provides a phone-based way to connect and receive information and referral services, providing this accessible service to all people.

Many clients call 211 for the anonymous experience of information and referral. Moving all these interactions to closed-loop referral systems may exclude individuals who want to protect their privacy. Technology-based solutions should include protection of client data, including requiring client consent for information to be shared with multiple organizations across a technology platform.

Support local community-based organizations. Health equity requires a targeted approach to center and serve the most vulnerable populations. Community health solutions must be inclusive of all organizations and accessible to them. Many smaller nonprofit organizations have basic client tracking services, rely on volunteers for data entry and client engagement, and open only at certain times each week for services. Tools and training for these organizations is critical if they are to engage with technology platforms. Investing in community engagement allows coalitions and anchor organizations like United Ways and 211 to support these organizations. That is why the commitment and investment 211 makes in community engagement is critical. These organizations often are a key part of addressing SDOH, especially in areas that are not rich in accessible community resources.

Supporting existing community infrastructure, community information exchanges, and local health equity collaboratives should be a funding priority. Communities know best how to leverage technology, and software solutions and funding decisions for technology should be made locally.

Data sharing. Bringing individuals, community organizations, local health institutions, and technology providers together to solve critical health challenges requires successful data-sharing and a shared data nomenclature. Advances in technology allow data to be shared amongst all these platforms if there are agreed-upon data categories. Protecting this data and ensuring that local community coalitions that collect and store this data have control over who can access it and how the data will be leveraged is another key component. Strengthening this will allow for robust data-sharing, reduce the need for repetitive data entry on the client and community organization side, and allow for increased efficiencies in serving our communities.

United Ways and the 211 network have been in the mission work of supporting communities for decades, and local UWs have been providing help lines and information and referral in iterations prior to 211. This work is a valuable resource to every community across the state. Looking to existing community organizations and collaboratives to lead this work, supported by advances in technology, will drive positive impact in Texas communities.

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[i] Texas Governor's Broadband Development Council Report 2021

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February 28, 2022

Dr. Alondra Nelson, Director
White House Office of Science and Technology Policy (OSTP)

RE: Connected Health RFI; published at Vol. 87, No. 3 Federal Register 492-3 on January 5, 2022
Submitted electronically via ████████████████████████

Director Nelson,

UnityPoint Health (UPH) appreciates this opportunity to provide comments. As one of the nation's most integrated health care systems, our relationships span more than 480 provider clinics, 40 hospitals, and 14 home health agencies throughout our 9 regions in Iowa, central Illinois and southern Wisconsin. In addition, UPH is actively engaged in numerous initiatives which support population health and value-based care, including participation in Medicare accountable care organization initiatives since 2012. We respectfully offer the following comments:

SUCCESSFUL MODELS

Describe models enabling community health providers to successfully use digital health technology.
Comment: As an integrated health system, **UPH seeks to deliver local services across care settings and within the community as appropriate.** Digital formats permit a multi-faceted approach to care delivery recognizing that patients are individuals and communities are unique. Below are select examples of digital health technology case uses.

Telehealth Delivers Community Access. Like most integrated health systems, UPH heavily increased adoption of telehealth during the COVID-19 pandemic to safely provide care to vulnerable populations and communities.

- Geographic outreach**.** The federal PHE telehealth waiver of originating site requirements has been transformational in providing access via telehealth services in patient homes and in urban/Metropolitan Statistical Areas. **By simply waiving originating site restrictions through the same billable services, outreach to a more geographically disperse population resulted** – from patients residing in 41% of all rural Iowa zip codes in 2019 to patients residing in 90% of all rural Iowa zip codes in 2020 and 2021.
- Acute care sustainability. Telehealth buttresses an acute care presence within communities. To leverage these services, UPH has **deployed telehealth to:**
  - Reduce the cost of **low acuity urgent care** by approximately $284 per visit, while maintaining a patient satisfaction score of 4.85 out of 5 stars.
  - Create financial and provider staffing sustainability for rural and urban hospitals through **tele-hospitalist programs**, reducing provider coverage expense by more than 60% and resulting in approximately $1,500,000 in savings annually.
  - Addressed **workforce shortages** through virtual patient sitters ($1,916,964 annual savings) and virtual nursing (approximately $890,222 annual savings).
- Specialty care. During the pandemic, the need for behavioral health services has increased over

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time and behavioral health providers are in short supply. **Telehealth is used to manage behavioral health needs in both Emergency Departments (ED)** (to reduce boarding times and admissions) **and outpatient settings**. For outpatient visits, telehealth correlated to an increase in appointments kept – 75% when telehealth is available, compared to 58% for in-person visits.

Remote Monitoring Enables Patients to Safely Reside in their Homes. Remote monitoring enhances delivery of population health by taking care of patients where they are located versus waiting for them to come to providers. This approach has been incorporated into several programs:

- Chronic Disease Management (targeting COPD and Diabetes). For conditions prone to rapid escalation and complications, **UPH uses the chronic disease support module of the *CareSignals* platform to provide an automated text message assessment**. Message frequency is patient specific, and responses are risk stratified and collated in a dashboard. Alerts indicating a change in condition are monitored by our IntelliCenter support team and a patient outreach is completed. This technology allows UPH to systematically connect with more patients on a routine basis and target interventions by nurses when symptoms worsen. In 2021, alerts resulted in about 10 triage encounters per week, and trending signals resulted in about 55 patient outreaches per week.

- Low-risk ED Discharges. Based on the chronic disease pilot, **UPH will be launching the *CareSignals* post discharge support module in March 2022** for patients meeting criteria. Upon discharge, monitoring occurs at patient-specific intervals for 30 days.

- Utilization Alerts. Our ACO, UnityPoint Accountable Care, is responsible for health outcomes for its attributed population regardless of where services are delivered. To monitor utilization episodes agnostic of provider or location, **the ACO uses the *Patient Ping* tool to alert the care team when a patient has an episode of utilization throughout the US**. These alerts enable care team outreach to the patient to monitor care as appropriate. This technology has been effective for tracking in-state and out-of-state hospitalizations, particularly for snowbirds. We receive an average of 426 pings per day in real time during vulnerable transitions of care.

- Care at Home. This Integrated, interdisciplinary home-based model provides proactive, urgent and interventional response, for qualified patients, averting ED/hospital events. Our home health enterprise, UnityPoint at Home, leads participation efforts in the CMS Acute Hospital Care at Home waiver as well as operationalizing several Care at Home ambulatory episodic care bundles (primary care, palliative care, and skilled nursing care). **Underlying these initiatives is remote monitoring with a telehealth complement.** Digital technology monitors basic vitals and virtual visits complement in-person visits. Real time information enables timely action to mitigate health risks. Patient satisfaction rates exceed 90%.

- Remote Wound Care. To facilitate wound healing and management, avoidable hospitalizations, and top of licensure practice, **remote wound care has been provided to patients in their homes since 2008**. UnityPoint at Home utilizes asynchronous technology to store images along with data collected from clinical assessments and other remote monitoring. Software collects and analyzes wounds for progress, and Wound, Ostomy, Continence Nurse Specialists oversee records, perform virtual assessments, and provide clinical expertise. For higher risk patients, Tele-Wound Care video technology enables real-time and more frequent consultations. Outcomes include decrease in wound size, total number of wounds healed, decrease risk of infection, and avoidable costs.

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Mobile Health Apps Facilitate Closed-Loop Referrals to Community Resources. To better address holistic care, **UPH launched *Together We Care*, a search and referral platform of social service programs integrated in our EMR to make and track referrals in a closed-loop process**. When patients present in the ambulatory, ED, inpatient, and care management environments, *Together We Care* enables an assessment and connection to community resources. Participating community organizations electronically receive and monitor incoming referrals, track outcomes and provided services, and communicate back to UPH. In addition to provider navigation, patients and family members can access the self-service search function of *Together We Care* via the UPH website and patient portal. Over the last 8 months, roughly 27,000 self-service sessions and 73,000 searches for community resources occurred. On the backend, *Together We Care* analytics reports identify needs and gaps in community resources. Housing and food have consistently ranked as top needs.

BARRIERS TO A LEVEL PLAYING FIELD

Describe barriers to the use of digital health technologies in community-based settings.

Comment: Foremost, UPH would emphasize the need to provide a level digital playing field. **Broadband access is still problematic** as technology platforms require heightened download speeds for functionality. In Iowa, 8.4% of households have access to download speeds less than 80 mbps. Lower speeds occur in predominantly rural areas. Even in areas with optimal broadband access, the **affordability of equipment and broadband is an issue**. Not all health care providers were eligible for Meaningful Use and other federal assistance. For instance, Home Health Agencies are not eligible providers under the FCC Rural Health Care Program. For individuals, the cost of smart technology and wireless access can be challenging particularly for those on fixed incomes.

PROPOSED GOVERNMENT ACTIONS

Describe opportunities to support the transformation of community health settings.

Comment: To enable a level-playing field for telemedicine access, UPH urges:

- **Permanent waiver of originating site requirements** to allow care in the home and urban areas to be a covered, billable service.
- **Reimbursement for inpatient encounters (CPT 99218 - 99223, 99231 – 99236, 99238 - 99239) via telehealth equal to in-person**. These codes should be reimbursed to reduce duplicative work, improve provider efficiency, and enhance patient experience. In the absence of a change to enable billing through a telehealth provider, patient history and physical must be performed twice by providers on the same team.
- **Reimbursement parity for telehealth services**. Parity still requires rate negotiations between commercial payers and providers/health systems; however rates must reflect equal reimbursement for a service regardless of modality.
- **Additional eligibility categories for the FCC Rural Health Care Program**. Home Health Agencies serving rural areas should be eligible to participate to promote maintaining rural residents in their homes when possible.

We are pleased to provide input. Given the page limit, our responses are topline, and we would welcome further participation. For more information or future discussions, please contact Cathy Simmons, Government & External Affairs at███████████████████████████████.

Sincerely,
Laura Smith, Senior Vice President, UPH Chief Information Officer

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Soc a Sc ence Research Inst tute (SSRI)
Te ecommun cat ons and Soc a Informat cs Research Program (TASI)
Pac f c Bas n Te ehea th Resource Center (PBTRC)

March 28, 2022

Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Subject: White House Office of Science and Technology Policy (OSTP) RFI: Strengthening Community Health Through Technology

The Pacific Basin Telehealth Resource Center (PBTRC) is a HRSA-funded resource center that serves the State of Hawai'i and the US-Affiliated Pacific Islands. PBTRC facilitated a listening session with telehealth stakeholders to collect feedback for the White House Office of Science and Technology Policy RFI. These stakeholders represented health care professionals who care for our vulnerable and high-risk populations, such as maternal care, homeless, and other underrepresented populations including Native Hawaiians and Pacific Islanders, digital literacy and equity advocacy groups, and technical trainers serving communities with disabilities, among others. See Attachment 1 for list of participants. This is a summary of input collected:

1) **Barriers**
Buy-in across organizations or communities: There are regional and statewide telehealth network barriers. Hawai'i is an island state with specialty care concentrated in Honolulu on the island of Oahu resulting in challenges for the neighboring   islands. For example, each year approximately 5,000 pregnant women must fly to Honolulu for prenatal ultrasound screening for abnormalities. Approximately 100 are emergency-flight transported costing an average of $10,000 to $15,000 per transport. The potential to leverage regional telehealth networks for specialty care is clear however, buy-in from competing health care systems have hampered initiatives. There is a need for pilot projects to collect data on the return on investment and identify propositions of value for health care systems and payors, and to measure the value and benefits for patients and communities.

Language access: Whether in person or via telehealth, language barriers exist for patients and health care providers. Telehealth has the potential to tap into networks of language translation services to better meet the need for language access.

2) **Trends from the pandemic**
Change in provider perception of telehealth. There have been gaps in the delivery of care statewide in Hawai'i . The pandemic highlighted the inability for people, especially in rural communities, to access telehealth due to the lack of broadband. The pandemic also gave physicians the opportunity to experience telehealth as a means of providing quality and meaningful care.

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"More people are being left behind": Digital literacy and the digital divide will drive mortality and morbidity given direct relationship of internet access and health. During the pandemic, many patients opted to miss their health care appointments, especially if they did not have the option to connect via telehealth. A lack of reliable broadband and unaffordable internet service will mean "more people are being left behind" in the transition to virtual health services.

3) User Experience

Home-based care and devices: A service provider for people with disabilities described a Hilo doctor who receives data directly from a patient's home blood pressure cuff. She notes that "better telehealth is likely to start with more home-based devices and health monitors. However, if people do not have connectivity, devices, or know-how, this will not be successful."

Community and grassroots input: Grassroots and rural community members have historically been left out of discussions that greatly affect them. Comments included a desire to tailor communication and request for information to the different communities. This may need to be accompanied with basic education and training on the topic at hand. While these various communities clearly understand their needs, they do not always know the appropriate solutions. A participant said, "sometimes we need to help to walk before we can run."

Value health care provider input: It is essential to get feedback from health care providers who are actively working in the field who can provide clinically and culturally relevant information. These health care providers are considered subject matter experts whose input and advice enhances the overall project plan. Unfortunately, this takes them away from their patients. Health care providers ask to be involved in the planning processes with appropriate compensation for their time.

Generational differences: There is an ongoing generational shift in the workforce. The new generation is known for early technology adoption and is characteristically more tech-savvy than previous generations. They will likely drive the need for telehealth services and expect and demand the convenience of telehealth as a standard of care.

People with disabilities: There is limited digital literacy and telehealth resources for people with disabilities including but not limited to those who are deaf, hard of hearing, blind, have low vision, and have intellectual and developmental disabilities. Further, health care providers require support and training to effectively conduct telehealth consults with people with disabilities.

Plug and play devices: Telehealth often involves community health workers or other support staff that have limited time and training to support the patient. Telehealth devices and other peripheral equipment should be easy to use and require little to no set-up.

4) Tools and Training Needs

Assistive technologies: Assistive technologies and adaptive technologies help individuals with disabilities more effectively connect to their telehealth sessions; however, this often requires

one-on-one training. The type of one-on-one training needed is usually foundational such as how to use a touch screen, how to swipe, push or hold the buttons on the smartphone to advance to the automatic menus to even get to the telehealth service and interpreter.

Future technologies in health care: The advancements in artificial intelligence, virtual and augmented reality and other technical developments in health care are increasingly used for health applications. Much of these developments could benefit from wider involvement from patient and community input and social science-based research. There is concern that the introduction of advanced technologies and services will reinforce existing health care inequities. It is important to first address the current barriers (e.g., broadband access) before introducing new technologies that may not benefit communities equally.

Personal Virtual Assistants (PVA): PVAs like Siri cannot understand local dialects, accents, or those with speech impediments as a result of a disability.   Developers need to be incentivized to develop such adaptations because there may not be economies of scale for the company. PVAs offer much potential to people with disabilities but needs to be modified for local dialects.

5) **Proposed Government Actions 0-2 Year time period:**
   - Recently there have been several grant opportunities (e.g., FCC, USDA,) that fund equipment and connectivity. However, there is a need for more grants to pay for IT and clinical personnel salaries to operationalize telehealth projects, especially pilot projects.
   - There is a need for funding to support telehealth navigators to help patients with equipment and digital literacy. This type of support is currently not funded by health care reimbursement or other health care payment methods, but is critical for successful telehealth patient experience for certain populations.

6) **Health Equity and Literacy**

Digital Equity for A.L.L. (Access, Literacy and Livelihood): The Hawaiʻi Broadband Hui (Hawaiian for group) recognizes the need for access and affordability of devices and broadband for telehealth, distance learning and telework. Additionally, the Hawaiʻi Broadband Hui convenes stakeholders from across the state to coordinate digital literacy training programs to reach a wide range of people from children, vulnerable populations, to kupuna (elders). The stakeholders have met weekly over the past two years since the start of the pandemic to track needs, opportunities and resources and have resulted in many synergies for wider outreach.

Finally, the State of Hawaiʻi Department of Labor and Industrial Relations Workforce conducted a study on Digital Literacy and Readiness study to measure our residents' readiness for a digital economy that includes readiness for telehealth. Attachment 2 includes the complete study.

Sincerely,

Christina Higa, PhD
Co-Director, Pacific Basin Telehealth Resource Center

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Attachment 1: Contributing Stakeholders

Laura Arcibal – DOH State Telehealth and Access to Health Coordinator
Kaohimanu Dang, MD – Family Physician, Medical Director for Premier Medical Group
Rosie Davis – AHEC Maui Director
Nicole Flowers – Technical Trainer, Aloha Independent Living Hawaiʻi , Teleconnect
Brian Hauser – Project Lead, Aloha Independent Living Hawaiʻi , Teleconnect
Navya Karkada – Program Manager for Populations and Health Systems Improvement, Hawaiʻi Primary Care Association (HPCA)
Men Jean Lee, MD – University of Hawaiʻi John A. Burns School of Medicine BGYN Associate Chair for Research and Innovations
Burt Lum – State of Hawaiʻi Broadband Strategy Officer
Rahul Maitra – General Counsel and Privacy Officer, Hawaiʻi Health Information Exchange
Jennifer Mbuthia, MD – Allergist and Clinical Informaticist
Sylvia Mann – Western States Regional Genetics Network Project Director
Judith Mikami – Kupuna Cares Grant
Kaʻala Souza – Hawaiʻi Workforce Development Council

Attachment 2:
Hawaiʻi Digital Literacy & Readiness Study, State of Hawaiʻi Department of Labor & Industrial Relations Workforce Development

HAWAI'I DIGITAL LITERACY & READINESS STUDY

State of Hawai'i
Department of Labor & Industrial Relations
Workforce Development

WORKFORCEDEVELOPMENT

September 2021
Project #5779

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ACKNOWLEDGEMENTS

BACKGROUND AND RESEARCH OBJECTIVES

BACKGROUND

Earlier this year, Hawai'i Governor David Ige shared in his State of the State Address his vision of Hawai'i for the future – an upgraded and more sustainable local economy in which digital technology is leveraged as a critical component of success. Toward this end, the State of Hawai'i Department of Labor and Industrial Relations (DLIR) is working to up-skill Hawai'i's workforce to meet growing demand for digital services.

One of DLIR's initiatives is a greater understanding of Digital Literacy and Readiness among Hawai'i residents between 18 to 65 across the state. Currently there is no single metric that describes Hawai'i residents' readiness for the digital economy nor its level of digital literacy.

The DLIR Workforce Initiative seeks a benchmark to quantify the digital readiness and literacy levels among residents of the State of Hawai'i. The Organization for Economic Cooperation and Development produces a regular digital knowledge assessment both nationally and internationally. Its 2017 U.S. study concluded that two thirds of the American population ranged from poor to terrible to zero in computer skills. The PEW Research conducted a study on digital readiness and found similarly low levels.

This DLIR Workforce study on Digital Literacy and Readiness, contracted through a state Request for Proposal process, aims to establish an initial benchmark of Hawai'i's digital readiness and literacy.

RESEARCH OBJECTIVES

The objectives of this State study, the Digital Literacy and Readiness Study (DLRS) are as follows:

➢ To establish a baseline measurement of the digital literacy and readiness of Hawai'i's working age population;
➢ To measure the present rate of digital readiness statewide, disaggregated by demographics, education, occupation, industry, and geography;
➢ To determine the proportion of adults in various groups who are not digitally literate; and
➢ To identify the largest population segments of adults who are not digitally ready by selected demographics, education, occupation, industry, and geography.

SAMPLE AND METHODOLOGY

SAMPLE DESIGN

The sample for this study is composed of Hawaiʻi residents aged 18 to 65 years of age. A random sample projectable of residents across the State as well as within each county was developed to ensure representativeness of this population.

Sample Frame

Team Omnitrak used a stratified probability sample to administer this survey to residents. It was executed in two phases: 1) In Phase I, a random sample of residents was called and asked to complete the survey using a random digit dialing (RDD) sample frame. A sample sufficient to compete the proposed number of interviews was acquired from Scientific Telephone Samples (STS), a long-time Omnitrak sub-contractor. STS telephone sample is a high quality sample that includes a wide breadth and diverse sample of residents by demographic characteristics including income, educational attainment, occupation, employment sector, etc. This is important to ensure Hawaiʻi's diverse residents have a chance to participate; 2) In Phase II residents were administered on on-line digital skills test.

Once on the phone, Omnitrak interviewers screened for the targeted criteria as described below to participate in the survey. In addition to the random sample, Omnitrak then over-sampled residents of Hawaiʻi, Maui, Kauaʻi, Molokaʻi and Lānaʻi. This geographic over-sampling increased the sample sizes and hence reduced the sampling error for each Neighbor Island county. Upon completion of data collection, the sample was weighted to be proportionate to population by State, County and major Island in alignment with U.S. Census data.

Sample Screening Criteria

Omnitrak experienced and professional interviewers screened respondents for the following:

    a. Adult between the ages of 18 and 65
    b. Resident of Hawaiʻi for at least 6 months of the year
    c. Income between $21,000 and $150,000

Sample Plan for State and Counties

Besides representativeness, it was important in the design of the survey that the sample size for the State, County and other key segments be sufficient to yield meaningful results. The total telephone sample size carries a sampling error of +/- 3% for the State overall. Except for Kauaʻi, the four counties have roughly comparable sampling errors: City and County of Honolulu +/- 5%; Hawaiʻi and Maui County +/- 7%, and Kauaʻi +/- 10%.

CATI UNWEIGHTED SAMPLE	TOTAL	C & C HNL	Hawaiʻi	Maui	Molokaʻi	Lānaʻi	Kauaʻi
# of Completed Interviews	893	403	200	135	46	8	101
Sampling Error at 95% confidence	+/-3%	+/- 5%	+/- 7%	+/-8%	+/-14%	+-35%	+/- 10%
* The Sampling Error for Maui County with an aggregated sample of 189 is +/- 7%.
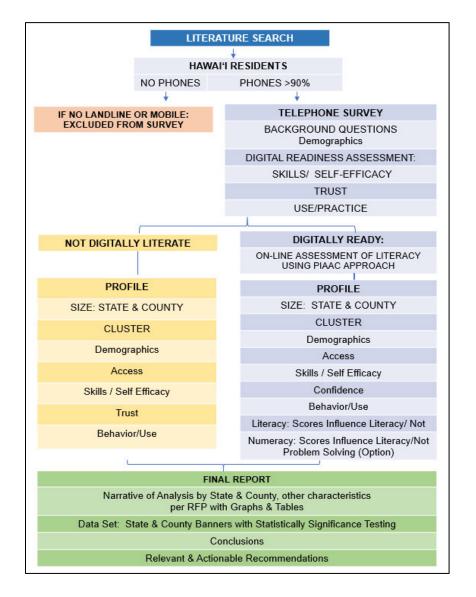
MULTI-MODAL METHODOLOGY

To analyze digital readiness, Omnitrak utilized a computer assisted telephone interview or CATI methodology. Because more than 90% of all households in Hawai'i have telephone access, the CATI methodology ensured that almost all residents had an equal chance to participate in the digital readiness survey.

Upon completion of the telephone survey, Omnitrak utilized an on-line survey to measure digital literacy. This sample was developed from the sample of respondents who took the telephone survey. If telephone respondents indicated that they had digital devices to access the Internet and services to connect to the Internet, and basic navigation skills to open a link and complete a survey, they were asked if they were interested in participating in a follow-up survey. The follow-up survey measured digital skill or literacy levels. The follow-up survey has been primarily used to estimate the incidence of digital literacy within Hawai'i's residential 18 to 65 year old population. Respondent data from both surveys were linked enabling descriptive analysis of those qualified as digitally literate.

THE DIGITAL ROADMAP: WORKING DEFINITIONS

After presentation and discussion of differing definitions used in the digital education environment, the Department of Labor and Industrial Relations Workforce Development approved the following definitions of Digital Readiness and Digital Literacy at a meeting on May 27, 2021. These definitions reflect a workforce development perspective and will guide the current study. The study's planning group agreed that over time, advances in technology are likely to change requirements to be digitally literate. Hence, the relationship between "readiness" and "literacy" are integrated and evolving over time.

The Digital Roadmap: Working Definitions

NO BARRIERS

DIGITAL READINESS from a workforce development perspective is preparedness in terms of self efficacy, skills and trust in digital applications and tools that enable entry to participating in the 21st Century economy.*

DIGITAL LITERACY is the capacity or fluency to proficiently access and be resilient in the changing environment of digital technology and to understand, engage and effectively use digital content, information and tools for individual living, working, learning, creation, self-fulfillment, and empowerment

TECH CHANGES

CONCLUSIONS AND RECOMMENDATIONS

STATISTICAL SUMMARY

Given the digital divide observed among different demographic segments in the descriptive analysis, additional analysis was conducted to further understand this phenomenon. Due to the impact of Covid-19 pandemic which has led the U.S. public to increasingly rely on Internet access for all aspects of daily life especially information regarding work and employment (Lai and Widmar 2020), it is imperative to gain more insights regarding the presence and nature of the current digital divide situation in Hawai'i. Further, prior research often defines the digital divide as the technological gap among different groups of people in terms of their accessing and using information and communication technologies (e.g., Stiakakis, Kariotellis and Vlachopoulou 2009). However, such definition has gradually been replaced by the multifaceted definition where the inequalities in internet access is described as the first-level digital divide whereas the skill and use of the information and communication technologies is termed the second-level digital divide (Buchi, Just and Latzer 2015; Hargittai and Hsieh 2013; Ragnedda and Muschert, 2013). The second-level digital divide is particularly important when the Internet access has become more commonplace which leaves "how" rather than "if" the Internet is used a focal point of many prior investigations (e.g., Buchi, Just and Latzer 2015). Prior research sometimes calls the second-level digital divide "digital inequality" or "digital exclusion" (e.g., Van Deursen, Helsper, Eynon, and Van Dijk 2017). For the purpose of consistency, we use the general term "digital divide" to capture the skill and usage of digital technology in the current analysis.

The concept of digital divide is stemmed from the comparative perspective of social inequality (Van Deursen et al. 2017) and current digital divide research employs multifaceted conceptualizations which consist of access, motivation, skills and uses (e.g., Lee, Park and Hwang 2015; Pearce and Rice 2013; Van Deursen and Van Dijk 2015). As our initial analysis indicated the ubiquity of Internet access, we focus our investigation on skills which "consists of medium- and content-related elements;" and use which "involves engaging with and creating digital content" (Van Deursen et al. 2017, p. 453). We aim to examine whether Hawai'i's digital divide is compound and/or sequential. The compound digital divide is defined as a cumulative disadvantage within the digital skills and use, i.e., a Hawai'i resident who lacks one particular type of digital skills also lacks another type and that a resident not using the Internet in a certain way is also found disengaged in other ways (Van Deursen et al. 2017). By comparison, sequential digital divide captures the dependency between digital skills and use, i.e., when a Hawai'i resident lacks digital skills, he or she will not be able to take advantage of some uses of the Internet (Van Deursen et al. 2017).

In our current DLRS, we focus on four digital skills, i.e., Basic/Operational Skills; Social Skills; Creative Skills and Information/Navigation Skills that have been conceptualized, operationalized, and validated in prior research (Van Deursen, Helsper, and Eynon 2016). Such division of the digital skills will help investigate how digital skill levels facilitate different type of Internet use. Operational skills are the basic technical skills required to use the Internet, often referred to as button knowledge. Information-navigation skills relate to searching for information, including the ability to find, select, and evaluate sources of information on the Internet. Social skills encompass the ability to use online communication and interactions to understand and exchange meaning, entailing searching, selecting, evaluating, and acting on

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contacts online; attracting attention online; profiling; and the social ability to pool knowledge and to exchange meaning. Creative skills are the skills needed to create content of acceptable quality to be published or shared with others on the Internet. This regards textual, music and video, photo, multimedia, and remixed content, but also the more basic level of uploading material. All skills combined provide an elaborate view of what is required for the general population to function well in an online environment" (Van Deursen et al. 2017, p. 455). Since there are many types of digital uses, we focus on two uses in the economic domain that are of particular interest to workforce development, i.e., Employment Use (job search and promotion); and Finance Use (investment, contracts) (adopted from Van Deursen et al. 2017).

Digital Skills and Digital Use

Since we adopted the four digital skills (5-item each skill type, 20-item total) and two specific digital uses (3-item each use type, 6-item total) measures from prior research (Van Deursen et al. 2017), we will need to first establish their psychometric qualities by ensuring the construct validity and reliability. Construct validity is the extent that each instrument is in fact measuring the respective underlying concept (Churchill 1979; Podsakoff et al. 2013). To assess construct validity, we conducted an Exploratory Factor Analysis on the 26 items using Principal Components Analysis as factor extraction method. The weighted data were subjected to a varimax rotation with kaiser normalization. Factors were determined by an examination of eigenvalues, scree plot and variance explained. Our EFA analysis yielded a six-factor solution (see Figure 1). All items loaded on its respective factor except for item 2 and 4 now loading under Basic Skills as opposed to Creative Skills, suggesting respondents regarded use office suite and use online content as more of a basic than creative skills; and below the .50 threshold loadings for item 3 and 5 in Social Skills. Finally, the first item "integrated downloaded tools or applications into the way you work" under Employment Use showed minimal consistency with the whole scale. Further discussions with workforce development experts suggested that such item might be confusing as some high-level respondents may ask their supporting staff to perform the use for them even if the respondents themselves were high in other measures of this dimension. We therefore deleted this item from the total scale.

In addition, we assessed the reliability of each factor with internal consistency approach using Cronbach's alpha (see Figure 1). All factors scored .80 and above except for Creative Skills (.78) and Social Skills (.66). However, further deletion of any items from these two factors resulted in no improvement of Cronbach's alpha, we therefore used the resulting 25 items to form the composite score for each factor to facilitate further analysis on the compound and sequential digital divides. Six composite scores were produced in this process to represent four digital skills and two digital uses (please see Figure 2 for descriptive statistics).

Compound Digital Divide

Compound digital divide is the cumulative disadvantage within the digital skills and uses, i.e., a low score of one particular type of digital skills also relates to low score of another type of digital skills or digital uses. To test this, we used a correlation matrix (see Figure 2). The pattern of correlations provided strong evidence of compound digital divide in that Basic/Operational Skills exhibited a stronger positive correlation (negative correlation with Navigation Skills) with all other three types of skills (ps <. 01); similar correlation pattern was displayed for Creative Skills (ps <. 01). The only exception was the lack of correlation between Social Skills and Information/Navigation Skill (p=.201) indicating the ability to

share information online for social purpose did not necessarily lead to higher level of information search and navigation proficiency. Further, Basic/Operational Skill, Creative Skill and Information/Navigation Skills all significantly correlated to Employment Use and Finance Use (ps <.01) whereas Social Skills also correlated to Employment Use (p<.01) as well as Finance Use (p<.05) but at a lesser level.

Sequential Digital Divide

Sequential digital divide predicts the dependency between digital skills and uses. Using a linear regression, we examined the impact of four types of digital skills as antecedents of each type of digital use in Model 1, and in Model 2, we entered the other type of digital use as an additional antecedent to examine possible sequential digital divide caused by other type of digital use (see Figure 3). Variance Inflation factor (VIF) was used to ensure no multicollinearity was detected (VIF< 1.929). For Employment Use, in Model 1, Basic/Operational Skills (b = .320, p < .01) and Creative Skills (b = .342, p < .01) had significant and positive impacts on Employment Use whereas the effects of Social Skills and Information/Navigation Skills were not significant. Further, adding Finance Use (b = .242, p < .01) to Model 2 proved to significantly increase the predictive power of our model. For Finance Use, we constructed Model 1 by regressing Finance Use on four types of digital skills. Results showed that Basic/Operational Skills (b = .259, p < .01), Creative Skills (b = .221, p < .01) and Information/Navigation Skills (b = -.106, p < .01) all had a significantly effect on Finance Use. However, Social Skills appeared to have no effect (b = .011, p = .808). Further adding Employment Use (b = .177, p < .01) to Model 2 help substantially increase the predictive power of the model. The regression analyses helped evidence the presence of the sequential digital divide in that digital uses were largely dependent on digital skills especially basic operational level skills and creative content generation skills. Information search skills helped enhance the finance-related use but not employment-related use. Finally, social skills had no sequential digital divide effect on digital uses. These findings point out that not all digital skills will help increase economic domain digital uses and that workforce development efforts should be strategically designed to target specific digital skills in specific segments to achieve desired sequential digital uses.

CONCLUSIONS

To conclude, findings from the statewide Digital Literacy and Readiness Survey (DLRS) RFP-21-002, undertaken for DLIR's workforce initiative and executed by Omnitrak have revealed many striking insights regarding Hawai'i Workforce's digital literacy and readiness.

Specifically, findings from the DLRS shed light on the current level of digital readiness and digital literacy among Hawai'i residents. Specifically, using cluster analysis, we identify five distinct groups of Hawai'i residents who fall along a continuum of digital readiness from relatively more ready to relatively unprepared. Those who are less ready (the unprepared 17%; the old guard 23%; total 40%) tend to be less willing to embrace technology in learning and is in general needing help setting up new device and have low confidence in their computer skills. By contrast, those who are more ready (the digital learners 26%; the technical DIYers 15%; the social users 19%; total 60%) are more likely to be ardent or active learners, confident about their technology skills and are familiar with online learning. In comparison to the national level of digital readiness (Pew Research Center 2015), where the less ready accounted for only 19% whereas the more ready amount to 81%, Hawai'i seems to have a higher than national level of digitally

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unprepared residents.   Such deviation provides compelling empirical evidence for DLIR to offer workforce training to improve these unprepared Hawai'i residents' digital readiness.

Findings from the DLRS also point to a high degree of statewide familiarity with online learning. For instance, over 70% of the respondents are familiar with online educational resources such as Podcasts and Distance learning tools. In addition, more than 90% of the respondents regard themselves as learners. These observations show that online learning culture is currently strong among Hawai'i's residents, which will allow DLIR to effectively use online tools and workshops to train Hawai'i's workforce. However, our findings also caution that not all Hawai'i residents will be able to utilize online learning. Those older, less educated and lower income groups still prefer in-person training. Specifically, our respondents on average find the acceptable training frequency could be as high as one day per week.

Further, while Hawai'i residents demonstrate an overall confidence in their use of digital devices (93% feel very or somewhat confident when using computers, smartphones or other electronic devices to perform online task), we observed industrial sector variations. That is, digital confidence is relatively low among residents who work in sectors such as building/construction, agriculture, service, and financial/banking. In addition, residents working in food service and agriculture sectors seem especially skeptical in terms of whether electronic devices can help improve their productivity. Overall blue-collar workers, those retired or unemployed, or homemakers express the highest need of support to setup electronic devices. Residents working in food service, and other services, as well as those in agriculture, transportation and financial/banking are also challenged in navigating online sites. These findings alert DLIR that when promoting a statewide digital transformation, industrial sector disparity might be observed. These may in turn become barriers to the deployment of such transformation. As such, it might be helpful to consider a customized digital transformation plan for each individual sector.

Similar to the Pew Research Center's national study in 2016, the digital trust of Hawai'i residents remains low. Specifically, 61% of our respondents mentioned that it is very or somewhat difficult to know if the online information is trustworthy in comparison to 60% in Pew study. Since the national level of digital trust in the Pew Research Center's survey is measured six years ago, in reality, the level of Hawai'i residents' digital trust could be lagging more in comparison to the current national average. Since digital trust is crucial for the sharing economy, and for Hawai'i residents to work with future systems built on blockchain technology either as contributors or consumers, it therefore becomes a major area to emphasize in workforce development.

Most crucially, findings from this survey reveal that Hawai'i's workforce seems to experience a digital readiness/skill divide. Hawai'i Residents with higher income, higher education level, younger and living in O'ahu are more likely to benefit from the digital technology in general and online learning in particular. Moreover, our findings suggest that such digital divide is likely to be accelerated as the segments high in digital readiness are also increasingly more likely to have higher digital skills and actively seek out new opportunities to grow. For instance, 76% of the digital learners actively seek opportunities to grow whereas only 45% old guards are motivated to do so. Similarly, 77% digital learners take courses in a personal interest area whereas the percentage drops to 19% to old guards and 3% to unprepared. We expect that such digital divide, coupled with the digital access and learning channel preference, could

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become more severe given the impact of Covid-19 when "much of daily life (such as <u>work</u> and <u>school</u>) moved online, leaving families with lower incomes more likely to <u>face obstacles</u> in navigating this increasing digital environment" (Vogels 2021). Further, our additional analysis evidences the existence of both compound and sequential digital divides (Van Deursen et al. 2017), showing that digital skills (except social skills) and digital uses are interlocked and even reciprocal. The widening of the digital divide therefore both heightens the challenges DLIR's workforce initiative faces to engage the less digital ready segments in online trainings, and the urgency to design effective, county-specific interventions to help manage the digital divide acceleration.

To this end, we propose a Hoʻoikaika Framework for Hawaiʻi Digital Literacy and Readiness (see Appendix 1). This framework not only captures how the current DLRS has helped to address DLIR's four major objectives, but also points to additional opportunities for a more in-depth analysis on the causal link among digital readiness, digital literacy/skills and Hoʻoikaika outcomes.

Recommendations: A WIOA Perspective

The vision for Hawaiʻi's Strategic workforce development is to "ensure all employers have competitively-skilled employees, and all residents have sustainable employment and self-sufficiency," which is designed to align with and facilitate the DLIR's vision and key mission to promote diversification and policies that support economic growth, particularly on innovation. Many of these innovative opportunities require Hawaiʻi's workforce to be both digitally ready and digitally literate.

The current study therefore helps fulfilling DLIR's mandate under the U.S. Workforce Innovation and Opportunity Act of 2014 (WIOA) in providing, for the first time, reliable empirical data on the size and characteristics of the digitally ready and not ready in the State. By filling this knowledge gap, DLIR's workforce team have provided leadership on evidence-based needs to align federal workforce investments in targeted job training. Since the workforce system is a network of core programs providing Hawaiʻi workforce employment, education, training and support services while facilitating Hawaiʻi businesses with the skilled workers they need to compete in the global economy, it is therefore crucial to raise Hawaiʻi workforce's digital readiness to facilitate their transition to increasingly digitized workflows enabled by technology and software .

Specifically, findings from this DLRS can inform establishment of Hawaiʻi workforce preparation activities, which "are those services that are designed to help an individual acquire the combination of basic academic skills, critical thinking, digital literacy, job training and self-management skills. While adult education has traditionally supported the development of basic academic skills, workforce preparation will now be required to develop competencies and obtain skills necessary to successfully transition to and complete postsecondary education, advanced job training and employment. These competencies are commonly incorporated into definitions of employability skills." Our findings not only directly assess the current level of digital readiness and literacy of Hawaiʻi residents, but also point out that the State may want to direct more workforce preparation investment to help those segments who are not currently digital ready and who are low in digital skills. This is because Hawaiʻi residents who are digitally ready are more likely to be proactive learners. Therefore, they will be more likely to seek out workforce training especially those designed to increase productivity and advancements in their careers;

and more flexible in terms of training modality as they are familiar with online learning. By contrast, Hawai'i residents who are low in digital readiness may need extra assistance in identifying a training program to match their digital literacy level and in person learning preference. When designing Workplace Adult Education and Literacy Activities Programs for these segments such as Hawai'i's Individualized Career Achievement Network (iCAN), additional local sites might need to be secured and sustained beyond its existing sites. As such, DLIR can further align its workforce development program to the "Making Skills Everyone's Business: A Call to Transform Adult Learning in the United States" strategies identified in the US Department of Education report.

Recommendations: A Workforce Resilience Perspective

While the federal emphasis is more on leveling up the digital divide, Hawai'i's workforce strategic plan (2020-2024) stresses the overarching need for "Resilience," e.g., "building greater resilience in Hawai'i's workforce to be ready for anything." Workforce resilience consists of five components: 1) A diversified economy that incudes multiple robust industries; 2) Ability and speed for various economic sectors to recover after a downturn; 3) Ability for employers to adapt to a changing economy and maintain or grow their organizations as the marketplace shifts; 4) Ability for workers to adapt to a changing economy and transition to other jobs; 5) Ability for workers to continue to seek advancement even in economically challenging circumstances. To do so, the DLIR workforce initiative proposes two critical priorities. The first is to support workers with barriers to employment as defined by WIOA and discussed earlier; and the second is to build the workforce of the future through a focus on upskilling, policy and growth in targeted industries.

Based on the key findings from the current DLRS, we maintain that digital readiness and literacy will serve as critical ingredients in help determine the best deployment of action plans designed to raise workforce resilience. To start, in order to prepare the workforce of the future, Hawai'i needs to upskill workers with 21st century skills, which further calls for development of innovative training programs that enhance workers' lateral and upward mobility. In the digital era, digital readiness and digital skills are key tools for such upward opportunities. Although the online learning culture is currently strong among Hawai'i's residents, local residents currently have modest basic online skills (such as navigation or operation) and low creative skills as well as low online employment or finance use. These findings prompt DLIR to engage employers in creating the workforce of the future and to design targeted programs to improve Hawai'i workforce's digital skills required specifically for innovation and advancement.

Another important initiative to help prepare the workforce of the future is to support growth in target industries that diversify Hawai'i's workforce beyond tourism, such as health and wellness; education; creative sector' technology sector; agribusiness; and the military. The key to Hawai'i's industry diversification is digitalization. Digitalization help creates jobs. According to the Organization for Economic Co-operation and Development (OECD), four out of ten new jobs globally between 2006 to 2016 were created in highly digital-intensive industrial sectors (OECD 2019). Digitalization also exerts a "creative destruction" phenomenon as technological advancement such as machine learning and artificial intelligence has been adopted to reduce the number of workforces. Studies show that new industries have mainly appeared in locations having large share of high-skilled workers (Berger and Frey 2017), particularly digital skills as digitalization has occurred in varying level at all industrial sectors, e.g., in

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healthcare, electronic health records, telemedicine and Covid-19 contact tracing; in government, eHawaii.gov and GenTax for integrated tax processing; in food service, blockchain technology for supply chain streamlining and food recall. Given the industrial sector variations revealed in our findings in terms of Hawai'i workforce's digital confidence, special attention is suggested to these disparities when pursuing Hawai'i's industry diversification.

Recommendations: A Digital Transformation Perspective

At a micro-level, Digital Transformation is "the adoption and improvement of digital technology by a company to improve business processes, value for customers and innovation." Covid-19 has propelled corporations' need to speed up their digital transformation (Bloomberg, 2020, see Appendix 3) in order to stay agile and resilient facing the uncertainty brought forward by the global pandemic. At this level, employees' roles and digital skills are crucial in facilitate such transformation. Appendix 4 shows the six building blocks industrial companies can use to create digital strategy and generate value from digital transformation (Angevine, Keomany, Thomsen, and Zemmel 2021).

At a more macro-level, Digital Transformation "is about adopting disruptive technologies to increase productivity, value creation, and the social welfare" (Ebert and Duarte 2018). Appendix 5 includes some examples of such disruptive technologies adopted in digital transformations. At this level, the whole society would work together to achieve digital transformation in the following areas:

- Social goals such as to "foster the development of a more innovative and collaborative culture in industry and society"; "change the education system to provide new skills and future orientation to persons so that they can achieve excellence in digital work and society"; "create and maintain digital communication infra-structures and ensure their governance, accessibility, quality of service and affordability"; "strengthen digital data protection, transparency, autonomy and trust"; "improve the accessibility and quality of digital services offered to the population."
- Economic goals such as to "implement new and innovative business models"; "increase income generation, productivity and value addition in economy."
- Regulatory environment such as to "improve the regulatory framework and technical standards" (Ebert and Duarte 2018).

These macro-level digital transformation goals are greatly in line with the WIOA's mandate and the DLIR's strategic commitment to building resilience in Hawai'i's workforce. Findings from this DLRS illuminates the most crucial segments to start given the accelerated digital divide and the most critical industries to focus on given the sector disparity in digital confidence.

To this end, we designed the three-stage Ho'oikaika Framework (see Appendix 2) for Hawai'i Digital Transformation. The business survey stage will help establish a baseline measurement of current digital transformation stage of Hawai'i businesses and understand digital skills needed by the employers; the experimentation stage will examine the effectiveness of DLIR's workforce resilience training in a laboratory environment to enhance the reliability of the intervention; the implementation stage will investigate whether these resilience interventions will help prepare Hawai'i's workforce of the future and help Hawai'i businesses succeed in their digital transformation.

One example for consideration is agribusiness. Although residents working in food service and agriculture sectors seem particular skeptical in terms of whether electronic devices can help improve their productivity, agribusiness might be poised to be one of the most essential players in Hawai'i's future industry diversification. This is because Hawai'i is located more than 2,500 miles from the continental United States and more than 85% of our food is imported from the mainland, which makes Hawai'i particularly vulnerable to disruptions such as natural disasters that might interrupt the food supply. The recent pandemic has further revealed the essential need for Hawai'i to be more self-sufficient in food production. Given the State's goal of doubling Hawai'i's food production by 2030, dramatic development and innovation in the agribusiness sector will need to happen in order to meet this strategic mandate. A recent investigation (Terrell 2021) demonstrates that although Hawai'i has more than 7,000 farms, only about 100 of them are big enough to sell as bulk to grocery stores, which leaves 90% of those farms in need of a viable venue to bring their food to people in Hawai'i. Although making Hawai'i food independent should start with getting more food produced locally, it is also about having better technology and systems to get food from small farms to the plates of consumers (Terrell 2021). As such, a major digital transformation of Hawai'i's food delivery system could result in significant improvement.

Today, food delivery has become a global market valued about $150 billion, more than triple from 2017, and in the U.S. alone, this market has doubled during the pandemic (Wong 2021). Most of all this growth could be attributed to the digital transformation that has occurred in food delivery where food ordering apps and tech-enabled driver networks help streamline the demand and supply. Hawai'i's agribusiness could learn from the rapid digital evolution of food delivery to help small farmers become productive suppliers in Hawai'i's food supply ecosystem. All of these innovations and transformations will have to start from improving Hawai'i workforce's digital readiness and literacy.

SUMMARY OF FINDINGS

THE DIGITAL READINESS CONTINUUM

As digital readiness has expanded beyond its initial hardware-oriented definition (computer equipment capable of accessing the internet, as well as first Internet and then specifically to broadband access), other dimensions including self-efficacy, attitudes and behaviors have become important considerations in preparing residents for the digital age. To identify and group Hawaiʻi residents' level of digital readiness, this Digital Literacy and Readiness Study (DLRS) analyzed underlying similarities and differences based on respondents' self-assessment on seven (7) self-reported aspects of readiness:

- Confidence in using digital devices
- Ability to get new technology to work
- Productivity from using electronic info devices
- Ability to determine the trustworthiness of online info
- Perception of info overload from electronic devices
- Use of digital tools for learning
- Familiarity with contemporary "education tech" terms

Results from these areas were then analyzed to determine groupings along a digital readiness continuum. Given that the 21st century anticipates continuing changes in technology and the fact that more and more educational tools are on-line, the model for developing readiness groups puts relatively more weight on self-efficacy especially pro-active curiosity to learn new things and thereby grow, and relatively less on functionality alone. The DLRS suggests Hawaiʻi residents are clustered into 5 groups based on the above seven (7) main factors. Those on the less prepared end of the Digital Readiness Scale, tend to be tech averse and less learning oriented, while those who are most ready tend to be ardent about growth through learning. In between are somewhat more traditional learners; those who are strong networkers but less curious about learning, and techies who are active learners though primarily in functional areas.
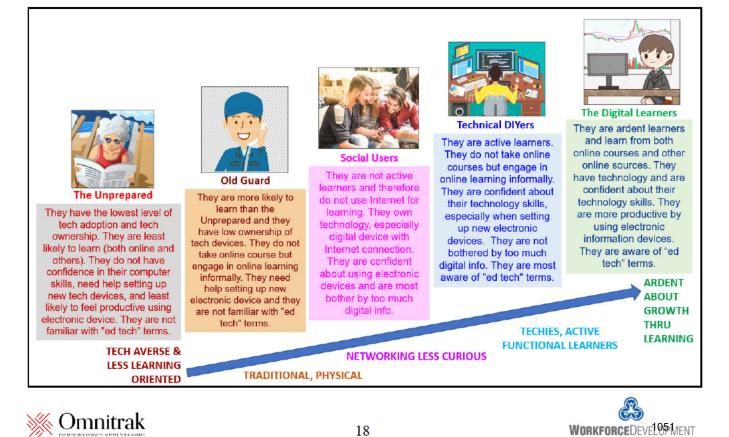
- **The Unprepared 17%** of residents 18 to 65 years old – They have the lowest level of tech adoption and tech ownership. They are least likely to learn (both online and others). They do not have confidence in their computer skills, need help setting up new tech devices, and least likely to feel productive using electronic device. They are not familiar with "ed tech" terms. This group is more likely to reside on the Neighbor Islands than on Oʻahu, to be women, be between 45 to 65, have a higher incidence of retirees, have lower levels of education and lower income, and tend to be English as a second language speakers.

- **The Old Guard 23%** - More traditional in how they acquire information and learn, this group has the lowest level of tech adoption and tech ownership. They are least likely to learn (both online and through other channels). They do not have confidence in their computer skills, need help setting up new tech devices, and are least likely to feel productive using electronic device. They are not familiar with "ed tech" terms. Those in the Old Guard cluster skew male, are likewise between 45 to 65 years old, work in blue collar jobs, are self-employed, have a lower education and have a higher incidence born outside of Hawaiʻi.

- **The Social Users 19%** - While quite digitally adept, social users are not active learners and therefore don't particularly use the Internet for learning and self-development. They own technology, especially digital devices with Internet connections. Though confident in using electronic devices, they are most bothered by too much digital info. Best at sharing video content, "Social Users" use the digital environment to enable social networking as the name suggests. This group is characterized as Millennials or Gen X, meaning that they are between 18 and 35 years, are non-Japanese or Filipino Asians, are middle income ($50,000 to $100,000 and tend to be in Sales occupations.

- **The Technical Do-It-Yourselfers 15%** - They are active learners. Although they do not take online courses, they do engage in online learning informally. They are confident about their technology skills, especially when setting up new electronic devices. They are not bothered by too much digital info. They are most aware of "ed tech" terms. Tech DIY-ers reside on Oʻahu, have higher education and higher income, work in professional occupations, and are single. In terms of their skill set, they are best at applying digital proficiency to find jobs.

- **The Digital Learners 26%** - They are ardent learners and learn from both online courses and other online sources. They have technology and are confident about their technology skills. They are more productive by using electronic information devices. They are aware of "ed tech" terms. Digital Learners are more concentrated on Oʻahu, have higher education and higher income, are more likely to be professionals and in management, and are born in State. In terms of skills, they are best at digital creative skills.

The schematic below illustrates the Hawaiʻi Digital Literacy Continuum per above:

If the five digital readiness groups are aggregated by levels of readiness, Hawaiʻi shows 40% who are less prepared (The Unprepared and the Old Guard), and 60% who are more prepared (Social Users, Technical DIYers, and Digital Learners). Survey data used to group residents were collected between June to August 2021, more than a year after Hawaiʻi's Governor issued his first stay at home order due to the COVID-19 pandemic on March 23, 2020. National data showed that the pandemic environment in the U.S. resulted in increased use of internet services as residents turned to tele-work, tele-medicine and internet shopping.

Nonetheless, Hawaiʻi shows relatively lower rates of digital readiness than a national benchmark digital readiness survey conducted by the Pew Charitable Trust in 2015. Results from that study showed 19% who were less prepared – half as many as Hawaiʻi – and 81% who were more prepared - +21 percentage points more than in Hawaiʻi. Despite the size of the groupings, their relative characteristics proved somewhat similar in terms of lower education and income more likely among those digitally less ready.

	Hawaiʻi (Omnitrak data from 2021)			U.S. MAINLAND (Pew Charitable Trust Data from 2015)			
	Cluster	%	More likely characteristics	Cluster	%	More likely characteristics	
L E S S 4 0 %	**The Unprepared**	17%	-Neighbor Islands -Women -45 to 65 years / Retired -Lower education, lower income -Primary language non-English	**The Unprepared**	14%	-Women -50 and older -Lower income -Less formal education	**L E S S 1 9 %**
	Old Guard	23%	-Male -45 to 65 years; Blue collar/self employed -Lower education/ -Not born in Hawaiʻi	**Traditional Learners**	5%	-Women -Minorities -50 and older -Lower income/ less education	
M O R E 6 0 %	**Social Users**	19%	-18-34 years -Other Asians (non-Japanese/ Filipino) -Middle income ($50-100K) -Sales / Best at sharing video content	**The Reluctant**	33%	-Men -50 and older -Lower income -Less formal education	**M O R E 8 1 %**
	Technical DIYers	15%	-Oʻahu -Higher education/ higher income -Single/ Professional -Best digital skills to find jobs	**Cautious Clickers**	31%	-Higher income -Some college -30s and 40s	
	Digital Learners	26%	-Oʻahu -Higher education/ higher income -Born in Hawaiʻi -Professional/ Best digital creative skills	**The Digitally Ready**	17%	-Higher income -Higher education -30s & 40s	

PROFILE OF READINESS GROUPINGS STATEWIDE

The above slide summarizes significant demographic differences by groupings. The tables below further detail the characteristics of each cluster. As can be seen, generally the more digitally ready groups are more likely to be 18 to 34 years, in professional jobs, higher income households of $100,000 and more, of Japanese ancestry, and on Oʻahu. Less digitally ready groups are differentiated by age (35 to 54 years of age); have education levels short of a college degree; have lower household income, and were born outside of Hawaiʻi.

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Demographic Characteristics Of Digital Readiness Groups (Statewide)

% SUM VERTICALLY	Unprepared (17%)	Old Guard (23%)	Social Users (19%)	Technical DIYers (15%)	Digital Learners (26%)
COUNTY					
Oahu	58%	67%	66%	78%	78%
Neighbor Island (Net)	42%	33%	34%	22%	22%
Hawai'i County	21%	16%	10%	10%	11%
Maui County	16%	9%	14%	9%	9%
Kaua'i County	5%	7%	10%	2%	2%
GENDER					
Male	34%	62%	47%	52%	48%
Female	66%	38%	53%	48%	52%
AGE					
18-34	13%	21%	55%	61%	42%
35-54	48%	41%	31%	29%	36%
55-65	39%	37%	14%	10%	22%
Average (in years)	48.3	47.6	34.9	33.5	39.7
EDUCATION					
HS Graduate or less	53%	28%	41%	24%	23%
Business/Trade School/Some Col	27%	53%	34%	49%	42%
College Graduate/Post-Graduate	20%	19%	25%	27%	35%
HOUSEHOLD INCOME					
Less than $50,000	41%	23%	27%	29%	18%
$50,000 but less than $100,000	41%	46%	53%	26%	30%
$100,000 but less than $150,000	12%	21%	9%	36%	27%
$150,000 and over	6%	10%	11%	10%	25%
YEARS IN HAWAI'I					
Born in Hawai'i	55%	55%	59%	65%	72%
Not Born in Hawai'i (Net)	45%	45%	41%	35%	28%
1 to 20 years	11%	24%	26%	24%	13%
20 years or more	35%	21%	15%	11%	14%
ETHNICITY					
Caucasian	22%	18%	20%	18%	14%
Japanese	10%	18%	9%	32%	27%
Hawaiian/part Hawaiian	23%	29%	20%	28%	25%
Filipino	16%	5%	9%	10%	8%
Other Asian	7%	6%	27%	3%	4%
Mixed	14%	4%	2%	7%	13%
Other	9%	18%	13%	1%	7%
HOUSEHOLD SIZE					
1-2	45%	41%	23%	42%	37%
3-4	34%	40%	57%	42%	40%
5+	21%	19%	20%	16%	23%
Average	3.5	3.2	3.6	3.1	3.3

In terms of current employment by type of job and industry, the digital readiness groupings are differentiated as follows:

> **The Unprepared** – Those least digitally ready tend to be retired, with 17% within this grouping indicating that job status. By industry, the Unprepared have a higher representation within the real estate sales sector (9%).

> **Old Guard** – This group, the second least ready on the Digital Readiness Continuum, is differentiated on five employment characteristics. The have the largest representation of both blue collar workers, with 1 in 5 reporting jobs as a laborer/ construction/farming (19%) and of residents

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who are self-employed at 1 in 10 (10%).   In addition, the Old Guard includes the second largest representation of retirees (13%). By industry sector, this less digitally ready group is comprised of eight percent from retailing and seven percent from maintenance – both significantly higher than in other groupings.

➢ **Social Users** – The most distinguishing job characteristics of this sector is the fact that a plurality of 17% are in Sales. This is by far the largest percentage across the groupings – About three times more than in the Digital Learners, Old Guard or Unprepared.

➢ **Technical DIYers** – Although this group has no statistically significant differences by industry sector, they are dominantly professionals (47%). The second largest occupation in this group is not employed (16%), which is a different category from retired.

➢ **Digital Learners** – By job, this most digital ready group dominantly work as professionals. They are also differentiated by industrial sector: While a plurality of 1 in 5 have jobs in the health sector (22%), 1 in 6 Digital Learners (18%) are in government and 6% in other services.

	Unprepared (17%)	Old Guard (23%)	Social Users (19%)	Technical DIYers (15%)	Digital Learners (26%)
OCCUPATION					
Professional	23%	20%	24%	47%	43%
Blue Collar (laborer/farmer/construction, etc.)	10%	19%	11%	5%	4%
Administrative/Clerical	12%	7%	12%	5%	12%
Management	6%	7%	10%	9%	8%
Sales	5%	6%	17%	1%	6%
Technical	5%	3%	6%	8%	6%
Self-employed	3%	10%	7%	2%	1%
Partner/Owner/Proprietor	3%	2%	1%	1%	6%
Service for hotel/restaurant, etc.	6%	2%	2%	-	1%
Other	1%	4%	0%	0%	4%
Students	-	-	-	4%	1%
Homemaker/Caregiver	8%	2%	2%	1%	2%
Not Employed	3%	6%	4%	15%	3%
Retired	17%	13%	3%	2%	4%
INDUSTRY					
Health	18%	10%	19%	21%	22%
Government	6%	8%	9%	16%	18%
Education (Non-government/private)	5%	5%	15%	16%	11%
Construction / Building	13%	12%	12%	3%	3%
Tourism	7%	8%	6%	1%	2%
Retailing	6%	8%	5%	1%	2%
Transportation	6%	5%	2%	3%	1%
Other Service	4%	5%	4%	0%	6%
Food Service	7%	3%	2%	5%	2%
Legal / Law / Enforcement / Security	2%	6%	2%	3%	4%
Real Estate	9%	2%	1%	-	4%
Financial services / banks	4%	4%	1%	1%	4%
Maintenance	2%	7%	3%	1%	2%
Computer / Technology	2%	0%	4%	5%	2%
Agriculture	1%	3%	1%	4%	3%
Non-Profit	0%	1%	1%	4%	1%
Manufacturing / Distribution	1%	2%	3%	4%	1%
Other	6%	12%	11%	12%	11%

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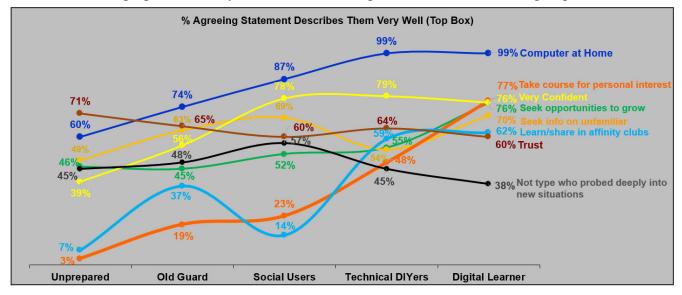
DIGITAL ATTITUDES AND BEHAVIORS

As indicated earlier, inputs into the Digital Readiness model included respondents' digital attitudes and behaviors. These responses were taken from different questions, as shown in the footnote to the graphs below. Depending on the question, the percentages show respondents answering "Yes" e.g., have a computer of any type at home; or top box ratings of 4 on a 4-point scale, e.g., "describes me very well" or "very confident."

- In four areas, an almost straight line increase is seen among the readiness groups. The incidence of having a home computer stands at 60% among The Unprepared, rising to 99% among the Technical DIYers and the Digital Ready. In terms of taking courses in areas of personal interest, the change slope is steeper: from 3% among the Unprepared to 77% among Digital Learners. Similarly, 46% of Unprepared vs. 76% of Digital Learners seek out opportunities to grow. While 39% of Unprepared are very confident in their digital skills, 76% are among Digital Learners.

% Agreeing Statement Describes Them Very Well (Top Box)

Aggregating these attitudes and behaviors, the groups' mindset can be described as follows:

- **Digital Learners** at the most prepared end of the Digital Readiness Continuum seek opportunities to grow through knowledge. Knowledge acquisition is part of their lifestyle and a pathway to growth. Whether through online courses or exchanging information with affinity groups – be it a book or sports club – they are pro-active in wanting more information and a better understanding of both personal interests and the unfamiliar. With high self-efficacy in their digital skills, they are able to learn on their own by engaging in online courses. It appears that many professionals and senior/ executive manager belong to this group.
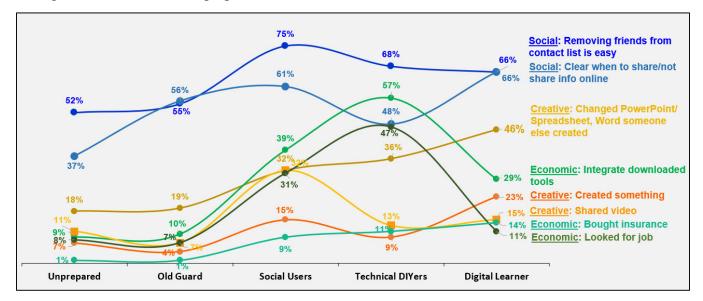
- **Technical DIYers**, the second most ready group, are most technically proficient and are very confident in their abilities. However, they are generally less curious to seek information on the unfamiliar and less likely than Digital Learners to take courses for personal interests. They acquire knowledge informally online and tend toward a DIY approach to gain functionality rather than structured learning through formal online courses. Their occupations suggest that this group could include programmers and computer technicians.

- **Social Users** are more focused on information to share with their network and less likely than Digital Learners or Technical DIYers to take courses for personal interest or to learn through affinity groups. While curious about the unfamiliar, their interest is more cursory as they are less likely to see knowledge as a path to growth and have less need to probe deeply into new topics/situations. Digitally adept networkers are more likely to be in Sales occupations.

- **The Old Guard** is more equipped for the digital age than The Unprepared, but they are not motivated to take online courses in personal interest areas or to learn by sharing information in affinity groups. Most don't seek opportunities to grow through knowledge acquisition and tend to be more traditional in their learning approach. They are more likely to be in jobs relying on physical labor rather than working at their desk.

- **The Unprepared** group is both unequipped for and unengaged in preparing for the digital economy. They have lowest confidence in using digital devices and lowest incidence in learning whether online or through clubs. Demographically they skew older and retired. Given their current status, converting them to learning digital skills is likely to be most challenging.

DIGITAL SKILL LEVELS

Digital skills by readiness groupings are somewhat counter-intuitive. The most technologically proficient are not necessarily the most digitally ready. Rather, technical skills are highest overall for Technical DIYers who have high digital functionality. Although Digital Learners may not need to use the internet for economic matters, they have the highest usage on the Creative Factor – being able to change PowerPoint presentations, spreadsheets or Word documents created by someone else as well as creating something from existing online images, music, etc. Further, they trust their ability to make internet judgments. Social users have fair sharing and networking skills. Not surprisingly, digital functionality among the Old Guard and Unprepared are low.

The less digital ready are not without skills. In fact, many have a level of proficiency using social skills on the Internet. A majority report being able to remove friends from contact lists and a more than a third (37%) say they exercise judgment on when to share information online and when not to share. However, their Creative and Economic skills are definitely lower than for Social Users, Technical DIYers, and Digital Learners with about 1 in 10 or fewer being able to share videos (11%), integrate downloaded tools (9%), buy insurance (9%), look for a job on-line (8%), or create something (7%).

KEY CONCLUSIONS BY COUNTY

KEY CONCLUSIONS BY COUNTY

Throughout this report, study results for each question in the survey are shown for the State as a whole and then by each of four Counties – City and County of Honolulu, Hawai'i County, Maui County and Kaua'i County. While these details enable State and County workforce administrators to understand differences in needs by County, this section presents high level conclusions by County as an overview.

Summary of County Digital Readiness by County

The above analyses on Pages 25-26 show the statewide characteristics and distribution of each digital readiness grouping across the State. For example, 78% of all Digital Learners live on O'ahu, an over-representation since the 2020 U.S. Census shows 70% of Hawai'i's population are O'ahu residents.

In contrast, the table below estimates the size of each digital readiness cluster within each county. In other words, among all O'ahu residents, an estimated 14% are Unprepared and 29% are Digital Learners. This DLRS data enables counties to determine the types of programs needed within their counties and gives insight to decision making on fund allocations.

	Unprepared (17%)	Old Guard (23%)	Social Users (19%)	Technical DIYers (15%)	Digital Learners (26%)	TOTAL Sums Horizontally (Unweighted n=)
COUNTY						
O'ahu	14%	22%	18%	17%	29%*	100% (n=353)
NEIGHBOR ISLAND (NET)	23%*	25%*	22%*	11%	19%	100% (n=438)
Hawai'i County	26%*	28%*	14%	12%	20%	100% (n=182)
Maui County	24%	19%	23%	12%	21%	100% (n=164)
Kaua'i County	17%	31%*	37%*	7%	9%	100% (n=92)

*Shows a statistically significant difference by cluster.

The table below summarizes potential key areas of focus for each county. O'ahu has the opportunity to grow readiness by focusing on creative, employment and financial skills and harnessing the digitally ready to help others. Hawai'i and Kaua'i programs might focus more on online skills as the foundation in addition to creative, employment and financial skills, with the former focusing on Unprepared and Old Guard and the latter on the Old Guard and Social Users. Native Hawaiians on both Islands have opportunities to grow digitally. To enhance readiness, Maui might target the Unprepared and Social Users.

	STATE	HONOLULU	HAWAII	MAUI	KAUAI
DIGITAL READINESS: Knowledge Gaps to Target	>Creative >Employment >Financial Skills	>Creative >Employment >Financial Skills	>Basic skills >Social skills >Online learning >Awareness of opportunities	>Creative >Employment >Financial Skills >Basic skills	>Basic skills >Social skills >Online learning >Awareness of opportunities
CLUSTER OPPORTUNITIES: Improvement and Champion	**For improvement:** Social Users Unprepared Old Guard	**For helping others:** Tech DIYers Digital Learners	**For improvement:** Unprepared Old Guard	**For improvement:** Unprepared Social Users **For helping others:** Digital Learners	**For improvement:** Old Guard Social Users
DEMOGRAPHICS TO TARGET	>35 years old >High school ed	>35 years old >High school ed	>Over 35 years old >Native Hawaiian >High school ed >Trade School	>Over 35 years old >High school ed	>Over 35 years old >Native Hawaiian >High school ed >Trade School

City & County of Honolulu

Residents in this county are confident in their digital skills, are most likely to embrace digital technology, practice these skills, and ultimately agree with the value they provide. Although this county reports the highest digital literacy level, all areas Statewide could improve knowledge gaps in Creative, Employment, and Financial skills online.

O'ahu's two most digitally ready clusters --- Digital Learners and Tech DIYers --- can be encouraged to act as community ambassadors who can help others improve their skills. In particular, interisland knowledge transfers are both important and needed to raise digital readiness levels on Neighbor Islands. The more digitally ready could share digital topics with other counties to further adoption. In addition, outreach to residents over 35 years old and those with a high school degree or less are important, as these groups Statewide will need extra assistance.

Hawai'i County

This county will need the greatest support in digital skills. Programs might begin by improving basic online skills (opening a tab, downloading, bookmarks, key shortcuts). Next, as practical application is often the best method of adoption, a focus on podcasts and open online courses could appeal to Hawai'i Island residents and help facilitate online skills. Improving specific social skills (sharing a post or the audience for the post) can help further increase digital adoption. As neighbor island counties also tend to have fewer learning opportunities, increasing awareness of virtual opportunities could facilitate interest.

The recommended focus for Hawai'i County are The Unprepared and Old Guard clusters as this county contained relatively high proportions of these groups. A strategy focused on the Old Guard, which are likely to be Native Hawaiian and those with Business/Trade School educations, should focus on improving skills as they are often motivated to learn. The Unprepared segment will not only need attention to build basic skills training, but also – most importantly – will need to be motivated to learn by persuading them first of the value of digital skills.

Maui County

Aside from the City & County of Honolulu, residents here are the most prepared, and digitally skilled residents could also act as ambassadors to help improve literacy of less skilled groups. Areas of focus should center around Creative, Employment, and Financial online skills for all residents, as well as expanding basic online skills to less prepared groups.

For Maui County, the recommended focus for training and skills development are The Unprepared and Social Users. As there is a sufficiently strong base of Digital Learners within the County, they could be enlisted to share the importance and value of digital technologies. In addition, county residents over 35 years old and those with lower levels of education should also be engaged with the goal of addressing digital knowledge gaps.

Kaua'i County

Similar to Hawai'i County, residents on Kaua'i should also be supported in basic online skills and learning opportunities, as residents here reported lower engagement compared to O'ahu and Maui.

Efforts on Kaua'i should focus on Social Users and the Old Guard. The good news is that these groups have either a high propensity to learn or some digital skills to build on. A strategy that addresses these gaps in basic digital skills and the need to motivate learning and knowledge transfer will be important to move Kaua'i residents overall along the digital readiness continuum. Once again, trusted community members can help to re-enforce these digital skills. In addition, outreach to those over 35 years old / high school education will be important to Kaua'i. Since these characteristics are likely to be targeted Statewide, Kaua'i has the opportunity to supplement statewide outreach. Further, it is recommended that Kaua'i county also reach out to Native Hawaiian and those with Business/Trade school educations to further improve digital literacy.

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WORKFORCE DEVELOPMENT

OVERALL FINDINGS
ON DIGITAL READINESS

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WORKFORCEDEVELOPMENT
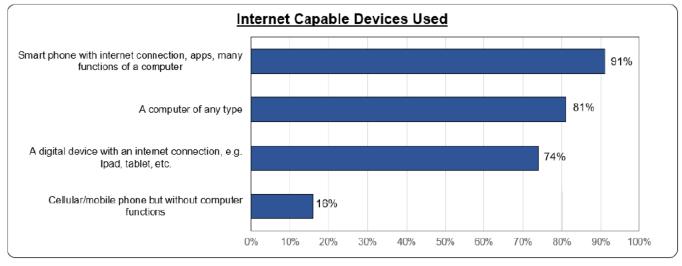
BASICS TO ACCESS THE DIGITAL ENVIRONMENT

Internet Capable Devices (State)

Have Internet Capable Devices	96%
Don't Have Internet Capable Devices	4%

Online Access (State)

Have Online Access	96%
Don't Have Online Access	4%

	O'AHU	HAWAI'I	MAUI	KAUA'I
HAVE Internet Capable Devices	98%	89%	92%	100%
DON'T HAVE Internet Capable Devices	2%	11%	8%	-
Base	625	122	102	44

	O'AHU	HAWAI'I	MAUI	KAUA'I
HAVE Online access	97%	92%	96%	98%
DON'T HAVE Online access	3%	8%	4%	2%
Base	625	122	102	44

Historically, digital readiness was defined by possession of digital devices and access to internet services. However, these are no longer defining criteria. Large majorities of residents have the necessary equipment to access on the internet. In 2021 in Hawaii, 96% have at least one piece of hardware with internet capacity while only four percent do not. Specifically, 9 in 10 (91%) have a smart phone with an internet connection, and just slightly fewer or 1 in 8 (81%) have a computer of any type in their home.

Internet Capable Devices Used

Smart phone with internet connection, apps, many functions of a computer	91%
A computer of any type	81%
A digital device with an internet connection, e.g. Ipad, tablet, etc.	74%
Cellular/mobile phone but without computer functions	16%

Base: 893
QP2.A. Which, if any of the following do you have at home? Do you have…?

	O'AHU	HAWAI'I	MAUI	KAUA'I
Smart phone with internet connection, apps, many functions of a computer	94%	86%	83%	96%
A computer of any type	84%	71%	74%	75%
A digital device with an internet connection, e.g., iPad, tablet, etc.	76%	66%	73%	73%
Cellular/mobile phone but without computer functions	16%	21%	15%	13%
Base	625	122	102	44
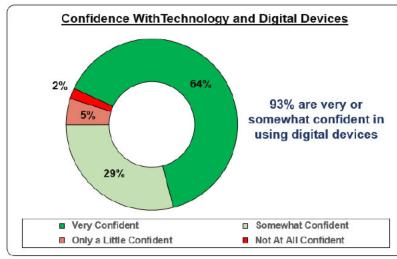
In addition, almost all or 96% of Hawai'i residents Statewide have some type of internet access and only four percent (4%) do not or don't know. The majority of 57% reported broadband internet services, 29% cellular "hotspots," and 10% other means of internet access. Among those using broadband, 61% use cable, 20% fiber optics, and 13% DSL.

Multiple Mentions	TOTAL	O'AHU	HAWAI'I	MAUI	KAUA'I
Subscribe to higher-speed broadband internet service at home	57%	56%	55%	63%	53%
Use your cellular phone as a "hotspot" for internet access	29%	30%	25%	26%	28%
Use another means of internet access in your home	10%	10%	14%	5%	14%
Subscribe to "dial-up" internet service a home	2%	2%	0%	2%	2%
Base	1285	935	159	126	65

CONFIDENCE WITH TECHNOLOGY AND DIGITAL DEVICES

Hawai'i residents overall are confident in their use of digital devices, as approximately two-thirds say they are very confident, while 29 percent are somewhat confident. Only seven percent of residents are not confident in their technology and digital device use. Residents on the Neighbor Islands and those over 35 years old had the lowest confidence in using these devices.

Confidence With Technology and Digital Devices

64%
2%
5%
29%

93% are very or somewhat confident in using digital devices

- Very Confident
- Somewhat Confident
- Only a Little Confident
- Not At All Confident

Statistically Significant Demographics

	GEOGRAPHY			
	Oahu	Hawaii	Maui	Kauai
Confident (NET)	95%	88%	89%	89%
Not Confident (NET)	5%	12%	11%	11%
Base	389	191	177	98

	AGE		
	18-34	35-54	55-65
Confident (NET)	99%	90%	88%
Not Confident (NET)	1%	10%	12%
Base	139	382	334

Base: 834 Smartphone owners only
QP8. Overall, how confident do you feel using computers, smartphones, or other electronic devices to do things you need to do online? Do you feel...[INSERT]?

Areas to improve confidence in technology and digital devices are among residents of Hawai'i, Maui, and Kaua'i counties and among those 35 years and older. Other demographic areas did not show any statistically significant findings.

Although all residents employed across industries had similar levels of confidence overall (Very + Somewhat), those employed in Agriculture, Manufacturing, Food Service, and Maintenance work had the lowest levels of those *Very Confident*. Regarding occupation, those in 'Blue Collar' work (Laborers,

Famers, Construction, etc.) and those unemployed (looking for work, unemployed, and homemakers) also reported lower confidence in using technology.

		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Confident (NET)	93%	95%	88%	89%	89%	99%	90%	88%
Not Confident (NET)	7%	5%	12%	11%	11%	1%	10%	12%
Base	834	593	107	90	43	325	306	203

	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Confident (NET)	89%	93%	97%	90%	94%	95%	93%	93%	93%	96%	92%
Not Confident (NET)	11%	7%	3%	10%	6%	5%	7%	7%	7%	4%	8%
Base	236	291	268	237	291	268	145	151	196	92	251

	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Confident (NET)	96%	99%	94%	89%	95%	91%	97%	82%	92%	98%	100%	84%	99%	100%	89%	100%	100%	99%
Very Confident	70%	75%	79%	68%	76%	60%	72%	61%	41%	79%	65%	61%	50%	93%	26%	90%	34%	74%
Base	114	83	66	60	31	34	24	27	20	22	21	20	19	17	17	12	13	71

	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/Homemaker/ Caregiver
Confident (NET)	95%	92%	100%	95%	98%	98%	94%	89%	82%
Very Confident	67%	58%	71%	68%	87%	88%	77%	54%	47%
Base	245	79	80	64	54	53	35	63	121
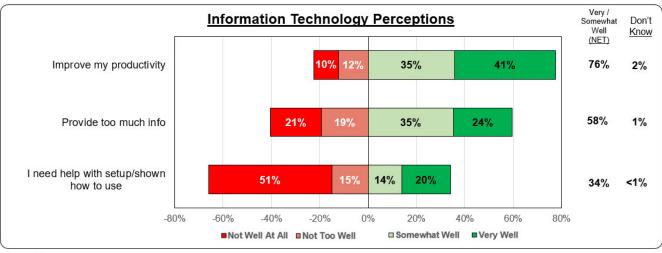
QP8. Overall, how confident do you feel using computers, smartphones, or other electronic devices to do things you need to do online? Do you feel...?

ELECTRONIC DEVICES IMPACT ON PRODUCTIVITY

Hawai'i residents perceive technology favorably. Three in four (76%) say that electronic devices enhance their productivity and only about a third (34%) say they require assistance in setting up their devices. In contrast, a majority of slightly more than half (58%) are overwhelmed with the amount of information provided by them, suggesting an area for improvement.

Information Technology Perceptions

	Very / Somewhat Well (NET)	Don't Know
Improve my productivity	76%	2%
Provide too much info	58%	1%
I need help with setup/shown how to use	34%	<1%

Improve my productivity: 10% Not Well At All, 12% Not Too Well, 35% Somewhat Well, 41% Very Well

Provide too much info: 21% Not Well At All, 19% Not Too Well, 35% Somewhat Well, 24% Very Well

I need help with setup/shown how to use: 51% Not Well At All, 15% Not Too Well, 14% Somewhat Well, 20% Very Well

■ Not Well At All ■ Not Too Well ☐ Somewhat Well ■ Very Well

Base: 893
QP7.   Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement [INSERT] describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

O'ahu residents, those under 54 years of age, those with some college or graduates, and those with middle-higher income; were more likely to view technology favorably. While those over 55 years old or lower educational attainments tended to need assistance with technological devices. Residents employed in the Food Service industry were least inclined to say technology improved their productivity, while those who say they often needed help setting up devices were employed in Transportation, Real Estate, or Financial. Among occupation, those in 'Blue Collar' work and those unemployed were less likely to perceive technology as improving their productivity and often needed assistance in utilizing it.

Very / Somewhat Well (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Electronic devices improve my productivity	79%	82%	72%	70%	78%	85%	81%	68%
Electronic devices provide too much info	60%	58%	65%	66%	70%	61%	60%	60%
Electronic devices need to setup/shown how to use	35%	33%	41%	44%	36%	10%	41%	62%
Base	864	604	119	98	43	318	315	232

Very / Somewhat Well (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Electronic devices improve my productivity	68%	83%	86%	69%	87%	80%	74%	77%	80%	89%	79%
Electronic devices provide too much info	58%	58%	63%	58%	62%	61%	57%	53%	68%	73%	56%
Electronic devices need to setup/shown how to use	48%	29%	31%	41%	32%	33%	42%	29%	42%	19%	35%
Base	274	288	265	270	323	272	156	153	201	91	263
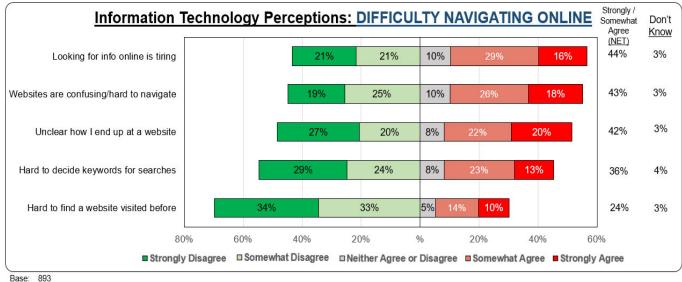
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WORKFORCE DEVELOPMENT

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Very / Somewhat Well (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Electronic devices improve my productivity	81%	86%	90%	88%	87%	85%	75%	89%	41%	95%	82%	88%	91%	75%	63%	75%	89%	85%
Electronic devices provide too much info	54%	65%	47%	57%	74%	65%	80%	79%	69%	33%	50%	60%	41%	81%	81%	79%	53%	48%
Electronic devices need to setup/shown how to use	26%	29%	32%	29%	46%	29%	52%	64%	37%	12%	50%	54%	42%	21%	51%	6%	13%	28%
Base	111	81	64	60	34	33	30	24	26	23	21	20	19	12	17	15	13	81

Very / Somewhat Well (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Electronic devices improve my productivity	85%	76%	85%	86%	91%	95%	74%	73%	58%
Electronic devices provide too much info	54%	60%	68%	55%	62%	66%	52%	64%	65%
Electronic devices need to setup/shown how to use	32%	45%	37%	34%	28%	13%	43%	22%	50%
Base	243	90	79	65	53	48	45	64	139

QP7. Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement... describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

PERCEPTIONS OF NAVIGATING ONLINE

Regarding challenges navigating online environments, perception is somewhat split. Significant minorities of between 42 – 44 percent find websites tiring or confusing, and are unclear how they arrived at the site. However, a majority do not experience these concerns. Difficulty with keyword searches or visiting previously viewed sites were mentioned by fewer residents (about a third or less).

Information Technology Perceptions: DIFFICULTY NAVIGATING ONLINE

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	Strongly / Somewhat Agree (NET)	Don't Know
Looking for info online is tiring	21%	21%	10%	29%	16%	44%	3%
Websites are confusing/hard to navigate	19%	25%	10%	26%	18%	43%	3%
Unclear how I end up at a website	27%	20%	8%	22%	20%	42%	3%
Hard to decide keywords for searches	29%	24%	8%	23%	13%	36%	4%
Hard to find a website visited before	34%	33%	5%	14%	10%	24%	3%

■ Strongly Disagree □ Somewhat Disagree □ Neither Agree or Disagree ■ Somewhat Agree ■ Strongly Agree

Base: 893
QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that....?

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WORKFORCEDEVELOPMENT

Older residents and those with a high school degree or less were more likely to report difficulty navigating online sites. Those over 55 years old were particularly more likely to report they found websites to be confusing and were unclear how they ended up at a particular site. Residents with high school degrees or less education, tended to report it was difficult to decide on the search terms to use or to find a site they had previously visited. Overall, residents working in Transportation, Agriculture, Food Service, and Other Services had trouble navigating online sites. Those in Blue Collar employment, Self-employed, and Not employed, reported difficulty in Online navigation.

Strongly / Somewhat Agree (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Looking for info online is tiring	44%	45%	36%	47%	48%	43%	49%	41%
Websites are confusing/hard to navigate	43%	44%	35%	50%	46%	36%	42%	56%
Unclear how I end up at a website	42%	43%	34%	41%	45%	35%	43%	49%
Hard to decide keywords for searches	36%	36%	29%	43%	40%	35%	34%	41%
Hard to find a website visited before	24%	24%	17%	30%	32%	26%	24%	22%
Base	893	625	122	102	44	333	324	237

Strongly / Somewhat Agree (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Looking for info online is tiring	49%	47%	40%	44%	44%	45%	43%	44%	53%	38%	41%
Websites are confusing/hard to navigate	49%	41%	37%	46%	42%	43%	51%	31%	48%	49%	40%
Unclear how I end up at a website	45%	44%	38%	42%	39%	45%	36%	39%	59%	24%	39%
Hard to decide keywords for searches	44%	31%	29%	45%	27%	39%	35%	40%	41%	34%	31%
Hard to find a website visited before	33%	24%	17%	28%	23%	22%	21%	16%	33%	22%	25%
Base	281	300	273	277	339	277	166	155	207	93	272

Strongly / Somewhat Agree (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Looking for info online is tiring	48%	45%	32%	49%	33%	27%	42%	75%	76%	21%	13%	54%	30%	62%	79%	54%	56%	53%
Websites are hard to navigate	35%	42%	26%	40%	54%	34%	61%	69%	61%	23%	18%	62%	40%	47%	72%	64%	55%	28%
Unclear how I end up at a website	38%	55%	28%	29%	45%	18%	56%	54%	46%	54%	32%	64%	29%	50%	69%	30%	20%	52%
Hard to decide keywords for searches	36%	35%	18%	34%	37%	9%	64%	57%	62%	24%	19%	27%	30%	37%	13%	27%	16%	31%
Hard to find a website visited before	31%	24%	12%	14%	27%	7%	47%	36%	57%	17%	9%	21%	1%	29%	73%	3%	22%	32%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

Strongly / Somewhat Agree (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Looking for info online is tiring	43%	51%	50%	36%	30%	35%	73%	52%	46%
Websites are confusing/hard to navigate	36%	50%	55%	42%	30%	45%	29%	41%	52%
Unclear how I end up at a website	40%	42%	53%	32%	25%	30%	73%	44%	47%
Hard to decide keywords for searches	28%	50%	38%	14%	29%	19%	43%	35%	51%
Hard to find a website visited before	23%	35%	30%	16%	24%	11%	40%	28%	21%
Base	252	91	81	65	54	53	45	64	145

QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that....?

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1068
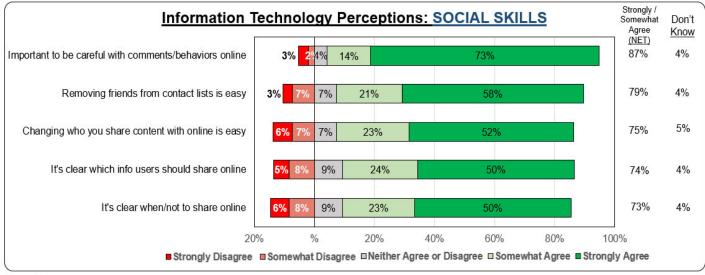
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DIGITAL SOCIAL JUDGMENT & SKILLS

Approximately a quarter or fewer residents, say they do not have a firm grasp on social sharing/communicating online. Residents were most skilled at removing friends from contact lists followed by sharing content with specific individuals. Overall, 87 percent agreed that it was important to be careful with online comments and behaviors.

Information Technology Perceptions: SOCIAL SKILLS

	Strongly / Somewhat Agree (NET)	Don't Know
Important to be careful with comments/behaviors online	87%	4%
Removing friends from contact lists is easy	79%	4%
Changing who you share content with online is easy	75%	5%
It's clear which info users should share online	74%	4%
It's clear when/not to share online	73%	4%

■ Strongly Disagree ■ Somewhat Disagree □ Neither Agree or Disagree □ Somewhat Agree ■ Strongly Agree

Base: 893
QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that...?

Residents over 35 years old and those with a high school education or less reported lower levels in online social skills compared to others. Those of Filipino ancestry reported higher levels of skills in these areas compared to other ethnicities. Residents in Building/Construction and Real Estate sectors, reported the most trouble with online social skills compared to others. Similar to online navigation, Blue Collar employment, Self-employed, and those Not Employed, also report difficulty in this area.

Strongly / Somewhat Agree (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Important to be careful with comments/behaviors online	87%	88%	81%	92%	79%	89%	88%	85%
Removing friends from contact lists is easy	79%	80%	74%	75%	78%	82%	83%	68%
Changing who you share content with online is easy	75%	79%	66%	64%	66%	89%	72%	60%
It's clear which info users share online	74%	78%	60%	73%	69%	88%	70%	61%
It's clear when to share/not sure online	73%	75%	66%	71%	67%	85%	70%	60%
Base	893	625	122	102	44	333	324	237

Strongly / Somewhat Agree (NET)		EDUCATION			INCOME			ETHNICITY			
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Important to be careful with comments/behaviors online	77%	93%	93%	85%	86%	91%	86%	92%	94%	95%	78%
Removing friends from contact lists is easy	64%	86%	85%	73%	79%	84%	76%	76%	84%	81%	78%
Changing who you share content with online is easy	70%	79%	76%	66%	77%	81%	69%	75%	79%	67%	78%
It's clear which info users share online	69%	78%	76%	68%	76%	78%	61%	75%	85%	78%	73%
It's clear when to share/not sure online	69%	76%	75%	69%	78%	71%	65%	70%	80%	77%	73%
Base	281	300	273	277	339	277	166	155	207	93	272

QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that...?
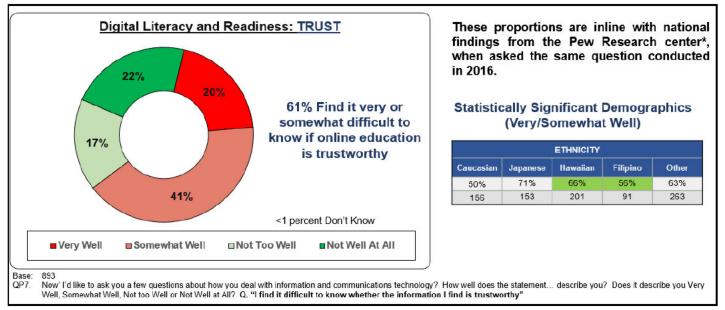
Strongly / Somewhat Agree (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Transport	Other Service	Food Service	Legal	Real Estate	Financial Banking	Maintenance	IT Tech	Agriculture	Non-Profit	Manufacture	Other
Careful with behaviors online	97%	95%	79%	77%	95%	92%	100%	71%	100%	95%	82%	95%	93%	97%	90%	100%	86%	92%
Updating contact lists	96%	88%	83%	75%	89%	78%	69%	100%	55%	97%	79%	81%	92%	78%	62%	73%	90%	83%
Sharing content online is easy	82%	79%	87%	89%	71%	59%	86%	91%	54%	96%	73%	74%	61%	88%	67%	96%	49%	86%
Clear which info users share online	74%	75%	85%	71%	62%	53%	87%	90%	83%	96%	55%	80%	92%	69%	80%	94%	93%	81%
Clear when to share/not sure online	70%	69%	78%	74%	74%	51%	85%	60%	71%	92%	75%	80%	93%	85%	75%	79%	96%	90%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

Strongly / Somewhat Agree (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Careful with behaviors online	97%	86%	97%	91%	60%	92%	87%	90%	76%
Updating contact lists	87%	70%	93%	94%	88%	84%	69%	80%	52%
Sharing content online is easy	84%	78%	84%	74%	74%	79%	78%	76%	53%
Clear which info users share online	80%	82%	81%	63%	69%	76%	72%	79%	63%
Clear when to share/not sure online	73%	81%	82%	78%	57%	75%	91%	76%	62%
Base	252	91	81	65	54	53	45	64	145

QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that...?

DIGITAL TRUST

A majority of residents (61%) say it is very or somewhat difficult to know whether information online is trustworthy. Within this majority, 20 percent say this describes them very well, and 41 percent somewhat well. These proportions are in line with national findings from the Pew Research center*, when asked the same question conducted in 2016. Residents of Hawaiian or Filipino ancestry were more likely to say they found it difficult to trust online information.

Digital Literacy and Readiness: TRUST

20% Very Well
41% Somewhat Well
17% Not Too Well
22% Not Well At All

61% Find it very or somewhat difficult to know if online education is trustworthy

<1 percent Don't Know

These proportions are inline with national findings from the Pew Research center*, when asked the same question conducted in 2016.

Statistically Significant Demographics (Very/Somewhat Well)

ETHNICITY				
Caucasian	Japanese	Hawaiian	Filipino	Other
50%	71%	66%	56%	63%
156	153	201	91	263

Base: 893
QP7. Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement... describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All? Q. "I find it difficult to know whether the information I find is trustworthy"

Hawaiian and Filipino residents were also more likely to have lower trust and express difficulty in finding trusted information online. Other demographic groups reported similar levels of digital trust compared to their peers. Trust in digital information varied by industry and occupation. Residents employed in Finance or Manufacturing were the most skeptical online and were most likely to say it is difficult to find trusted information. Those employed in Sales also reported difficulty in finding trusted information online compared to other occupations.

Very / Somewhat Well (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Finding trustworthy info is difficult	62%	63%	58%	64%	61%	64%	61%	62%
Base	864	604	119	98	43	318	315	232

Very / Somewhat Well (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Finding trustworthy info is difficult	64%	65%	57%	63%	63%	60%	50%	71%	66%	56%	63%
Base	274	288	265	270	323	272	156	153	201	91	263

Very / Somewhat Well (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Finding trustworthy info is difficult	57%	61%	65%	45%	68%	78%	57%	81%	60%	45%	56%	76%	73%	47%	49%	69%	91%	68%
Base	111	81	64	60	34	33	30	24	26	23	21	20	19	12	17	15	13	81

Very / Somewhat Well (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/Homemaker/ Caregiver
Finding trustworthy info is difficult	67%	42%	49%	59%	88%	68%	57%	65%	63%
Base	243	90	79	65	53	48	45	64	139

QP7. Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement... describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

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IMPACT OF SELF EFFICACY ON DIGITAL SKILLS, USAGE & TRUST

One of the dimensions of digital readiness that this study analyzes is self-efficacy. While it incorporates attitudes toward different aspects of digital skills and the environment, the overall general question that measures efficacy is this: *"Overall, how confident do you feel using computers, smartphones or other electronic devices to do things you need to do online - Very confident, somewhat confident, only a little confident, not at all confident?"*

The tables below clearly illustrate the importance of self-efficacy. Hawaiʻi residents who are more confident online in fact do have higher digital skills, proficiency and trust. Conversely, residents with lower levels of digital trust are more likely to find the digital environment *"tiring,"* providing *"too much info,"* *"confusing,"* and *"hard to decide keywords for searches."* They thus are less engaged in the digital learning environment.

What this data shows is that it is not only important in workforce development to teach skills training but also that it is essential to set the stage for skills development by emphasizing the personal benefits and opportunities that digital readiness and literacy offers different individuals, depending on their needs and their life stage. For younger people, for example, this may be economic growth or upwardly mobility; for older people it may be digital health tools, and for still others it may be socializing activities that digital skills can help to facilitate. Higher confidence and self-equity can boost engagement to acquire digital learning and that in turn enhances digital readiness and self-development for the digital economy,

DIGITAL SKILLS	DIGITAL CONFIDENCE	
	High	Low
Devices improve my productivity	84%	42%
Devices need to setup/shown how to use	37%	87%
Looking for info online is tiring	16%	35%
Websites are confusing/hard to navigate	15%	35%
Unclear how I end up at a website	18%	35%
Hard to decide keywords for searches	13%	28%
Hard to find a website visited before	7%	22%
Base	755	76

DIGITAL USAGE	DIGITAL CONFIDENCE	
	High	Low
Lifelong learners	98%	84%
Enjoy gathering unfamiliar information	96%	84%
Seek out new opportunities to grow	93%	70%
Open a tab in my browser	57%	18%
Open downloaded files	35%	3%
Downloaded/saved photo	35%	9%
Bookmarked a website	31%	6%
Used key shortcuts	29%	3%
Base	755	76

DIGITAL SKILLS	DIGITAL TRUST	
	Low	High
Devices provide too much info	66%	51%
Devices need to setup/shown how to use	38%	29%
Looking for info online is tiring	49%	36%
Websites are confusing/hard to navigate	47%	37%
Hard to decide keywords for searches	42%	28%
Hard to find a website visited before	28%	18%
Base	538	317

DIGITAL TRUST	DIGITAL CONFIDENCE	
	High	Low
Finding trustworthy info is difficult	59%	74%
Base	755	76

DIGITAL USAGE	DIGITAL TRUST	
	Low	High
Glad no longer in school/classes	71%	54%
No probing into new situations	53%	34%
Easily distracted when concentrating	51%	35%
Base	538	317

QP8. Overall, how confident do you feel using computers, smartphones, or other electronic devices to do things you need to do online? Do you feel...[INSERT]?

QP7. Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement [INSERT] describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All? Q. **"I find it difficult to know whether the information I find is trustworthy"**

LEARNING OPPORTUNITIES AND DIGITAL USAGE FOR KNOWLEDGE ACQUISITION
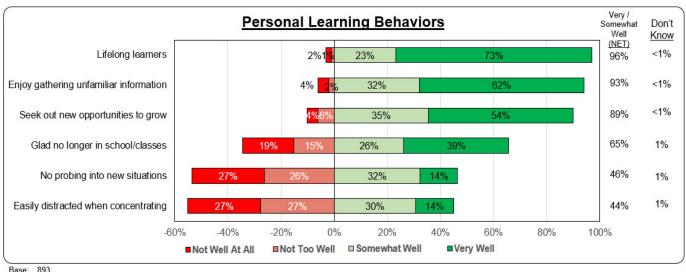
SELF PERCEPTIONS: PERSONAL LEARNERS

Hawai'i residents self-report that they are very open to new information and actively seek out learning. About 9 of 10 Hawai'i residents describe themselves as Lifelong learners; individuals who Enjoy gathering information, and residents who Seek opportunities for growth. On the other hand, almost half (46%) say they Do not probe into new situations, and about 3 in 7 (44%) report being Easily distracted when concentrating.

Personal Learning Behaviors

	Not Well At All	Not Too Well	Somewhat Well	Very Well	Very / Somewhat Well (NET)	Don't Know
Lifelong learners	2%	1%	23%	73%	96%	<1%
Enjoy gathering unfamiliar information	4%	2%	32%	62%	93%	<1%
Seek out new opportunities to grow	4%	6%	35%	54%	89%	<1%
Glad no longer in school/classes	19%	15%	26%	39%	65%	1%
No probing into new situations	27%	26%	32%	14%	46%	1%
Easily distracted when concentrating	27%	27%	30%	14%	44%	1%

Base: 893
QP3. Now' I'd like read you some questions about how you approach different situations when you want to learn something new. First...How well does the statement...describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

Although all residents say they are open to learning experiences, those on Kaua'i and younger residents are more likely to be open to learning experiences compared to others. In addition, college graduates and those with higher incomes are also more receptive to learning opportunities. Those employed in Building/Construction and Maintenance reported a lower propensity for learning attributes. Residents in Blue Collar occupations and those Not employed tended to have lower inclinations for learning attributes.

Very / Somewhat Well (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Lifelong learners	96%	96%	98%	96%	93%	98%	96%	95%
Enjoy gathering unfamiliar information	93%	93%	96%	92%	96%	91%	97%	93%
Seek out new opportunities to grow	89%	90%	82%	89%	94%	95%	89%	80%
Glad no longer in school/classes	65%	67%	58%	62%	59%	62%	62%	72%
No probing into new situations	46%	45%	50%	47%	44%	48%	37%	54%
Easily distracted when concentrating	44%	45%	38%	43%	52%	51%	45%	34%
Base	893	625	122	102	44	333	324	237

Very / Somewhat Well (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Lifelong learners	93%	97%	99%	94%	97%	99%	94%	98%	95%	98%	96%
Enjoy gathering unfamiliar information	90%	91%	98%	90%	95%	95%	95%	91%	90%	95%	96%
Seek out new opportunities to grow	77%	94%	95%	82%	91%	94%	81%	94%	91%	89%	89%
Glad no longer in school/classes	70%	61%	62%	61%	67%	65%	59%	72%	60%	68%	67%
No probing into new situations	50%	50%	40%	51%	45%	41%	35%	56%	48%	46%	45%
Easily distracted when concentrating	39%	48%	43%	49%	42%	44%	40%	48%	44%	46%	45%
Base	281	300	273	277	339	277	166	155	207	93	272

QP3. Now' I'd like read you some questions about how you approach different situations when you want to learn something new. First, [READ STATEMENT] How well does the statement... describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

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Very / Somewhat Well (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Transport	Other Service	Food Service	Legal	Real Estate	Financial Banking	Maintenance	IT Tech	Agriculture	Non-Profit	Manufacture	Other
Lifelong learners	99%	98%	100%	99%	100%	92%	79%	90%	83%	100%	100%	96%	100%	97%	100%	99%	100%	100%
Enjoy unfamiliar information	89%	96%	94%	92%	96%	89%	82%	91%	78%	100%	100%	96%	92%	97%	100%	100%	100%	95%
Seek out new opportunities to grow	90%	96%	96%	94%	98%	90%	76%	85%	83%	97%	99%	89%	100%	97%	95%	100%	100%	83%
Glad no longer in school	60%	62%	33%	78%	65%	60%	74%	72%	62%	68%	86%	71%	72%	54%	35%	60%	57%	75%
No probing in new situations	39%	49%	43%	27%	51%	47%	56%	28%	42%	27%	26%	61%	80%	23%	53%	47%	54%	62%
Easily distracted when concentrating	42%	49%	52%	29%	45%	36%	40%	42%	46%	25%	26%	34%	53%	75%	57%	41%	26%	46%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

Very / Somewhat Well (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Lifelong learners	99%	90%	99%	96%	100%	98%	98%	100%	91%
Enjoy unfamiliar information	93%	82%	96%	95%	98%	99%	98%	94%	92%
Seek out new opportunities to grow	93%	86%	95%	92%	98%	97%	81%	92%	72%
Glad no longer in school	64%	81%	57%	71%	52%	60%	59%	53%	66%
No probing in new situations	42%	44%	53%	37%	57%	33%	47%	53%	58%
Easily distracted when concentrating	40%	38%	52%	41%	54%	30%	57%	42%	47%
Base	252	91	81	65	54	53	45	64	145
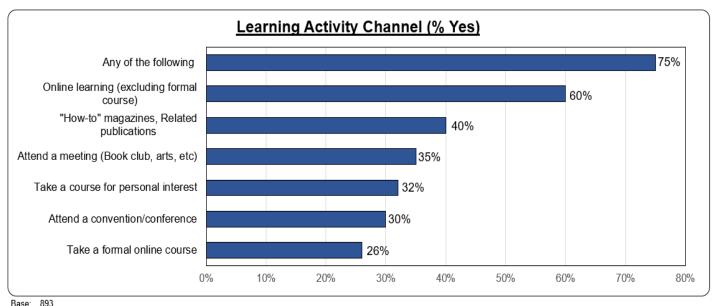
QP3. Now' I'd like read you some questions about how you approach different situations when you want to learn something new. First...How well does the statement...describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

ONLINE LEARNING OPPORTUNITIES

In terms of acting on learning opportunities, the most popular channel was via *Online Learning* (60%), followed by *How-to publications* (40%). The remaining channels were mentioned by a third or less residents: *Attend a meeting, Take a course for personal interest,* and *Attend a convention. Taking a formal online course* was mentioned by only a quarter of residents.

Learning Activity Channel (% Yes)

Channel	% Yes
Any of the following	75%
Online learning (excluding formal course)	60%
"How-to" magazines, Related publications	40%
Attend a meeting (Book club, arts, etc)	35%
Take a course for personal interest	32%
Attend a convention/conference	30%
Take a formal online course	26%

Base: 893
QP4. In the year 2019, before the pandemic, did you...?

Online learners were more likely to be College graduates, higher income, and of Native Hawaiian ancestry. Those who have taken a formal online course tended to be located on Oʻahu, have graduated from College, and have Higher income.

Residents in Government, Legal, Financial, and Other Services were most likely to participate in online opportunities while Professional, Administrative, and Management occupations also tended to participate in these areas.

(% Yes)		GEOGRAPHY					AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai		18-34	35-54	55-65
Any of the following	75%	79%	72%	65%	61%		79%	73%	73%
Online learning (excluding formal course)	60%	65%	53%	46%	47%		63%	61%	54%
How-to magazines, Related publications	40%	38%	45%	42%	42%		28%	44%	52%
Attend a meeting (Book club, arts, etc)	35%	37%	40%	27%	20%		38%	32%	36%
Take a course for personal interest	32%	37%	24%	26%	11%		45%	27%	21%
Attend a convention/conference	30%	35%	16%	24%	14%		36%	24%	29%
Take a formal online course	26%	30%	17%	19%	8%		31%	25%	21%
Base	893	625	122	102	44		333	324	237

(% Yes)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Any of the following	64%	79%	82%	73%	69%	85%	73%	88%	79%	76%	66%
Online learning (excluding formal course)	41%	69%	67%	50%	55%	75%	53%	79%	63%	61%	51%
How-to magazines, Related publications	31%	44%	47%	38%	36%	47%	49%	45%	43%	23%	35%
Attend a meeting (Book club, arts, etc)	24%	43%	41%	33%	33%	40%	43%	57%	36%	17%	23%
Take a course for personal interest	26%	37%	38%	28%	29%	41%	28%	53%	30%	29%	26%
Attend a convention/conference	25%	40%	28%	23%	27%	41%	24%	49%	28%	30%	24%
Take a formal online course	15%	27%	32%	21%	20%	38%	21%	34%	26%	40%	20%
Base	281	300	273	277	339	277	166	155	207	93	272

(% Yes)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Any of the following	70%	86%	67%	83%	59%	57%	68%	69%	54%	96%	79%	78%	90%	84%	91%	70%	65%	83%
Online learning	63%	74%	54%	49%	53%	47%	49%	68%	38%	80%	55%	75%	71%	58%	72%	39%	63%	68%
How-to magazines	30%	58%	38%	36%	42%	29%	42%	29%	43%	51%	34%	59%	64%	16%	55%	26%	43%	32%
Attend a meeting	46%	39%	38%	26%	21%	25%	24%	30%	25%	41%	35%	24%	51%	54%	35%	44%	10%	35%
Take a course	45%	35%	34%	28%	28%	14%	12%	53%	23%	39%	20%	38%	34%	83%	20%	18%	44%	36%
Attend a conference	32%	41%	17%	34%	19%	17%	11%	41%	28%	20%	47%	27%	38%	61%	54%	19%	44%	43%
Formal online course	34%	44%	28%	14%	11%	9%	13%	43%	12%	36%	38%	46%	15%	26%	28%	11%	12%	28%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

(% Yes)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Any of the following	84%	72%	67%	76%	54%	69%	81%	76%	72%
Online learning	70%	49%	56%	64%	39%	61%	63%	64%	51%
How-to magazines	47%	28%	34%	47%	9%	44%	31%	55%	47%
Attend a meeting	50%	23%	27%	32%	7%	32%	16%	45%	43%
Take a course	39%	21%	31%	40%	29%	39%	18%	45%	31%
Attend a conference	34%	38%	21%	41%	21%	36%	29%	31%	26%
Formal online course	35%	8%	32%	30%	22%	26%	6%	37%	13%
Base	252	91	81	65	54	53	45	64	145

QP4.A Next, I have a few questions related to your personal interests, outside of a job. work. This might include interests related to a hobby, your home, health, religion, your community of other areas of personal interest to you. In the year 2019, before the pandemic, did you...?

TIME SPENT ON LEARNING ACTIVITIES

Although most users participated in online and in-person learning activities, and read publications for personal learning, many spent a limited amount of time on these activities. While a third say they spent less than a day, on average, residents spent 44 days learning through these channels.

Around 1 in 5 or 19 percent were avid learners, spending +51 days a year or around one day a week participating in these learning activities.

Time Spent on Learning Activities	
Less than 1 day	33%
1 - 5 days	16%
6 - 10 days	10%
11 - 20 days	8%
21 - 30 days	9%
30 - 50 days	5%
51 - 60 days	3%
60+ days	16%
Average (in days)	44 days
Base	599

Residents located on Oʻahu, those between 18 to 34 years old, with a high school degree or less, and those earning lower incomes (less than $50K), were likely to spend less time on learning activities compared to other groups. Those reporting the longest time spent in learning activities tended to work in the Government, Tourism, and Transportation industries, and held jobs in Administrative/Clerical, Management, or Technical fields.

		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Average (in days)	44.2	38.9	38.8	69.0	100.3	36.9	43.4	56.1
10 days or less	59%	62%	57%	44%	41%	60%	57%	62%
11 days to 1 month	17%	15%	14%	24%	28%	20%	16%	12%
1 to 2 months	8%	8%	11%	8%	0%	9%	8%	8%
Over 2 months	16%	14%	18%	24%	30%	11%	19%	18%
Base	584	424	81	55	23	215	219	150

	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Average (in days)	41.5	36.3	53.3	39.4	38.8	53.6	35.4	39.5	48.0	55.4	46.8
10 days or less	60%	59%	58%	66%	53%	59%	69%	60%	52%	58%	58%
11 days to 1 month	16%	21%	13%	11%	23%	15%	15%	16%	18%	22%	16%
1 to 2 months	7%	10%	8%	7%	11%	7%	6%	7%	15%	4%	6%
Over 2 months	17%	11%	21%	16%	14%	19%	11%	17%	15%	16%	20%
Base	156	212	204	174	203	206	103	126	143	48	163

	INDUSTRY																		
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Transport	Other Service	Food Service	Legal	Real Estate	Financial Banking	Maintenance	IT Tech	Agriculture	Non-Profit	Manufacture	Other
Average (in days)	30.3	65.4	32.2	64.6	93.3	20.7	71.5	11.0	21.6	88.1	21.9	42.2	26.7	30.1	31.1	31.9	10.5	28.9
10 days or less	63%	50%	52%	68%	31%	47%	58%	77%	67%	26%	40%	78%	47%	54%	78%	73%	39%	69%
11 days to 1 month	16%	13%	32%	6%	25%	28%	0%	21%	3%	32%	52%	12%	4%	12%	2%	5%	58%	18%
1 to 2 months	7%	11%	4%	3%	9%	22%	10%	0%	12%	23%	2%	0%	34%	28%	11%	1%	3%	5%
Over 2 months	14%	26%	12%	23%	35%	2%	31%	1%	18%	19%	6%	10%	14%	6%	10%	20%	--	8%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82
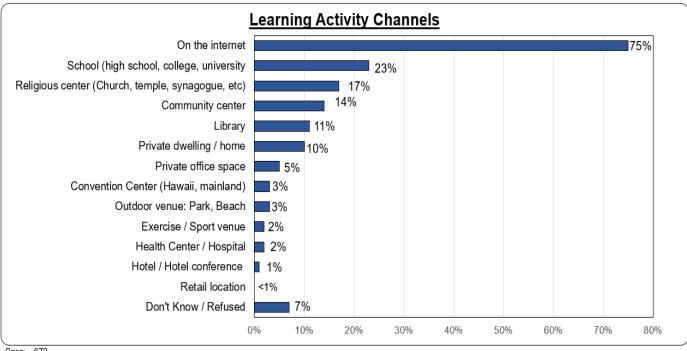
	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Average (in days)	37.6	47.0	72.2	56.5	39.7	78.5	7.4	28.2	42.0
10 days or less	53%	68%	52%	51%	53%	44%	87%	63%	68%
11 days to 1 month	27%	4%	9%	28%	12%	12%	7%	12%	12%
1 to 2 months	4%	11%	21%	2%	21%	11%	1%	12%	6%
Over 2 months	16%	18%	19%	19%	14%	32%	4%	13%	13%
Base	252	91	81	65	54	53	45	64	145

QP4.B Thinking about all of the activities you said you did in 2019, before the pandemic, about how much time in total did you spend on these personal interest activities.

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LEARNING CHANNELS USED

Learning Activity Channels

Channel	%
On the internet	75%
School (high school, college, university	23%
Religious center (Church, temple, synagogue, etc)	17%
Community center	14%
Library	11%
Private dwelling / home	10%
Private office space	5%
Convention Center (Hawaii, mainland)	3%
Outdoor venue: Park, Beach	3%
Exercise / Sport venue	2%
Health Center / Hospital	2%
Hotel / Hotel conference	1%
Retail location	<1%
Don't Know / Refused	7%

Base: 672
QP5.   Thinking about the learning activities or courses you have taken for personal interest, where did these learning activities take place? Did you do this…?

A large majority of 3 in 4 residents (75%) reported learning through the internet. Other channels were significantly less utilized: Schools (23%); religious centers (17%); community centers (14%), and libraries (11%). Residents most likely to learn online were located on Kaua'i, between 35 to 54 years old, earn middle to higher incomes, or Native Hawaiian. Those in Government, Tourism, Legal services, or Management were most likely to learn online compared to other industries. Workers in Sales or Self-employment were least likely to utilize online channels for learning.

(% Yes)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
On the internet	75%	76%	69%	71%	88%	68%	85%	72%
School (high school, college, university	23%	28%	8%	16%	5%	36%	15%	14%
Religious center (Church, temple, etc.)	17%	19%	14%	10%	17%	25%	8%	17%
Community center	14%	12%	16%	25%	19%	14%	12%	16%
Library	11%	12%	10%	11%	7%	18%	6%	9%
Private dwelling / home	10%	8%	17%	12%	23%	8%	13%	10%
Base	672	492	88	65	26	262	237	173

(% Yes)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
On the internet	70%	77%	82%	59%	78%	86%	74%	83%	76%	51%	79%
School (high school, college, university	18%	29%	24%	22%	22%	25%	12%	44%	24%	15%	18%
Religious center (Church, temple, etc.)	29%	12%	15%	16%	15%	20%	9%	25%	17%	17%	17%
Community center	12%	15%	16%	11%	18%	13%	11%	17%	17%	5%	14%
Library	18%	9%	10%	9%	11%	13%	14%	19%	10%	1%	8%
Private dwelling / home	12%	11%	9%	12%	9%	10%	14%	8%	11%	5%	11%
Base	180	236	223	202	233	236	121	136	164	71	181
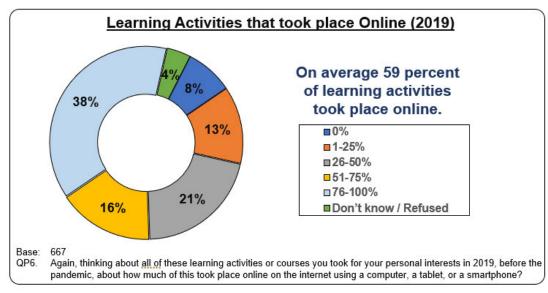
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(% Yes)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
On the internet	75%	89%	75%	85%	91%	72%	67%	46%	84%	93%	76%	70%	73%	61%	72%	63%	100%	81%
School	38%	27%	42%	21%	14%	5%	--	13%	14%	24%	--	20%	8%	14%	2%	7%	3%	23%
Religious center	20%	7%	9%	27%	9%	27%	10%	30%	23%	30%	43%	22%	5%	--	32%	3%	9%	7%
Community center	14%	16%	11%	6%	11%	33%	14%	16%	29%	7%	32%	8%	3%	6%	4%	13%	9%	23%
Library	12%	10%	10%	2%	8%	2%	13%	7%	17%	22%	2%	8%	8%	--	7%	8%	6%	12%
Private dwelling / home	6%	10%	3%	5%	3%	27%	26%	63%	9%	12%	11%	8%	20%	3%	13%	--	--	6%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

(% Yes)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
On the internet	75%	75%	88%	87%	49%	99%	62%	92%	67%
School	32%	5%	27%	12%	6%	36%	1%	26%	32%
Religious center	15%	18%	21%	20%	15%	10%	9%	24%	26%
Community center	16%	5%	19%	22%	21%	14%	3%	13%	15%
Library	10%	2%	12%	6%	--	15%	16%	7%	26%
Private dwelling / home	9%	3%	14%	12%	38%	4%	10%	12%	12%
Base	252	91	81	65	54	53	45	64	145

QP5. Thinking about the learning activities or courses you have taken for personal interest, where did these learning activities take place? Did you do this...?

SHARE OF LEARNING CHANNELS USED

Due to the Covid-19 pandemic's impact on behavior in 2020, residents were asked to estimate the proportion of their learning activity that took place online in 2019. Around half say that most (+51%) of their learning activities took place virtually or online. Only eight percent of activities were conducted completely in-person with no online presence. On average, 59 percent of activities took place virtually or online.

Learning Activities that took place Online (2019)

On average 59 percent of learning activities took place online.

4%, 8%, 13%, 21%, 16%, 38%

- ■ 0%
- ■ 1-25%
- ■ 26-50%
- ■ 51-75%
- ■ 76-100%
- ■ Don't know / Refused

Base: 667
QP6. Again, thinking about all of these learning activities or courses you took for your personal interests in 2019, before the pandemic, about how much of this took place online on the internet using a computer, a tablet, or a smartphone?

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Residents of Hawai'i island and Maui county, were more likely to focus their learning in-person or away from online channels compared to those on O'ahu. Older residents (55+ years old), those with a high school education or less, and lower income households (less than $50K), were also more likely to learn in-person and away from digital channels.

		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
0%	8%	6%	16%	18%	7%	5%	9%	12%
1-25%	13%	11%	17%	17%	10%	6%	12%	22%
26-50%	21%	22%	19%	15%	36%	28%	20%	14%
51-75%	16%	18%	12%	8%	17%	19%	15%	12%
76-100%	38%	39%	34%	34%	30%	35%	42%	35%
Average (including 0)	59.4	62.0	51.7	50.9	59.0	62.1	61.9	52.0
Base	672	492	88	66	27	262	237	173

	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
0%	20%	3%	5%	17%	7%	2%	12%	4%	5%	13%	10%
1-25%	14%	9%	16%	12%	9%	16%	14%	10%	16%	9%	12%
26-50%	20%	25%	21%	23%	19%	23%	17%	36%	23%	26%	11%
51-75%	14%	17%	17%	10%	21%	17%	14%	12%	13%	7%	27%
76-100%	29%	45%	40%	29%	42%	41%	42%	36%	41%	20%	39%
Average (including 0)	47.7	66.3	61.5	50.1	64.0	62.4	59.3	58.9	60.2	49.3	62.3
Base	180	236	224	203	233	236	121	136	164	71	181

	INDUSTRY																	
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Transport	Other Service	Food Service	Legal	Real Estate	Financial Banking	Maintenance	IT Tech	Agriculture	Non-Profit	Manufacture	Other
0%	5%	3%	4%	1%	4%	--	8%	2%	--	5%	23%	22%	1%	--	28%	36%	--	13%
1-25%	10%	14%	19%	11%	29%	5%	19%	11%	38%	4%	26%	9%	--	7%	--	7%	15%	7%
26-50%	36%	22%	29%	36%	13%	43%	7%	14%	10%	12%	10%	14%	--	1%	22%	8%	52%	17%
51-75%	15%	12%	13%	8%	11%	16%	17%	62%	31%	2%	19%	4%	8%	11%	2%	13%	--	32%
76-100%	34%	46%	35%	44%	43%	37%	49%	11%	21%	78%	23%	47%	65%	71%	49%	35%	32%	30%
Average (including 0)	60.4	62.3	54.4	61.6	60.3	65.8	64.0	61.9	53.9	84.2	41.7	58.2	86.3	83.2	58.6	47.3	59.2	58.6
Base	81	72	45	50	21	20	20	19	14	22	17	16	17	14	15	11	8	68

	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
0%	9%	6%	2%	4%	--	--	29%	3%	17%
1-25%	13%	7%	24%	17%	8%	8%	5%	7%	15%
26-50%	23%	30%	18%	22%	31%	16%	9%	25%	20%
51-75%	17%	12%	11%	17%	27%	14%	28%	14%	15%
76-100%	38%	38%	40%	39%	34%	58%	29%	51%	31%
Average (including 0)	58.2	61.2	59.6	62.5	67.2	74.9	53.6	69.0	49.5
Base	212	66	54	50	29	37	37	49	105

QP6. Again, thinking about all of these learning activities or courses you took for your personal interests in 2019, before the pandemic, about how much of this took place online on the internet using a computer, a tablet, or a smartphone?

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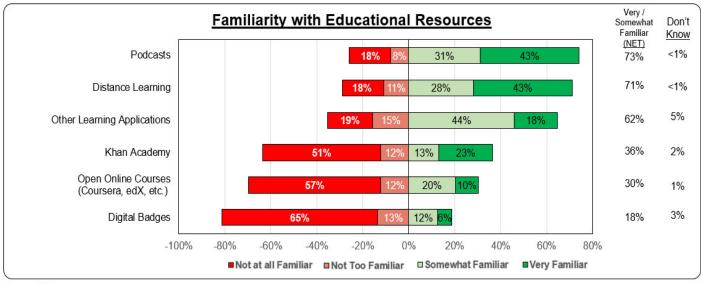
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PODCASTS AND DISTANCE LEARNING

Over 7 of 10 Hawaiʻi residents are very or somewhat familiar with Podcasts and Distance learning, the most popular resources, followed by other learning application (62%). The Khan Academy and Open Online Courses were next in familiarity (30-36%) followed distantly by Digital Badges (18%).

Familiarity with Educational Resources

	Not at all Familiar	Not Too Familiar	Somewhat Familiar	Very Familiar	Very / Somewhat Familiar (NET)	Don't Know
Podcasts	18%	8%	31%	43%	73%	<1%
Distance Learning	18%	11%	28%	43%	71%	<1%
Other Learning Applications	19%	15%	44%	18%	62%	5%
Khan Academy	51%	12%	13%	23%	36%	2%
Open Online Courses (Coursera, edX, etc.)	57%	12%	20%	10%	30%	1%
Digital Badges	65%	13%	12%	6%	18%	3%

Base: 893
QP9. I'm going to read you a list of educational resources and ask you to tell me how familiar, if at all, you are with each. Are you Very Familiar, Somewhat Familiar, Not Too Familiar or Not At All Familiar with...?

Older residents, those without a college degree, and those earning less than $100K in household income were generally less familiar with education resources. Residents located on Hawaiʻi, Maui, or Kauaʻi county also tended to be less familiar with these resources, particularly in Podcasts and the Khan Academy. Workers employed in Healthcare, Government, Education, or Legal services tended to be most familiar with online educational resources. Those in Building or Construction were most familiar with Open online courses. By occupation, Professionals were most familiar overall with these tools while those Not employed were least familiar. Those in Technical fields were most familiar with Open Online courses.

Very / Somewhat Familiar (NET)	TOTAL	GEOGRAPHY				AGE		
		Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Podcasts	73%	79%	60%	59%	63%	84%	75%	56%
Distance Learning	71%	72%	69%	66%	69%	75%	76%	58%
Other Learning Applications	62%	64%	53%	58%	67%	73%	62%	46%
Khan Academy	36%	40%	28%	30%	19%	58%	29%	15%
Open Online Courses (Coursera, etc.)	30%	32%	27%	24%	21%	40%	30%	16%
Digital Badges	18%	19%	16%	19%	18%	18%	23%	13%
Base	893	625	122	102	44	333	324	237

Very / Somewhat Familiar (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Podcasts	56%	80%	82%	63%	74%	83%	67%	84%	69%	83%	72%
Distance Learning	54%	77%	86%	60%	67%	87%	64%	83%	77%	63%	66%
Other Learning Applications	52%	68%	70%	51%	61%	73%	63%	73%	64%	48%	58%
Khan Academy	28%	35%	49%	23%	39%	46%	33%	47%	31%	26%	39%
Open Online Courses (Coursera, etc.)	18%	34%	34%	26%	32%	31%	25%	33%	27%	46%	28%
Digital Badges	12%	21%	23%	12%	19%	24%	19%	25%	18%	10%	17%
Base	281	300	273	277	339	277	166	155	207	93	272

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Very / Somewhat Familiar (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Podcasts	79%	84%	70%	80%	74%	66%	51%	86%	72%	92%	69%	53%	66%	84%	68%	92%	96%	84%
Distance Learning	80%	95%	83%	57%	69%	59%	55%	80%	86%	94%	49%	88%	57%	59%	54%	81%	94%	75%
Other Learning Apps	74%	66%	90%	66%	43%	57%	43%	67%	60%	81%	47%	60%	48%	69%	63%	77%	67%	63%
Khan Academy	46%	42%	72%	32%	16%	23%	13%	40%	34%	37%	15%	25%	20%	83%	39%	56%	43%	38%
Open Online Courses	33%	39%	27%	54%	21%	29%	12%	24%	11%	38%	31%	26%	16%	50%	34%	29%	29%	32%
Digital Badges	24%	22%	29%	15%	12%	8%	3%	42%	18%	50%	7%	7%	14%	38%	16%	30%	4%	24%
Base	115	83	67	60	36	34	30	28	27	23	21	20	19	17	17	15	13	82

Very / Somewhat Familiar (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Podcasts	82%	71%	75%	79%	72%	76%	76%	76%	52%
Distance Learning	88%	51%	83%	84%	62%	64%	61%	79%	55%
Other Learning Apps	77%	49%	51%	55%	91%	72%	51%	69%	51%
Khan Academy	52%	29%	30%	34%	57%	39%	21%	32%	23%
Open Online Courses	34%	22%	36%	31%	18%	49%	15%	36%	17%
Digital Badges	27%	11%	21%	23%	19%	23%	15%	14%	7%
Base	252	91	81	65	54	53	45	64	145

QP9. I'm going to read you a list of educational resources and ask you to tell me how familiar, if at all, you are with each. Are you Very Familiar, Somewhat Familiar, Not Too Familiar or Not At All Familiar with...?
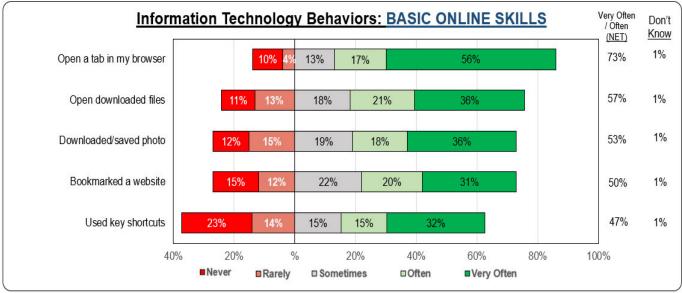
DIGITAL SKILLS:
ON-LINE BASIC, CREATIVE, & ECONOMIC
SKILLS (FOR EMPLOYMENT AND FOR FINANCE)

USE OF BASIC ONLINE SKILLS

About half or more residents use basic online skills very often or often, such as opening a downloaded file, saving a photo, and using a bookmark. Opening a tab in a browser (73%) was the most frequently cited skill, while using a key shortcut was the least used (47%).

Information Technology Behaviors: BASIC ONLINE SKILLS

	Very Often / Often (NET)	Don't Know
Open a tab in my browser — 10% 4% 13% 17% 56%	73%	1%
Open downloaded files — 11% 13% 18% 21% 36%	57%	1%
Downloaded/saved photo — 12% 15% 19% 18% 36%	53%	1%
Bookmarked a website — 15% 12% 22% 20% 31%	50%	1%
Used key shortcuts — 23% 14% 15% 15% 32%	47%	1%

Legend: ■ Never ■ Rarely □ Sometimes □ Often ■ Very Often

Base: 893
QX10. Either at work or at home, how frequently have you readily...? Would you say Very Often, Often, Sometimes, Rarely or Never?

Overall, those over 35 years old and residents located on the Neighbor Island were least likely to regularly use basic online skills. Households earning less than $100K and those without a college degree also tended to use these basic skills less frequently, particularly in opening a tab and bookmarking a site in a browser. Residents working in Transportation, Food Service, Maintenance, or Agriculture were likely to report lower levels of basic online skills compared to other industries. Blue Collar occupations, Self-employed, and those Not Employed also tended to report lower levels of online skills.

Very Often / Often (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Open a tab in my browser	73%	77%	66%	59%	64%	82%	76%	56%
Open downloaded files	57%	62%	47%	40%	54%	71%	55%	40%
Downloaded/saved photo	53%	58%	48%	37%	46%	65%	52%	38%
Bookmarked a website	50%	55%	43%	36%	38%	52%	53%	44%
Used key shortcuts	47%	52%	34%	35%	39%	63%	48%	24%
Base	893	625	122	102	44	333	324	237

Very Often / Often (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Open a tab in my browser	61%	77%	86%	56%	75%	86%	70%	84%	69%	61%	74%
Open downloaded files	50%	56%	64%	46%	62%	63%	52%	72%	43%	68%	58%
Downloaded/saved photo	45%	55%	58%	46%	55%	58%	45%	64%	47%	59%	56%
Bookmarked a website	34%	61%	59%	39%	54%	57%	51%	58%	43%	39%	55%
Used key shortcuts	41%	49%	50%	41%	47%	55%	40%	60%	40%	58%	47%
Base	281	300	273	277	339	277	166	155	207	93	272
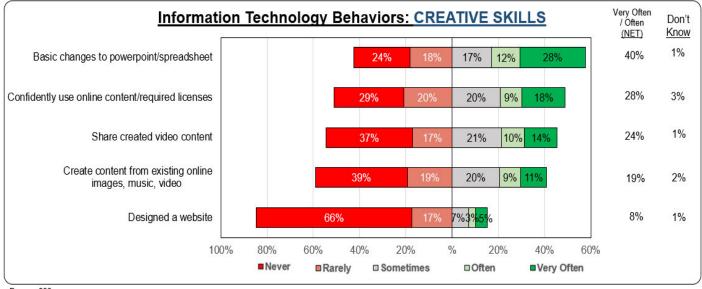
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Very Often / Often (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Con-struction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Open a tab in my browser	94%	92%	91%	76%	76%	71%	66%	84%	42%	99%	71%	95%	45%	89%	59%	79%	80%	62%
Open downloaded files	75%	72%	72%	58%	51%	54%	47%	69%	36%	66%	80%	49%	27%	77%	22%	78%	65%	51%
Downloaded/saved photo	43%	68%	69%	62%	50%	57%	52%	67%	36%	62%	49%	48%	40%	67%	33%	39%	83%	51%
Bookmarked a website	58%	62%	73%	37%	54%	67%	51%	76%	15%	67%	28%	43%	63%	78%	24%	75%	72%	56%
Used key shortcuts	66%	58%	49%	56%	32%	38%	26%	62%	45%	63%	45%	49%	28%	79%	28%	72%	42%	49%
Base	81	72	45	50	21	20	20	19	14	22	17	16	17	14	15	11	8	68

Very Often / Often (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Open a tab in my browser	91%	58%	87%	84%	84%	95%	37%	71%	49%
Open downloaded files	62%	43%	74%	73%	77%	87%	31%	43%	35%
Downloaded/saved photo	53%	51%	68%	62%	69%	73%	28%	47%	40%
Bookmarked a website	56%	27%	74%	62%	80%	84%	42%	44%	26%
Used key shortcuts	59%	37%	59%	48%	44%	74%	28%	44%	24%
Base	212	66	54	50	29	37	37	49	105

QX10. Either at work or at home, how frequently have you readily....? Would you say Very Often, Often, Sometimes, Rarely or Never?

CREATIVE ON-LINE SKILLS

Although many users have strong confidence in their digital abilities, fewer than half use creative skills online very or somewhat often. Updating a power point/spreadsheet was the most popular skill (40%) while all other skills were reported by less than a third of all residents.

Information Technology Behaviors: CREATIVE SKILLS

	Never	Rarely	Sometimes	Often	Very Often	Very Often / Often (NET)	Don't Know
Basic changes to powerpoint/spreadsheet	24%	18%	17%	12%	28%	40%	1%
Confidently use online content/required licenses	29%	20%	20%	9%	18%	28%	3%
Share created video content	37%	17%	21%	10%	14%	24%	1%
Create content from existing online images, music, video	39%	19%	20%	9%	11%	19%	2%
Designed a website	66%	17%	7%	3%	5%	8%	1%

Base: 893
QX10. Either at work or at home, how frequently have you readily...? Would you say Very Often, Often, Sometimes, Rarely or Never?

Age and education were the primary factors in creative online skills with older residents and those with a high school degree or less reporting less use of these online skills.

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Employees in Transportation, Maintenance, and Agriculture were least likely to report using Creative online skills compared to those in other industries. Residents in Blue Collar occupations and those Not Employed also tended to use less Creative online skills.

Very Often / Often (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Basic changes to powerpoint /spreadsheet	40%	46%	24%	27%	25%	48%	44%	22%
Confidently use online content/required licenses	28%	29%	30%	21%	20%	32%	31%	19%
Share created video content	24%	26%	19%	19%	18%	35%	24%	8%
Create content from existing online images, music, video	19%	21%	19%	13%	17%	26%	21%	8%
Designed a website	8%	10%	3%	5%	4%	11%	7%	5%
Base	893	625	122	102	44	333	324	237

Very Often / Often (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Basic changes to powerpoint/spreadsheet	29%	44%	50%	22%	44%	52%	33%	54%	36%	32%	41%
Confidently use online content/required licenses	19%	36%	31%	26%	27%	30%	27%	33%	24%	24%	30%
Share created video content	32%	19%	24%	20%	25%	28%	13%	14%	24%	27%	37%
Create content from existing online images, music, video	17%	17%	25%	15%	20%	23%	11%	10%	28%	21%	22%
Designed a website	8%	11%	6%	7%	9%	8%	6%	3%	7%	5%	14%
Base	281	300	273	277	339	277	166	155	207	93	272

Very Often / Often (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Trans-port	Other Service	Food Service	Legal	Real Estate	Finan-cial Banking	Maint-enance	IT Tech	Agri-culture	Non-Profit	Manu-facture	Other
Basic changes powerpoint/spreadsheet	36%	60%	73%	24%	34%	34%	20%	65%	28%	60%	43%	46%	24%	76%	14%	65%	36%	39%
Online required licenses	33%	31%	25%	19%	18%	36%	30%	49%	19%	19%	41%	36%	8%	75%	25%	58%	4%	39%
Share created video content	13%	28%	38%	37%	20%	17%	15%	46%	27%	29%	47%	9%	7%	32%	9%	50%	34%	31%
Create content from existing online assets	9%	25%	47%	22%	18%	31%	9%	41%	26%	33%	27%	6%	11%	11%	5%	53%	41%	12%
Designed a website	9%	7%	8%	1%	5%		1%	29%	19%	21%				58%	10%	1%	4%	12%
Base	81	72	45	50	21	20	20	19	14	22	17	16	17	14	15	11	8	68

| Very Often / Often (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Basic changes powerpoint/spreadsheet	50%	21%	55%	48%	64%	56%	13%	31%	25%
Online required licenses	33%	16%	38%	38%	28%	41%	35%	31%	15%
Share created video content	17%	33%	27%	35%	55%	16%	42%	18%	19%
Create content from existing online assets	20%	17%	23%	26%	62%	19%	3%	18%	8%
Designed a website	5%	5%	17%	7%	19%	14%	20%	2%	5%
Base	212	66	54	50	29	37	37	49	105

QX10. Either at work or at home, how frequently have you readily....? Would you say Very Often, Often, Sometimes, Rarely or Never?
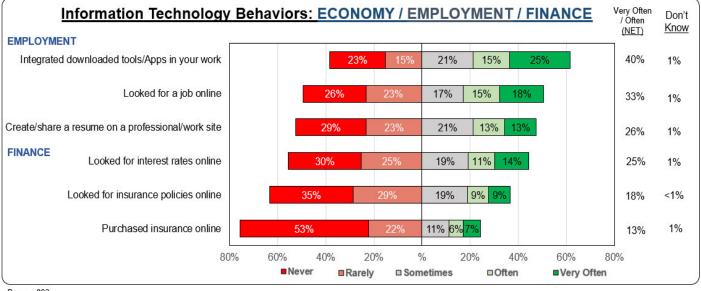
ONLINE TOOLS FOR ECONOMIC UNDERTAKING: EMPLOYMENT OR FINANCE

Between 26 – 40 percent regularly utilize online tools in their work or search for employment, these proportions were in line with those who use these tools for creative purposes. Among finance options, few residents use these tools, with a quarter or fewer reporting regular use in this area.

Information Technology Behaviors: ECONOMY / EMPLOYMENT / FINANCE

	Very Often / Often (NET)	Don't Know
EMPLOYMENT		
Integrated downloaded tools/Apps in your work	23% / 15% / 21% / 15% / 25%	40%	1%
Looked for a job online	26% / 23% / 17% / 15% / 18%	33%	1%
Create/share a resume on a professional/work site	29% / 23% / 21% / 13% / 13%	26%	1%
FINANCE		
Looked for interest rates online	30% / 25% / 19% / 11% / 14%	25%	1%
Looked for insurance policies online	35% / 29% / 19% / 9% / 9%	18%	<1%
Purchased insurance online	53% / 22% / 11% / 6% / 7%	13%	1%

Legend: Never / Rarely / Sometimes / Often / Very Often

Base: 893
QX10. Either at work or at home, how frequently have you readily…? Would you say Very Often, Often, Sometimes, Rarely or Never?

Residents over 54 years old were significantly less likely to use online tools for employment or finance. There were few differences by income or educational backgrounds. Those with Native Hawaiian ancestry were more likely to regularly use these tools in employment compared to other ethnicities. Workers in Tourism, Transportation, and Agriculture were least likely to use online skills for employment/financial reasons. Blue Collar workers, Self-employed, and those Not Employed were also less likely to use these skills online.

Very Often / Often (NET)		GEOGRAPHY				AGE		
	TOTAL	Oahu	Hawaii	Maui	Kauai	18-34	35-54	55-65
Integrated downloaded tools/Apps in your work	40%	43%	36%	24%	34%	51%	43%	18%
Looked for a job online	33%	35%	29%	26%	31%	48%	31%	13%
Create/share a resume on a professional/work site	26%	29%	21%	20%	22%	39%	23%	13%
Looked for interest rates online	25%	27%	18%	20%	23%	34%	24%	15%
Looked for insurance policies online	18%	18%	15%	17%	17%	22%	17%	12%
Purchased insurance online	13%	14%	10%	11%	10%	13%	16%	8%
Base	893	625	122	102	44	333	324	237

Very Often / Often (NET)	EDUCATION			INCOME			ETHNICITY				
	HS or Less	Business/ Some College	College / Post	<$50K	$50K - $100K	$100K+	Caucasian	Japanese	Hawaiian	Filipino	Other
Integrated downloaded tools/Apps in your work	37%	42%	43%	35%	39%	46%	27%	44%	38%	29%	50%
Looked for a job online	27%	40%	33%	33%	36%	29%	21%	47%	35%	29%	31%
Create/share a resume on a professional/work site	24%	30%	27%	27%	21%	32%	15%	39%	25%	22%	29%
Looked for interest rates online	19%	32%	25%	16%	29%	29%	18%	29%	28%	22%	26%
Looked for insurance policies online	17%	20%	16%	11%	21%	19%	15%	18%	19%	13%	19%
Purchased insurance online	17%	10%	13%	7%	15%	15%	16%	8%	9%	11%	17%
Base	281	300	273	277	339	277	166	155	207	93	272

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Very Often / Often (NET)	INDUSTRY																	
	Health	Gov	Edu	Building Construction	Tourism	Retailing	Transport	Other Service	Food Service	Legal	Real Estate	Financial Banking	Maintenance	IT Tech	Agriculture	Non-Profit	Manufacture	Other
Integrated Apps at work	42%	50%	60%	46%	24%	28%	29%	66%	33%	48%	38%	32%	42%	73%	35%	62%	55%	44%
Looked for a job online	46%	36%	46%	20%	40%	28%	31%	22%	36%	46%	29%	23%	35%	36%	31%	65%	58%	28%
Create/share a resume on a site	33%	38%	41%	14%	23%	26%	19%	37%	32%	34%	13%	16%	24%	65%	31%	58%	--	20%
Looked for interest rates online	17%	34%	46%	18%	32%	21%	27%	56%	27%	33%	58%	25%	14%	43%	5%	15%	35%	22%
Looked for insurance policies online	9%	27%	38%	18%	10%	5%	18%	33%	5%	33%	6%	23%	11%	31%	8%	3%	57%	28%
Purchased insurance online	6%	20%	28%	11%	6%	4%	4%	39%	14%	33%	3%	18%	11%	31%	8%	8%	40%	15%
Base	81	72	45	50	21	20	20	19	14	22	17	16	17	14	15	11	8	68

Very Often / Often (NET)	OCCUPATION								
	Professional	Blue Collar	Administrative Clerical	Management	Sales	Technical	Self-employed	Other	Not Employed/ Retired/ Homemaker
Integrated Apps at work	44%	31%	53%	52%	58%	57%	36%	35%	22%
Looked for a job online	36%	18%	60%	35%	42%	47%	11%	35%	23%
Create/share a resume on a site	29%	17%	44%	23%	59%	33%	12%	28%	15%
Looked for interest rates online	30%	21%	24%	34%	56%	30%	4%	32%	10%
Looked for insurance policies online	17%	6%	25%	25%	42%	38%	4%	20%	6%
Purchased insurance online	11%	6%	12%	24%	35%	24%	20%	12%	5%
Base	212	66	54	50	29	37	37	49	105

QX10. Either at work or at home, how frequently have you readily…? Would you say Very Often, Often, Sometimes, Rarely or Never?

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APPENDICES

Appendix 1. Ho'oikaika Framework for Hawaii Digital Literacy and Readiness

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Sample Demographics

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Literature Search Materials

Briefing by Dr. Irwin Kirsch

Appendix 1. Hoʻoikaika Framework for Hawaii Digital Literacy and Readiness

Appendix 2. Ho'oikaika Framework for Hawaii Digital Transformation (Three Stages)
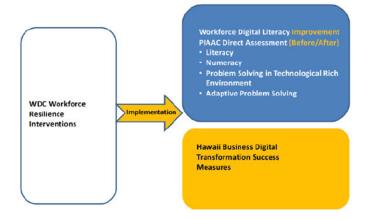
Ho'oikaika Framework for Hawaii Digital Transformation
—Employer Survey Stage (Future plan)

Sampling Hawaii's Businesses (employee size, firm age, family ownership, revenue, market orientation, CUSIP, product, stage of digital transformation)

Standardization

PIAAC Employer Survey
- Skills needs of enterprises
- Strategies to address skill gaps
- Business factors affecting demand for skills

Adaptation
Hawaii and WDC Measures:
- Skills uniquely needed for Hawaii Workforce
- Hawaii Business Environment Challenge and Opportunities
- Strategies to address Hawaii workforce resilience and competitiveness

Ho'oikaika Framework for Hawaii Digital Transformation
—Experimentation Stage (Future plan)

WDC Workforce Ho'oikaika & Resilience Interventions Design (to increase participation, follow-through, and Satisfaction)

Experiments

WDC Intervention Participation

WDC Intervention Satisfaction

WDC Intervention Success

Ho'oikaika Framework for Hawaii Digital Transformation
—Implementation Stage (Future plan)

WDC Workforce Resilience Interventions

Implementation

Workforce Digital Literacy Improvement
PIAAC Direct Assessment (Before/After)
- Literacy
- Numeracy
- Problem Solving in Technological Rich Environment
- Adaptive Problem Solving

Hawaii Business Digital Transformation Success Measures

Blue: standardized measures that could benchmark with PIAAC or Pew survey
Orange: adapted measures that are uniquely designed for Hawaii workforce

Appendix 3. Increasing need of Digital Transformation

Digital Transformation Remains Top-of-Mind

Earnings calls of U.S. public companies on which "digital transformation" was mentioned.

500 2016 → +120% → **1,100** 2020

Figure 2

Source: Bloomberg. Data through 8/15 of each year.

Business Value of AI

No matter the industry, companies will realize more business value from AI than from other analytics techniques. Here's how much more:

Industry	Value
Travel	128%
Transport and logistics	89%
Retail	87%
Automotive and assembly	85%
High tech	85%
Oil and gas	79%
Chemicals	67%
Media and entertainment	57%
Basic materials	56%
Agriculture	55%
Consumer packaged goods	55%
Banking	50%
Healthcare systems and services	44%
Public and social sectors	44%
Telecommunications	44%
Pharmaceuticals and medical products	39%
Insurance	38%
Advanced electronics/ semiconductors	38%
Aerospace and defense	30%

Figure 3

Source: Notes from the AI Frontier, McKinsey Global Institute, April 2018.

Appendix 4. Six building blocks industrials can use for digital transformation (adopted from Angevine, Keomany, Thomsen, and Zemmel 2021).

Six building blocks can help industrials succeed at digitization.

Building blocks of digital transformation

1	2	3	4	5	6
Create a business-led technology road map	**Develop and upskill talent**	**Adopt an agile delivery methodology**	**Shift to a modern technology environment**	**Focus on data management and enrichment**	**Drive the adoption and scaling of digital initiatives**
Develop and align on a digital vision for the organization, always considering the impact on distributors	Identify talent needs and strategies for filling any gaps. Create new organizational structures to integrate digital talent, and leverage digital learning programs, technology, and external sources to develop talent	Rapidly test digital campaigns and make revisions based on insights gleaned from the field	Create new technology that covers areas including commerce backbone services, front ends, and integration architecture	Consider data-related issues in strategic road maps, such as architecture requirements, and identify specific use cases that will benefit from analytics	Scale change across the organization, with a focus on product, service, and order fulfillment; commercial strategy and execution; and customer service and transactions

McKinsey & Company

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Appendix 5. Disruptive Technologies in Digital Transformation Implementations (adopted from Ebert and Duarte 2018).

Table 2. Disruptive Technologies Adopted in DX Implementations

Technology type	Inherent nature and attributes	Disruption and significance	Early-adopter experience	Adopted technology	Ease of adoption	No. of alternatives
						URLs
Collaborative equipment (drones and robots)	Hardware capable of limited interactivity with moving parts and remote or embedded controls having typical sensor or actuator functions in heavy industry, space, or military applications	Adoption of cognitive computing expanded this technology's applicability from routine tasks to those requiring adaptability or autonomy, enabling its commercial use in precision agriculture, logistics, consumable-product industries, and services.	Alibaba manages retail warehouses in China using teams of unmanned shelf-carrying robots, which load and unload at multifunctional workstations.	Quicktron self-charging robots with QR code readers, laser or LIDAR anti-collision sensors, adaptive routing, and Wi-Fi connectivity with back-end software	Hard	Few
					http://translate.google.com/translate?js=n&sl=auto&tl=en&u=http://www.flashhold.com/page/16.htm	
Additive manufacturing and 3D printing	3D object creation from digital models, using printer heads driven by software-controlled stepper motors, for polymerization, jetting, extrusion, fusion, lamination, or deposition	Advances in image processing, precision mechanics, and new materials decreased the price of printers and printed objects, making them accessible to businesses and consumers for rapid prototyping and small-scale or customizable production.	BioArchitects supplies FDA-certified 3D prostheses to customers in Brazil and the US, for training doctors and planning surgery procedures.	GE Arcam machines, which support additive high-power Electron Bean Melting production of titanium prostheses from CAD models generated using diagnostic-imaging exams	Hard	Very few
					http://www.arcam.com/products/arcam-q10	
IoT connected devices	Hardware with embedded digital electronics, software, and network connectivity enabling its unique identification, data collection, and data exchange	Implementation of IPv6 and reduced device costs enabled the massive dissemination of connected devices in machine-to-machine transactions and the IoT.	Volkswagen uses an IoT solution based on RFID tags to manage supply chain traceability in factories worldwide.	A Kathrein IoT distributed antenna system with customized software and standardized UHF RFID tags and transponders to ensure end-to-end order traceability	Hard	Some
					https://www.kathrein-solutions.com/solutions/logistics	
Agile development	Software development based on adaptive planning, evolutionary development, early delivery, and continuous improvement through collaboration of self-organizing cross-functional teams	Rapid-prototyping development evolved to widespread agile development owing to user involvement and rapid compliance with requirements, time-to-market reduction, and early value delivery.	Lloyds Bank adopted design thinking, agile methods, and a cloud-based microservice architecture to break down the transformation of 10 customer journeys, which paid back in three years.	IBM Bluemix, a hybrid cloud platform-as-a-service architecture, used to support Scrum and a minimum-viable-product development methodology	Medium	Very many
					https://www.ibm.com/cloud-computing/bluemix	
Blockchain or Hyperledger	Continuously growing lists of decentralized information blocks, linked and secured through cryptography, used in recording financial transactions between parties efficiently, verifiably, and permanently	This technology has been disseminated to many other application domains that require secure fault-tolerant event record management, such as the arts, law, accounting, commerce, and healthcare.	A blockchain open source platform has been used to manage things ranging from World Food Program vouchers for Syrian refugees to a collaborative decentralized news network.	The Ethereum blockchain app platform, a decentralized framework with programmable virtual-machine and peer-to-peer protocols for defining and running distributed secure transactions	Medium	Some
					https://www.ethereum.org	
Open APIs and microservices	APIs and distributed services allowing system architectures to be structured in modular and open configurations	This technology's use in developing enterprise application ecosystems out of business functionalities, with decoupled deployment and operation, maximizes value for money.	Equinix Cloud Exchange provides cross-cloud application integration and scalable services by using an open-API platform.	Google Apigee, a Java-based service platform to develop, deliver, manage, and analyze APIs via their proxies	Easy	Many
					http://www.apigee.com	
AI	A set of algorithmic tools for data analysis, representation, inference, deduction, and heuristics-based behavior	The coupling of AI to big data, cloud computing, natural-language processing, computer vision and voice recognition enabled scalable resolution of real problems in many application domains.	Telefonica launched its AURA AI service to help customers with any bureaucratic, communication, and interactive-content demand.	The Microsoft Bot Framework and LUIS, the respective IDE for creating and deploying software robots and natural-language-understanding integrated services	Easy	Many
					https://dev.botframework.com https://www.luis.ai/home	

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Figure 1. Exploratory Factor Analysis & Reliability Test

Exploratory Factor Analysis: Rotated Component Matrix*

(Digital Literacy/Skill and Digital Use Dimensions)	1	2	3	4	5	6
BASIC/ OPERATIONAL SKILLS						
Opened files downloaded from the internet	.74					
Downloaded and saved a photo from the internet	.63					
Used shortcut keys	.68					
Opened a new tab in my browser	.75					
Bookmarked a website	.72					
CREATIVE SKILLS						
Created something from existing online images, music or video				.73		
Made basic changes to powerpoint, spreadsheet or word file someone else created	.59					
Designed a website						
Used online content confidently, knowing what licenses are required to use	.52					
Felt confident sharing video content you created online				.78		
ECONOMY/EMPLOYMENT						
Integrated downloaded tools or applications into the way you work						
Looked for a job online						.85
Created/shared a CV or resume on a professional and work-related site						.80
ECONOMY/FINANCE						
Looked for information on insurance policies online			.84			
Purchased any type of insurance online			.79			
Looked for interest rate information online			.74			
INFORMATION/NAVIGATION SKILLS						
It's hard to decide what are the best keywords to use for online searches		.76				
It's often hard to find a website visited before		.75				
Looking for information online is tiring		.77				
Sometimes it's not clear how you end up at a certain website		.77				
Many website designs are confusing and hard to navigate		.71				
SOCIALSKILLS						
It's clear which information a user should and shouldn't share online					.75	
It's clear when to share or not share information online					.80	
When on the internet, it's important to be careful that comments or behaviors are appropriate to the online situation						
Changing who you share content with online is easy for you to do					.65	
If needed, removing friends from contact lists is easy for you to do						
Reliability Test (Cronbach's Alpha):	.85	.83	.80	.78	.66	.81 (after delete #1)
Extraction Method: Principal Component Analysis *Rotation Method: Varimax with Kaiser Normalization*						

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Figure 2. Compound Digital Divide

Descriptive Statistics and Correlation Matrix

	1	2	3	4	5	6
1. Basic/Operational Skills	1.000					
2. Creative Skills	.63**	1.000				
3. Social Skills	.10**	.19**	1.000			
4. Information/Navigation Skills	-.35**	-.17*	.05	1.000		
5. Employment Use	.45**	.45**	.10**	-.15**	1.000	
6. Finance Use	.43**	.39**	.07*	-.24*	.39**	1.000
Mean	3.57	2.47	4.33	2.87	2.70	2.26
Standard Deviation	1.14	1.06	.76	1.20	1.33	1.12

**p < .01, *P<.05, two-tailed tests

Digital Literacy/Skills	Dependent Variables			
	Employment Use		Finance Use	
	Model 1	Model 2	Model 1	Model 2
Basic/Operational Skills	.320** (.046)	.257** (.046)	.259** (.040)	.202** (.040)
Creative Skills	.342** (.048)	.288** (.048)	.221** (.041)	.160** (.041)
Social Skills	.046 (.052)	.043 (.051)	.011 (.045)	.003 (.044)
Information Navigation Skills	-.013 (.035)	.013 (.034)	-.106** (.030)	-.104** (.029)
Employment Use				.177** (.028)
Finance Use		.242** (.038)		
Constant	.553* (.299)	.298 (.275)	1.05** (.237)	.954** (.233)
F value	73.81**	69.59**	64.06**	61.45**
R^2	.250**	.282**	.224**	.257**
Adjusted R^2	.246**	.278**	.220**	.253**
R^2 Change		.032		.033
F change		39.80**		39.80**

Standard Errors are in parentheses. Two-tailed test results, ** $p < .01$, * $p < .05$

Figure 3. Sequential Digital Divide

| Digital Literacy/Skills | Dependent Variables | | | | | | | |
| | Employment Use | | | | Finance Use | | | |
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Basic/Operational Skills	.360** (.053)	.295** (.053)	.260** (.054)	.232** (.056)	.285** (.046)	.220** (.047)	.194** (.048)	.228** (.049)
Creative Skills	.376** (.052)	.324** (.052)	.300** (.052)	.296** (.052)	.229** (.046)	.162** (.047)	.146** (.047)	.147** (.047)
Social Skills	.054 (.059)	.046 (.058)	.033 (.058)	.021 (.058)	.037 (.052)	.027 (.051)	.018 (.051)	.034 (.051)
Information Navigation Skills	.086* (.038)	.111** (.038)	.121** (.037)	.138** (.039)	-.111** (.034)	-.126** (.033)	-.117** (.033)	-.139** (.034)
Employment Use						.179** (.032)	.166** (.032)	.170** (.032)
Finance Use		.228** (.041)	.212** (.041)	.218** (.041)				
Digital Readiness (Proxy)			.104** (.032)	.096** (.032)			.079** (.029)	.088** (.029)
Digital Confidence				.129$^{\#}$ (.072)				-.172** (.064)
Constant	.022 (.319)	-.178 (.315)	-.241 (.314)	-.575 (.365)	.872** (.282)	.868** (.277)	.809** (.276)	1.247** (.320)
F value	63.253**	58.985**	51.517**	44.743**	47.97**	46.26**	40.18**	35.77**
R^2	.254**	.285**	.295**	.298**	.206**	.238**	.246**	.253**
Adjusted R^2	.250**	.280**	.289**	.291**	.201**	.233**	.240**	.246**
R^2 Change		.030	.010	.003		.032	.008	.007
F change		31.50**	10.43**	3.18$^{\#}$		31.50**	7.68**	7.27**

Standard Errors are in parentheses. Two-tailed test results, ** $p < .01$, * $p < .05$, $^{\#} p < .10$

Figure 3'. Sequential Digital Divide (adding digital readiness proxy in Model 3 and digital confidence in Mode

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Sample Demographics

Demographics (1 of 3)

AGE	
18-34	37%
35-44	21%
45-54	15%
55-65	27%
Average (Year Old)	41.6
ETHNICITY	
Native Hawaiian	22%
Caucasian	18%
Japanese	17%
Mixed (NOT Hawaiian)	9%
Filipino	8%
Hispanic	5%
Korean	3%
Chinese	3%
African-American	2%
Other Asian	2%
Portuguese	2%
Other Polynesian	1%
Samoan	0%
Native American	0%
Other	2%
Refused	7%
Base	893

INCOME	
$21,000 but less than $35,000	19%
$35,000 but less than $50,000	12%
$50,000 but less than $75,000	19%
$75,000 but less than $100,000	19%
$100,000 but less than $150,000	19%
$150,000 and over	12%
EDUCATION	
Less Than High School	5%
High School Graduate	32%
Business/Trade school	4%
Some College	10%
College Graduate	28%
Post Graduate	11%
Don't Know	4%
Refused	5%
GEOGRAPHY	
Oahu	70%
Hawaii	14%
Maui	11%
Kauai	5%
Base	893

OCCUPATION	
Professional	28%
Blue Collar (laborer/farmer/construction, etc.)	10%
Administrative/Clerical	9%
Management	7%
Technical	6%
Sales	6%
Self-employed	5%
Partner/Owner/Proprietor	2%
Service for hotel/restaurant, etc.	2%
Homemaker/Caregiver	2%
White collar	1%
Students	1%
Chairman/President/CEO/Executive	<1%
Retired	9%
Not Employed	5%
Refused	5%
NUMBER OF JOBS IN 2019	
0	10%
1	63%
2	21%
3+	4%
Refused	3%
Average	1.3
Base	893

INDUSTRY	
Health	15%
Government	11%
Education (Non-government/private)	9%
Construction / Building	8%
Refused	6%
Self-employed	5%
Tourism	5%
Retailing	5%
Transportation	4%
Other Service	4%
Food Service	4%
Legal / Law / Enforcement / Security	3%
Real Estate	3%
Financial services / banks	3%
Maintenance	3%
Computer / Technology	2%
Agriculture	2%
Non-Profit	2%
Manufacturing / Distribution	2%
Other	1%
Telecommunications	1%
Electric / Gas	1%
Student	1%
Marketing	1%
Entertainment/Arts	1%
Military	<1%

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YEARS IN HAWAII	
Less than one year	0%
One year but less than 5 years	2%
Five years but less than 10 years	4%
Ten years but less than 20 years	11%
Twenty years or more	19%
Born and raised in Hawai'i	59%
Refused	4%
ORIGIN OF BIRTH	
Born and raised in Hawai'i	59%
U.S. (incl territories)	32%
Another country	9%
FIRST LANGUAGE	
English	89%
Other	11%
GENDER	
Male	52%
Female	48%
LIVE WITH GRANDPARENTS	
Yes	19%
No	81%
Base	893

PARENTS' EDUCATION	
Less Than High School	5%
High School Graduate	32%
Business/Trade school	4%
Some College	10%
College Graduate	28%
Post Graduate	11%
Don't Know	4%
Refused	5%
CHILDREN IN HOUSEHOLD	
1	13%
2	25%
3	21%
4	18%
5+	17%
Refused	6%
Average (# of people)	3.2
MARITAL STATUS	
Single, never married	42%
Married	39%
Divorced, separated, widowed	13%
Domestic Partnership	2%
Refused	4%
Base	893

Study Questionnaire

STATEWIDE DIGITAL SURVEY
JUNE 2021

CATI INTRODUCTION
Good afternoon/evening, I'm ___ from OmniTrak Group Inc., a professional research company in Honolulu. We are interested in Hawai'i resident's attitudes toward various issues, and I'd like to ask you a few questions if I may. All of your answers will be kept confidential, of course. First…

[READ IF NECESSARY]
We're not selling anything. We are just interested in your opinions, and your answers will be kept strictly confidential.

May I proceed?

This call may be monitored or recorded for quality control purposes.

SAFETY QUESTIONS
[ASK OF MOBILE SAMPLE ONLY]

QP1.   First, have you received this call on your wireless (cellular) phone or landline phone?

    1=Landline   ➔**[SKIP TO QA]**
    2=Cellular   ➔**[CONTINUE]**

QP2.   Are you currently driving?

    1=Yes   ➔**[CONTINUE]**
    2=No   ➔**[SKIP TO QA]**

QP3.   Are you using a hands-free device for this call?

    1=Yes   ➔**[SKIP TO QA]**
    2=No   ➔**[CONTINUE]**

QP4.   I'm sorry but due to safety concerns, we will need to call you while you are not driving. Can we call you back at a later time and at this same number?

    1=Yes   ➔**[SCHEDULE CALL BACK]**
    2=No   ➔**[DO NOT CALL BACK]**

Again, thank you so much for taking the time to talk to us. We truly appreciate your opinions.   *To begin…….*

QA   What was your age on your last birthday? ☐☐ **[IF <18 or >65 YEARS, THANK & TERMINATE]**

[IF REFUSED]
        Is your current age **[READ LIST]**

        18-34 years of age...1 **[CONTINUE]**
        35-44 years of age...2 **[CONTINUE]**
        45-54 years of age...3 **[CONTINUE]**
        55-65 years of age...4 **[CONTINUE]**
        66+ years of age...5 **[THANK & TERMINATE]**
        REFUSED ....9 **[THANK & TERMINATE]**

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QB   Are you a resident of the State of Hawai'i for more than 6 months a year?

          Yes................................ 1 **[CONTINUE]**
          No .... 2 **[THANK & TERMINATE]**

QC.   Which island do you reside?
          O'ahu 1
          Maui..2
          Kaua'i...3
[IF HAWAII ISLAND, PROBE FOR EAST OR WEST]
          Big Island (Hawai'i Island) **EAST** 4
          Big Island (Hawai'i Island) **WEST**....................................5
          Other Big Island Areas 6
          Other Hawaiian Island (Molokai or Lanai) 7
          Other..8– **[THANK & TERMINATE]**

QD.   Do you or does anyone in your household work in/for a **[INSERT]**?
          [ASK ALL BEFORE TERMINATNG]

          Research company.............................1 – **[THANK & TERMINATE]**
          Government agency ....2 – **[CONTINUE]**
          Media/Advertising/PR ....3 – **[THANK & TERMINATE]**
          Other..4 – **[CONTINUE]**

QE.   Are you or any member of your immediate household active duty military?

          Yes................................ 1 **[THANK & TERMINATE]**
          No .... 2 **[CONTINUE]**

DF.   Which of the following broad categories includes your household's total annual income from all sources before
          taxes for 2020? Just stop me when I come to the correct category?

          Less than $15,000...1– **[THANK & TERMINATE]**
          $15,000 but less than $21,000.....................................2– **[THANK & TERMINATE]**
          $21,000 but less than $35,000.....................................3
          $35,000 but less than $50,000.....................................4
          $50,000 but less than $75,000.....................................5
          $75,000 but less than $100,000...................................6
          $100,000 but less than $150,000.................................7
          $150,000 and over..8
          [DON'T KNOW]...98– **[THANK & TERMINATE]**
          [REFUSED] ....99– **[THANK & TERMINATE]**

To begin….

QP1.   Do you…**[INSERT]**? **[MULTIPLE MENTIONS ALLOWED]**

          Subscribe to "dial-up" internet service a home...............................1
          Subscribe to higher-speed broadband internet service at home ...2
          Use your cellular phone as a "hotspot" for internet access............3
          Use another means of internet access in my home.......................4
          NONE OF THE ABOVE 5

[IF DIAL UP "1" IN QP1, ASK]

QP1.a. Just to confirm, you use a dial-up connection to the internet at home and not a higher-speed broadband connection?

Yes................................ 1 **[SKIP TO**
No .... 2 **[CONNTINUE]**

[IF HIGHER SPEED BROADBAND "2" IN QP1 OR NO IN QP1a ASK]

QP1.b. And is your subscription **[INSERT]**?

DSL...1
Cable 2
Fiber Optic Service 3
DON'T KNOW 9

QP2.A. Which, if any of the following do you have at home? Do you have **[INSERT]**?
[MULTIPLE MENTIONS ALOWED]

A computer of any type 1
A digital device with an internet connection, e.g. Ipad, tablet, etc. 2
Smart phone with internet connection, apps, many functions
    of a computer 3
Cellular/mobile phone but without computer functions..................4

QP3.   Now' I'd like read you some questions about how you approach different situations when you want to learn something new. First, **[READ STATEMENT]**   How well does the statement **[INSERT]** describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

Very Well 4
Somewhat Well..3
Not too Well 2
Not Well at All 1
DK/REFUSED 9

ROTATE ATTRIBUTES	Rating
I find myself looking for new opportunities to grow as a person.	☐
I am not the type of person who feels the need to probe deeply into new situations or things.	☐
I like to gather as much information as I can when I come across something that I am not familiar with.	☐
I am easily distracted when I try to concentrate.	☐
I am really glad I am no longer in school and don't have to go to classes anymore.	☐
I think of myself as a lifelong learner	☐

QP4.A Next, I have a few questions related to your personal interests, outside of a job. work. This might include interests related to a hobby, your home, health, religion, your community of other areas of personal interest to you. In the year **2019, before the pandemic,** did you **[INSERT]**? **[MULTIPLE MENTIONS ALLOWED]**

ROTATE ATTRIBUTES	Yes
Take a course related to your personal interest or hobbies	1
Read "how-to" magazines, consumer magazines, or other publications related to some area of personal interest	2
Attend a meeting where you learned new information such as a book club, a sports club, arts club or a health-related support group	3
Attend a convention or conference where you learned about something of personal interest, like a garden show, a car show, a science fiction convention, or a music conference	4
Take an online course	5
Engage in online learning, other than a formal course (e.g. Youtube, free online presentation/webinar or DIY website)	6

[IF YES TO ANY IN QP4.A, ASK]

QP4.B Thinking about all of the activities you said you did in **2019, before the pandemic,** about how much time in total did you spend on these personal interest activities. **[PROBE AS NEEDED AND RECORD]**

☐☐ Hours   ☐☐ Days   ☐☐ Weeks

QP5. Thinking about the learning activities or courses you have taken for **personal interest**, where did these learning activities take place? Did you do this **[INSERT]**

ROTATE ATTRIBUTES	Yes
At a library	1
At a high school, community college, or university	2
At a community center	3
At a church, temple, synagogue or other religious center	4
On the internet	5
At some other place I have not mentioned	6

[IF "OTHER PLACE" MENTIONED, ASK]

QP5.A Where was that specifically? **[PROBE AND RECORD]** _____

QP6. Again, thinking about all of these learning activities or courses you took for your personal interests in **2019, before the pandemic,** about how much of this took place online on the internet using a computer, a tablet, or a smartphone? Please include any material you got from instructional or "how-to" videos.

[IFNEEDED] About what percentage of your personal interest learning was done online in **2019**, **before the pandemic?**

☐☐ ☐%

1108

QP7.   Now' I'd like to ask you a few questions about how you deal with information and communications technology? How well does the statement **[INSERT]** describe you? Does it describe you Very Well, Somewhat Well, Not too Well or Not Well at All?

> Very Well 4
> Somewhat Well...3
> Not too Well 2
> Not Well at All 1
> **DK/REFUSED 9**

ROTATE ATTRIBUTES	Rating
When I get a new electronic device, I usually need someone else to set it up or show me how to use it	☐
I am more productive because of all of my electronic information devices	☐
I find it difficult to know whether the information I find is trustworthy	☐
Between phone calls, texts, emails, social media, or other messages, I deal with too much information in my daily life	☐

[IF INTERNET USER OR OWNER OF SMARTPHONE IN QP2.A, ASK]
QP8.   Overall, how confident do you feel using computers, smartphones, or other electronic devices to do things you need to do online? Do you feel…**[INSERT]**?

> Very Confident...4
> Somewhat Confident 3
> Only a Little Confident 2
> Not At All Confident 1
> **DK/REFUSED 9**

QP9.   I'm going to read you a list of educational resources and ask you to tell me how familiar, if at all, you are with each. Are you Very Familiar, Somewhat Familiar, Not Too Familiar or Not At All Familiar with **[INSERT]**?

> Very Familiar 4
> Somewhat Familiar...3
> Not Too Familiar 2
> Not At All Familiar..1
> **DK/REFUSED 9**

ROTATE ATTRIBUTES	Rating
Distance Learning	☐
Digital Badges	☐
Khan Academy	☐
Podcasts	☐
Open Online courses on platforms such as Coursera, edX, Udacity or UDEMY	☐
Other learning applications	☐

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QX10. Either at work or at home, how frequently have you readily **[INSERT]**? Would you say Very Often, Often, Sometimes, Rarely or Never?

Very Often 5
Often...4
Sometimes..3
Rarely 2
Never 1
DK/REFUSED 9

ROTATE ATTRIBUTES	Rating
BASIC SKILLS [PN:RANDOMIZE WITHIN SET]	
Opened files downloaded from the internet	☐
Downloaded and saved a photo from the internet	☐
Used shortcut keys	☐
Opened a new tab in my browser	☐
Bookmarked a website	☐
CREATIVE SKILLS [PN:RANDOMIZE WITHIN SET]	
Created something from existing online images, music or video	☐
Made basic changes to powerpoint, spreadsheet or word file someone else created	☐
Designed a website	☐
Used online content confidently, knowing what licenses are required to use	☐
Felt confident sharing video content you created online	☐
ECONOMY/EMPLOYMENT [PN:RANDOMIZE WITHIN SET]	
Integrated downloaded tools or applications into the way you work	☐
Looked for a job online	☐
Created/shared a CV or resume on a professional and work-related site	☐
ECONOMY/FINANCE [PN:RANDOMIZE WITHIN SET]	
Looked for information on insurance policies online	☐
Purchased any type of insurance online	☐
Looked for interest rate information online	☐

1110

QX12. Next, Do you Strongly Agree, Somewhat Agree, Neither Agree or Disagree, Somewhat Disagree or Strongly Disagree that **[INSERT STATEMENT]**?

       Strongly Agree...5
       Somewhat Agree..4
       Neither Agree or Disagree...3
       Somewhat Disagree 2
       Strongly Disagree 1
       DK/REFUSED 9

ROTATE ATTRIBUTES	Rating
NAVIGATION SKILLS [PN:RANDOMIZE WITHIN SET]	
It's hard to decide what are the best keywords to use for online searches	☐
It's often hard to find a website visited before	☐
Looking for information online is tiring	☐
Sometimes it's not clear how you end up at a certain website	☐
Many website designs are confusing and hard to navigate	☐
SOCIALSKILLS [PN:RANDOMIZE WITHIN SET]	
It's clear which information a user should and shouldn't share online	☐
It's clear when to share or not share information online	☐
When on the internet, it's important to be careful that comments or behaviors are appropriate to the online situation	☐
Changing who you share content with online is easy for you to do	☐
If needed, removing friends from contact lists is easy for you to do	☐

Now, I have a few last questions for classification purposes only. .

D1.   What is your ethnic background? **[IF MORE THAN ONE:]** With which do you identify the most?

Caucasian..1
Chinese 2
Filipino 3
Native Hawaiian...4
Japanese 5
African American 6
Mixed (not Hawaiian)..7
Other Asian..8
Hispanic 9
Other Polynesian 10
Samoan 11
Korean 12
Portuguese 13
Native American (American Indian / Alaska Native) 14
Other (*Specify*)_____ 50
[REFUSED]...**99**

D2.   Including yourself and any children, how many people, live in your household?   □□

D3.   Do you live with grandparents or any relatives from an older generation?

Yes...1
No 2

D4.   What is your marital status?

Single, never married 1
Married 2
Divorced, separated, widowed 3
Domestic Partnership 4
Other *(specify)*_____ 5
[REFUSED]...**9**

D5.   What is the last grade in school you completed?

Less Than High School 1
High School Graduate 2
Business/Trade school 3
Some College 4
College Graduate 5
Post Graduate 6
[DON'T KNOW]..**8**
[REFUSED]...**9**

QD5a   What is the highest level of education achieved by either parent or your legal guardian?

Less Than High School 1
High School Graduate 2
Business/Trade school 3
Some College 4
College Graduate 5
Post Graduate 6
[DON'T KNOW]..**8**
[REFUSED]...**9**

1112

QD6.   What is your occupation? What kind of main job do you do?

Chairman/President/CEO/Executive.. 1
Management...2
Partner/Owner/Proprietor 3
Professional...4
Technical 5
Sales..6
Service for hotel/restaurant, etc. 7
Administrative/Clerical..8
Not Employed 9
Retired 10
Blue Collar (laborer/farmer/construction, etc.) 11
White collar..12
Self-employed..13
Homemaker/Caregiver 14
Military 15
Other (*Specify*)_____ 50
[DON'T KNOW]..98
[REFUSED] 99

NEED TO ADD INDUSTRY QUETSION
D7   In what industry do you work?

D8.   In **2019, <u>before the pandemic</u>**, how many jobs did you simultaneously hold? ☐☐

D9.   How many years have you lived in Hawaiʻi?

Less than one year...1
One year but less than 5 years 2
Five years but less than 10 years..3
Ten years but less than 20 years 4
Twenty years or more...5
Born and raised in Hawaiʻi...6
[DON'T KNOW]..8
[REFUSED] 9

D10.   Were you born in the US or another country?

U.S. (incl territories)...1
Another country 2

D11.   What was the first language you spoke?

English...1
Other..2

D12.   **[RECORD, DO NOT ASK]** Gender of respondent?

Male............................... 1
Female........................... 2

These are all the questions I have for you. May I have your first name only, please, in case my supervisor needs to verify that I conducted this interview or if there is any clarification needed?

We will be conducting a follow-up survey online and would be interested in your opinions on this same subject matter. Your participation and responses will e completely confidential. For your time and participation in this online survey, you will receive a $10 Amazon egiftcard. Would you be interested in participating? *Great!*

We will send a survey link and unique password to you via email To do this, may I have:

Your Name
Your email address **[REPEAT TO CONFIRM ACURACY]**

Thank you for taking the time to answer my questions. Your opinions are very important to us. Have a nice day.

Survey Data (Transferred To DLIR)

Literature Search Materials

DIGITAL READINESS & LITERACY SURVEY

Literature Search Focused
On Definitions & Assessments Per WDC

April 9, 2021

I.   DEFINITIONS

	DIGITAL LITERACY	DIGITAL READINESS
US Department of Education[1]	Defined as 1) prior computer use; 2) Willingness to take OECD PIAAC Assessment; 3) Passed 4 of 6 Premise: Master foundation computer skills inc: -Manipulating input/ output on devices e.g., mouse, keyboard, displays -Aware of structure of digital environment e.g., files, folders, scrollbars, hyperlinks, menus, buttons -Ability to interact effectively with digital information e.g., save, close, delete, send *-Interaction with texts, numerical data, graphs & ability to locate, evaluate & critically judge validity, accuracy & appropriateness of information*	2015 Every Student Succeeds Act New Provisions -Use of technology to improve academic achievement & digitalliteracy -Professional development -Library programs to provide students opportunity to develop digital literacy skills
U.S. Department of Commerce[2]	Portal: www.DigitalLiteracy.gov to augment DOC Natl Telecommunications & Information Administration's Broadband Technology Opportunities Program	Does Not Address; Previously defined as internet access
Natl Conference of State Legislators[3]	-Fluency in use and security of interactive digital tools and searchable networks inc: Ability to use digital tools safely & effectively for learning, collaborating, producing	Digital Citizenship: Norms of appropriate, responsible behavior when using technology. Concept includes: -Digital access -Digital commerce -Digital communications -Digital literacy -Digital etiquette -Digital law -Digital rights & responsibilities -Digital health & wellness -Digital security

[1] "A Description of U.S. Adults Who are Not Digitally Literate," Saida Mamedova, Emily Pawlowski, Lisa Hudson, Stats in Brief, U.S. Department of Education, May 2018

[2] "Fact Sheet: Digital Literacy," US Department of Commerce, May 13, 2011

[3] "Promoting Digital Literacy & Citizenship in School," Sunny Deye, NCSL Vol 25, No. 07, February 2017

	DIGITAL LITERACY	DIGITAL READINESS
UNESCO	Built EU digital Competence Framework for Citizens: -Ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs, entrepreneurship. Includes competences variously referred to as computer literacy, ICT literacy, information literacy and media literacy[4]	
Urban Institute[5]	-Foundational" digital skills are in contrast to "specialized" digital skills required for jobs that are all or mostly digital, such as a computer programmer, developer, software engineer, or IT support person. Digital Literacy is end of Continuum --Basic: Use of digital tools --Use of tools for specific tasks inc software/ platform application --Accomplish digital task and apply to new circumstance, e.g., retrieving digital scheduling --Use knowledge for more complex applications Movement requires confidence, familiarity, interest	Does not address/ Basic level focus is on behavior, e.g., use of digital tools
National Education Association/ American Library Association[6]	Ability to use information and communications technologies to find, evaluate, create and communicate information, requiring both cognitive and technical skills	Does not address directly though implies internet access, classroom technology, student equipment are funding prerequisites

[4] "A Global Framework of Reference on digital Literacy Skills for Indicator 4.4.2," UNESCO Information Paper #51, Centre for Information Technology in Education, University of Hong Kong, Nancy Law, David Woo, Jimmy de la Torre, Gary Wong, June 2018
[5] "Foundational Digital Skills for Career Progress," Ian Hecker & Pamela Loprest, Urban Institute, August 2019
[6] "How to Assess digital Literacy for Students & Educators," Jacqui Murray, NEA Today, August 16, 2020

	DIGITAL LITERACY	**DIGITAL READINESS**
DQ Institute Global Standards[7] / Coalition for Digital Intelligence / IEEE (Institute of Electrical & Electronics Engineers)[8]	Digital Literacy: Data & AI Literacy/ Content Creation and Computational Literacy/ Media & Information Literacy Digital Intelligence (DQ): "Comprehensive set of technical, cognitive, meta-cognitive, socio-emotional competencies grounded in universal moral values that enable individuals to face challenges and harness opportunities of digital life." -Digital Literacy -Digital Communications -Digital Emotional Intelligence -Digital Security -Digital Safety -Digital Use -Digital Identity -Digital Rights	Does not address
CISCO[9]		**7 Component Analysis using secondary data to index 141 countries; Takes macro view similar to comparisons of different countries as a place to do business** -Basic Needs -Human Capital -Ease of Doing Business -Business & Governmental Investment -Start-up Environment -Technology Instructure -Technology Adoption Outcome: Singapore #1 / Highest of all countries for Business & Govt Investment, 4th Ease of Doing Business, 5th Technology Infrastructure

[7] "World's First Global Standard on Digital Literacy, digital Skills, and Digital Readiness," DQ Institute,

[9] "Cisco Global Digital Readiness Index 2019," Tae Yoo, Cisco White Paper, 2020

	DIGITAL LITERACY	DIGITAL READINESS
INDIVIDUAL STATES	**Louisiana Department of Education:** Definitions focused on students as aid to teachers.[10] -Ability to use technology to find, evaluate, create and communicate information. -Working knowledge of computer hardware -Working knowledge of computer software e.g., word processing, spreadsheets, mathematical, presentation -Understanding a wide range of apps	N/A
	North Carolina State University College of Education defines as 3 categories: 1) Locating and consuming digital content; 2) Creating digital content; 3) Communicating digital content[11]	N/A
	Maryland Department of Labor Adult Education: Same as American Library Assn above with 7 interconnected elements: Technical, Civic, Communicative, Collaborative, Computational Thinking, Investigative, Productive[12]	N/A
	Many other states use the American Library Association's definition	

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[10] "Building Digital Literacy," Department of Education, Louisiana, Louisiana Believes, _____
[11] "Digital Literacies and Learning: Designing a Path Forward," Hiller Spires and Melissa Bartlett, Friday Institute White Paper Series, June 2012
[12] "Digital Literacy Framework for Adult Learners," Maryland Department of Labor, Adult Education,

II. ASSESSMENTS

	VIRTUAL LEARNING	READINESS	DIGITAL LITERACY	
ACCESS	X	X	X	X
	Learning.com	PEW	North Star	OECD/ PIACC
Used by	K-12 / Intl Society for Technology in Ed.	Public overall	Libraries Adult Ed Classes	US Dept of Education US Dept of Labor
OBJECTIVES	-Preparedness for virtual learning	Perceptions/ behavior -Help people prepare using digital tools -Navigate environment -Solve Problems -Make Decisions		-Assess literacy, numeracy, problem-solving in tech environment -Benchmark against natl intl results -Provide training baseline
			Skill Use: Specific computer related	Skill Use: Workplace skills by simulating tasks to solve problem using computer technologies e.g., emailing, website, spreadsheets, buying, finding information
Methodology & Scope of Work	On-Line	Telephone	On-Line	On-Line with backgrounder telephone/ in-person
Self-Efficacy		Confidence		Approach focuses more on self-reported behavior than perceptions -Prior computer use -Cognitive -Interaction/Social -Physical Skills -Learning Skills
Skills		-Facility in getting tech to work - Use of digital tools for learning	**Computer Essentials** -Computer basics -Internet basics -Email -Windows -MAC OS	-Functional Literacy: Under-stand, evaluate, use/texts to identify/ evaluate tasks -Functional Numeracy: Access, use, interpret, communicate mathematical info in life situations to solve problem/understand situation

	HARDWARE & BASIC KNOW	READINESS	DIGITAL LITERACY	
			Software Skills -Word -EXCEL -PowerPoint -Google Docs	
			Daily Life Tech -Social Media -Information Literacy -Career Search skills	
			-Digital Footprint	
Trust		Discernment of trustworthiness		Evaluate/ interpret information
Communications		Aware – ed tech terminology		Workplace communications, training skills (See self-efficacy)
Categories of Literacy	-Empowered learner -Digital Citizen -Knowledge Constructor -Innovative Designer -Computational thinker -Creative communicator -Global collaborator	**Readiness Spectrum** 1) <u>Relatively Hesitant</u> (52%) -The Unprepared (14%) -Traditional Learners (5%) -The Reluctant (33%) 2) <u>Relatively more Prepared</u> (48%) -Cautious Clickers (31%) -Digitally Ready (17%)		**5 Levels** -<u>No</u> digital skills -<u>Below Level 1</u>: Perform well defined tasks requiring only 1 function w/generic interface e.g., navigating across multiple pgs. w/ web browser using application in tandem -<u>Level 1</u>: Use statis technology for single-step tasks, e.g., basic navigation on browser/email processes -<u>Level 2</u>: Use more advanced tech and tools to facilitate operations, multi-step, surmounting barriers, inferential reasoning, e.g., sort function to identify entries in spreadsheet that match criteria from different app -<u>Level 3</u>: Can complete tasks demanding higher cognition, inc. high inferential reasoning, evaluation of data reliability, e.g., using scheduling app with multiple variables like participants schedules, rooms bookings

Briefing By Dr. Irwin Kirsch

Using PIAAC in Hawaii:
Large Scale Assessments as Policy Research

Irwin S. Kirsch

May 7, 2021

AGENDA

- Setting a context

- What are large scale assessments (LSA)

- Understanding large scale assessments as policy research

- Design criteria for LSA – *Comparability, Interpretability & Relevance*

- What is PIAAC and how it can be adapted for use in Hawaii

- Questions and Discussion

SETTING A CONTEXT FOR LARGE SCALE ASSESSMENTS

- Since their introduction some 60 years ago, they have grown in both scope and salience – both national and international

- Increasing interest reflects not only the importance of skills & skill development for both economic growth and societal well-being, but also the value of benchmarking performance against peers and across periods of time

- Interest in these types of assessments have contributed to advances in new methodologies, measurement science and the incorporation of new digital technologies

WHAT ARE LARGE SCALE ASSESSMENTS

- They are survey-based studies that assess the knowledge, skills and dispositions of both student and adult populations in a comparative context

- They provide estimates of the distributions of skills in key domains for various populations and subgroups of interest along with estimating the strength of the relationships between these skill distributions and social, educational and, in the case of adults, labor market outcomes

- In addition they can encompass a broad range of ages which, in the case of PIAAC, enable comparisons across age cohorts and can be used to study trends over time

LARGE SCALE ASSESSMENTS AS POLICY RESEARCH

- Results from LSAs are released into educational policy landscapes that are often characterized by complex dynamics among a range of stakeholders

- As a result, it is not a simple matter to evaluate whether the results are moving a country or a jurisdiction in a productive direction as a source of policy information. That is, we need to consider how to judge the utility of these surveys.

- For years, I have emphasized the idea that a deeper understanding of the utility of these surveys can be obtained through a framework that was introduced back in 1987. At that time Sam Messick argued that LSA were a form of policy research and should be judged by their contributions to policy analysis.

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DESIGN CRITERIA FOR LARGE SCALE ASSESSMENTS

Messick's framework contains a set of design criteria that offer guidance for the design, development and implementation of these LSAs and for evaluating their overall utility. They include: *comparability, interpretability, and relevance.*

- Comparability refers to the degree to which results obtained among different subgroups or jurisdictions have the same meaning in relations to the underlying constructs being assessed. In the context of LSA, this is absolutely essential to having any utility. Achieving this goal covers issues involving instrumentation, sampling, and linking over time and across groups.

- Interpretability depends on the process that was used to develop the instruments that have been used in the survey. The term implies strong, evidence-based support for the desired interpretations or what is commonly referred to as construct validity.

- Relevance indicates the extent to which the evidence obtained through the instruments (cognitive and background) are germane to the current policy questions and yield results that can be analyzed to address current priorities.

WHAT IS PIAAC & HOW CAN IT BE ADAPTED FOR HAWAII

- PIAAC is an international comparative survey of adults 16-65 years of age. It was designed to provide policy level information about the distributions of skills and background characteristics of nationally representative samples of adults.

- The first cycle of PIAAC was administered in 3 rounds between 2012-2017 to representative samples of adults in some 38 countries. Cycle 2 is currently underway in 33 countries.

- PIAAC was the first computer-based, large-scale assessment of adult skills that was designed for and delivered on computers.

- It consisted of a 30-35 minute background questionnaire and a set of cognitive modules that assessed *literacy*, *numeracy* and *problem solving skills in technology environments* (PSTRE).

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WHAT IS PIAAC & HOW CAN IT BE ADAPTED FOR HAWAII (2)

- Education and skills online (ESO) is a derivative product that can be used to assess individuals as well as selected groups of adults 16-65 years of age

- Designed to provide individual-level results that are linked to PIAAC and, therefore, share the same validity evidence

- Receive individual *literacy, numeracy, and problem-solving in technology-rich environments* scores that are directly comparable to those on the PIAAC scales

- Delivered over the internet and can be taken anytime on an individual's personal computer or in a computer lab

- Available in English (Australia, Canada, Ireland, US) and a number of other languages

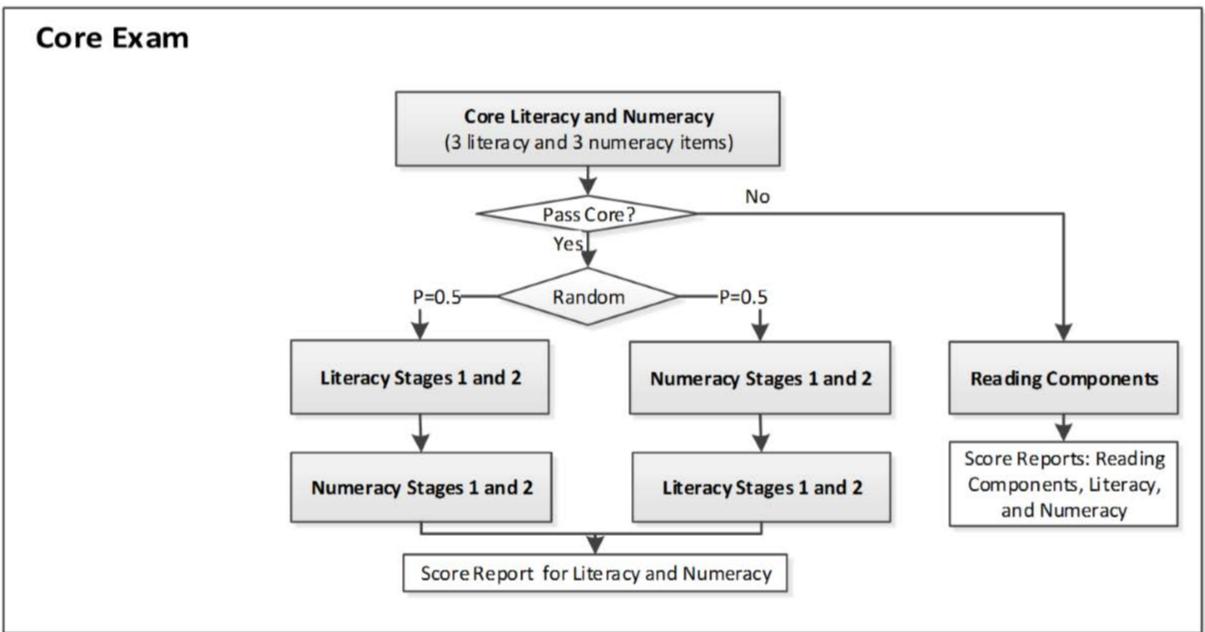# WHAT IS PIAAC & HOW CAN IT BE ADAPTED FOR HAWAII (3)

Sections of the PIAAC background questionnaire that can be adapted

A: General Information

B: Education and Training

C: Current Status and Work History

D: Current Work

E: Last job

F: Skills used at work (current job or in last 12 months)

G: Literacy, Numeracy and ICT skill use at work

H: Literacy, Numeracy and ICT skill use in everyday life

I: Questions about yourself

J: Background information

QUESTIONS AND DISCUSSION

LSA IMPACT: A FEW EXAMPLES
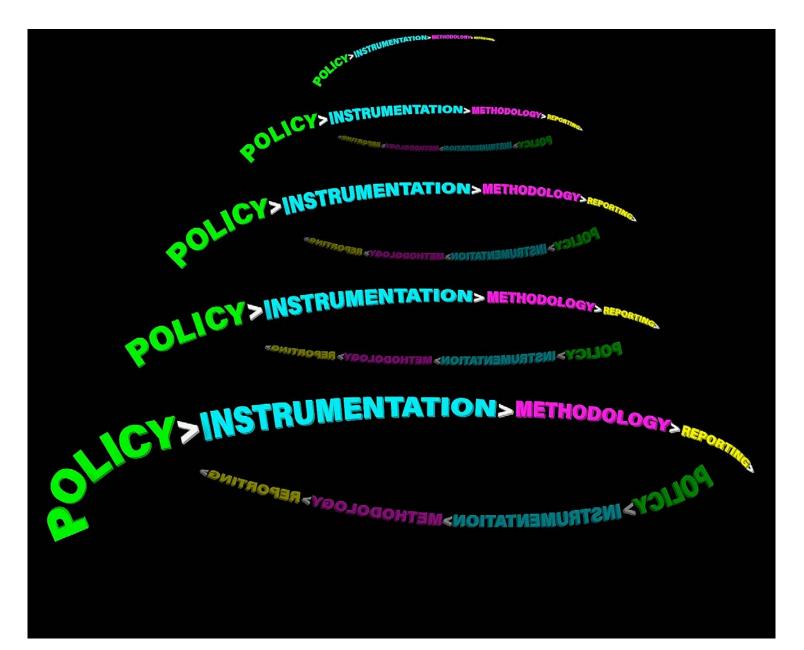
- <u>Direct Impact</u> that resulted in changes to curriculum and assessment
  - Less noticed but perhaps equally important there are examples where results have been used to support existing policies.

- <u>Indirect Impact</u> provides another type of evidence of impact from LSA
  - Shift in the discourse marking a move away from attainment to a focus on skills
  - Importance of skills highlights issues around growing inequalities
  - Increase in media attention also draws in more researchers, funding and debates around policies and practices
  - Increased participation of donor organizations such as World Bank UNESCO, & the Inter-American Development Bank among others

- <u>Caution</u>: Impact depends on the readiness of the relevant national or local actors to take account of the information provided, to articulate plans and policies and to commit to funding and political capital needed to motivate and drive change.

Core Exam

Core Literacy and Numeracy
(3 literacy and 3 numeracy items)

Pass Core?

No

Yes

Random

P=0.5

P=0.5

Literacy Stages 1 and 2

Numeracy Stages 1 and 2

Reading Components

Numeracy Stages 1 and 2

Literacy Stages 1 and 2

Score Reports: Reading Components, Literacy, and Numeracy

Score Report for Literacy and Numeracy

LARGE SCALE ASSESSMENTS AS POLICY RESEARCH (2)

- The goal is to provide deeper understandings of how these skills are developed and how they relate to a variety of key outcomes.

- These policy driven questions lead to the formulation of new frameworks that drive the development of new instruments as well as to the expansion of legacy domains (such as literacy and numeracy) which drive new advancements that facilitate richer analyses and deeper interpretations of the data. These, in turn, elicit increased interest among more stakeholders, leading to further questions

- The result has been that LSAs have evolved along what we refer to as a virtuous spiral of increased relevance and utility.

Large Scale Assessments as Policy Research

LARGE SCALE ASSESSMENTS AS POLICY RESEARCH

- Since their inception some 60 plus years ago they have experienced substantial growth in participation and greater salience reflecting what we believe results from increased utility of comparative information among policy makers and key stakeholders.

- Perceived utility of these surveys is likely fueled by mounting concerns about the levels and distributions of human capital and how they have become associated with important outcomes for individuals and societies.

- Today, policy makers and other key stakeholders including researchers are calling for these assessments to measure new and important cognitive domains along with providing more and richer background and contextual information

Policy Report

Buttressing the Middle:
A Case for Reskilling and Upskilling America's Middle-Skill Workers in the 21st Century

Irwin Kirsch, Anita Sands,
Steve Robbins, Madeline Goodman
and Rick Tannenbaum

ETS®

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Preface

As this report was being written, the tragedy of Covid-19 unfolded. Hundreds of thousands in the United States lost their lives to the virus, many more lost loved ones, jobs and homes, and the US economy plummeted. The path forward will demand much of our nation. We believe that one of the many critical challenges confronting us is to ensure that American workers are better insulated from future disruptions. For today's — and by all estimates — tomorrow's middle skill labor force, that insulation will be significantly improved through opportunities to acquire quality education and skills.

This new report from the ETS Center for Research on Human Capital and Education argues that the education and skills individuals possess have become increasingly important to their overall quality of life. As technology and automation continue to alter the workplace and the nature of work, the ability of individuals to acquire and augment their skills will remain a key challenge. Changes in the nature of work over this period have led to what economists refer to as "employment polarization." The share of employment in well-paid, middle-skill occupations such as manufacturing has declined while the share in the upper and lower ends of the occupational skill distribution has increased. In addition, the relative earnings around the middle of the wage distribution have declined precipitously, leaving these workers with relatively small wage gains. The important question raised here— and one that has become even more urgent due to the Covid-19 pandemic, is what to do about this phenomenon.

This paper begins with a discussion of data and reports that identifies future job skills and places them in the context of current skill distributions in the United States. Using data from a recent international assessment of adult populations, the Programme for the International Assessment of Adult Competencies (PIAAC), the authors show that large segments of our adult population fail to demonstrate levels of literacy and numeracy that are associated with important social and labor market outcomes. Further analyses of these data reveal that adequate levels of literacy and numeracy skills are also associated with strong performance on the PIAAC problem-solving tasks. We note that although there are increasing calls for upskilling higher-order skills such as critical thinking and problem-solving for America's middle-skill workers, literacy and numeracy skills are the foundations on which these higher-order skills depend.

The final section of this paper advances a theory of action to address this skills challenge that involves the development of a learning and assessment system. Based on evidence centered design principles, this system can be used in a variety of workplace and educational contexts to significantly improve the literacy, numeracy, and digital skills of tens of millions of adults who are being left behind. The proposed theory of action is intended to provide policy makers, researchers, funders, and other stake-holders with a strategy that reimagines the approach to improving essential skills so that those adults who need upskilling and reskilling are better able to adapt and thrive in a rapidly changing world—one where education and skills are likely to play an increasingly important role.

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Introduction

There is clear agreement by now that the role of education and skills in relation to work has undergone dramatic shifts over the last 40 years. The Council on Foreign Relations summed up the issue well in a recent report, noting that the "most important challenge facing the United States—given the seismic forces of innovation, automation, and globalization that are changing the nature of work—is to create better pathways for all Americans to adapt and thrive."[1]

Myriad policy reports document how technological advances, changes in global supply and demand chains, and public policies have altered the world of work for many adults currently in the U.S. labor market and for young adults entering the labor market for the first time.[2] The Organisation for Economic Co-operation and Development (OECD) recently warned that the COVID-19 crisis will likely speed up changes in global economies as more automation is introduced into the production process to offset economic downturns.[3] Middle-skill workers, particularly those in traditionally blue-collar and semiskilled white-collar industries such as manufacturing and clerical work, are being displaced or asked to upskill or retrain at rates not witnessed since the industrial revolution more than a century ago.[4] By 2030, The Council on Foreign Relations estimates as many as a third of American workers will either need to change occupations or acquire new skills.[5]

Our goal with this report is to present a case for why we must develop strategic interventions to buttress America's middle-skill workers not only with higher levels of education but also, critically, with the skills they need so they are better equipped for the jobs of today—and those that will most certainly exist in the future. To make this case, we explore the most pressing future skill demands of middle-skill jobs by examining occupational data and trends. We also look at what experts suggest are the skill expectations for emergent jobs and how these skills are distributed in what are now understood to be middle-skill jobs—that is, jobs requiring education beyond a high school degree but less than a 4-year bachelor's degree.[6] The National Academies of Sciences also refers to these types of jobs as skilled technical jobs that have emerged "due to the increased complexity of job specific task expectations tied to technology and automation."[7] Part of the aim of this paper is to understand the demands of these types of jobs not simply in terms of educational attainment, but rather in terms of the skills likely needed to perform such work successfully. To provide a context for understanding what we see as a troubling skills challenge ahead for middle-skill workers, we explore data from international surveys of adult skills along with national data on student reading and math skills. These assessments reveal important deficits in the very skills that support success in the work of the future. We end our paper with a theory of action for policy makers, researchers, and funders that we believe will significantly improve the literacy, numeracy, and digital skills of adults and put them on a pathway for future educational and occupational growth. Our approach relies on the development of a learning and assessment system rooted in evidence centered design (ECD) principles and applicable in a variety of workplace and educational contexts.
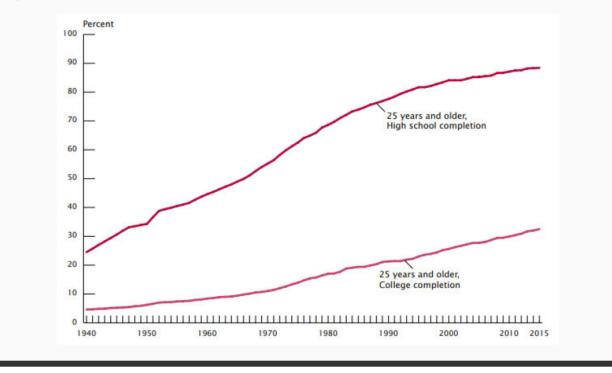
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Context

The business, education, and research communities have begun to focus more pointedly on how work—and the skills and tasks that workers are required to have and perform—has changed for many who once made up the bulk of the burgeoning middle class throughout much of the 20th century. In fact, the definition of what constitutes middle-skill work has shifted dramatically over the course of the last 70 years, as has our understanding of the type of education and skills needed for this work

The growth in levels of education through the 20th century is clear in Figure 1, which shows that about a quarter of the population age 25 and older had earned at least a high school degree in 1940; 75 years later, in 2015, nearly 90 percent had completed high school.[8]

Figure 1: High School and College completion Percentages for the U.S. Population 25 and Older (1940–2015)

Note: "High school completion" includes equivalent.
Source: U.S. Census Bureau, 1947–2015, Current Population Survey and 1940 Decennial Census[9]
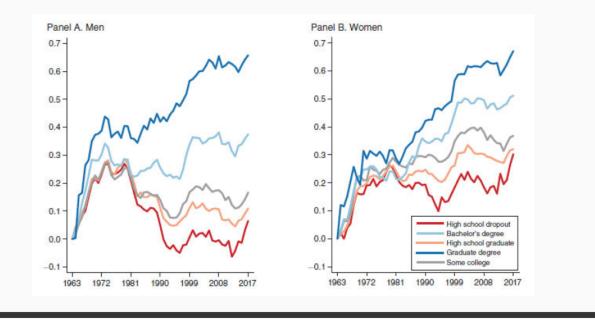
The steady rise of high school graduation rates in the mid-20th century (as well as increased years of schooling, even for those who did not earn a high school degree or equivalent) dovetailed with the growth of more complex manufacturing jobs that required the ability to read manuals, interpret blue-prints, or maintain machinery. Semiskilled and skilled white-collar work (e.g., clerical, managerial) grew alongside what scholars refer to as the "high school movement" in the United States.[10] During this time, the economy witnessed a large increase in both productivity and prosperity (in terms of income compensation) with the two growing in lockstep from roughly 1947–1970.

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Beginning in the 1970s, though, levels of productivity and wages began to diverge. Productivity benefited from a combination of technology growth (automation) and the globalization of supply chains, while the wages of workers became increasingly stratified by levels of educational attainment. Thus, as one labor economist sums up the period between 1980 and 2010, "Productivity growth did not translate into shared prosperity, but rather into employment polarization."[11] This polarization was characterized by the emergence (or growth) of well-remuneratedjobs for highly skilled individuals as well as a growing service sector that did not require high levels of skills (and/or educational attainment) and commanded lower wages.

Figure 2 illustrates this polarization by showing the growth in weekly earnings of men and women ages 16–64 with different levels of educational attainment across roughly five decades. What is evident for both men and women is that the relative change in weekly earnings was about the same regardless of level of educational attainment until the late 1970s. After this point, there is a dramatic shift. While earnings for those with higher levels of education continued to grow—sharply in some cases—the growth in earnings for those with lower levels of educational attainment dropped off, especially for men. The reasons for this departure are numerous and complex;[12] however, shifts in return to education and skills played—and continue to play—an important role in this ongoing process.

Figure 2: Cumulative change in weekly earnings of working age adults 16–64, 1963–2017[13]

Source: Author (2019), based on Current Population Survey (CPS) Annual Social and Economic Supplement.

The data presented in Figure 2 provides strong evidence for the fact that the nature of work, and the skills and education required to do work that is well remunerated, has undergone dramatic changes over the course of the last 40 years. Following World War II, wages for workers with high school–level skills grew at a similar rate to those with higher levels of education and skills; increasingly after 1970, this was no the longer the case.

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Moreover, the technological and policy shifts that have engulfed our society over these past five decades have had disparate impacts, with America's working- and middle-class families bearing a heavy burden. This shift is perhaps most evident in work from two Princeton University economists, Anne Case and Angus Deaton, who detailed a decline in American life expectancy and suggested that these "deaths of despair," which they defined as premature deaths in prime age from suicides, alcohol-related liver diseases, and drug overdose, can be in part attributed to a deterioration in the lives of Americans who entered adulthood after 1970 without a college degree—the skills measure used in their analysis.[14]

The concern for those with less than postsecondary education is not new, of course. President Barack Obama called for sharp increases in postsecondary education for young adults in order to help address the significant shifts in our economy and labor market.[15] Other efforts include the Lumina Foundation, which challenged the nation to have at least 60 percent of all adults obtain some post-secondary training by 2025.[16] A growing body of research suggests that although postsecondary education leading to a certificate, degree, and/or credential is important to improving opportunities for the future, the actual skill levels that workers possess play an even more important role in explaining employment outcomes.[17] What's more, a troubling pattern is emerging where degrees are not as closely connected to skills as widely thought.[18] A powerful example of this finding comes from an examination of data from a large-scale assessment of adult skills, which indicates that over half (53 percent) of young adults ages 16–34 with a high school degree and some postsecondary education, typical of middle-skills workers, lack the skills that many experts believe are required to meet the challenges of today's technological workplace where middle-skill occupations are increasingly demanding higher levels of cognitive skills.[19]

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The Future of Skills

Knowledge, Skill, and Ability Expectations

Given the realities we face, how do we best understand what constitutes middle-skills work at present and how do we best prepare workers to succeed in occupations that make up the bulk of work in middle-skills occupations? An important aspect of addressing these questions is to first have a better sense of the types of skills that are expected of workers in middle-skill jobs.

Middle-skill jobs or occupations (as noted, sometimes referred to as skilled technical jobs) are a category of jobs and occupations that are variously defined by wage levels, educational requirements, and/or types of tasks that workers perform.[20] Research indicates that the measure of skill involved in performing tasks required in middle-skilled occupations is key to distinguishing the work within this broad occupational category.[21] In addition, labor economists generally agree that middle-skill work requires specialized education/training after high school.[22] Career and technical educationprograms within the community college system are typically the vehicle for training and advancement for many middle-skill occupations.

To understand better the characteristics of work in middle-skill occupations, we turn to data from the U.S. Department of Labor's Occupational Information Network (O*NET). O*NET is a comprehensive, data-driven, occupational classification system. Using a combination of surveys, expert ratings, and employer data, the O*NET data document knowledge, skill, ability, and work-style requirements across jobs on five different levels of education, experience, and training expectations. These levels are referred to as zones and range from 1 (*little or no preparation needed*) to 5 (*extensive preparation needed*), with Zone 3 (*medium preparation needed*) generally requiring some postsecondary training and certification.[23]

Our focus is on the skill expectations of jobs in Zone 3. We also want to look at Zone 2 as "on-ramp" jobs and at Zone 4 as those jobs mostly require a bachelor's degree to investigate whether Zone 3 and Zone 4 job skill expectations are blurring. Examples of jobs in these zones include customer service representatives and security guards in Zone 2; electricians, court reporters, and medical assistants in Zone 3; and sales managers, graphic designers, and chemists in Zone 4. Jobs in Zones 1 and 5 are excluded from the discussion because our focus is on creating on-ramps for middle-skill work with the goal of understanding the level and type of skills that are increasingly expected of middle-skill workers today and into the future.

Golubovich, Su, and Robbins (2017) investigated the core competencies of middle-skill workers across multiple domains including abilities, skills, and work styles using data from O*NET to identify key core competencies of middle-skill jobs.[24] Our focus in this report is on abilities and skills. *Abilities* are defined as "relatively stable psychological characteristics that allow individuals to perform particular types of tasks."[25] These abilities typically fall across four categories: cognitive, physical, psychomotor, and sensory, with cognitive abilities considered to be the best predictor for job performance and training.[26] *Skills* are defined as "a set of strategies and processes that enable individuals to acquire and work with information within a specific performance domain." Skills are typically developed over time and considered "one of the direct determinants of job performance."[27] We do not focus on work styles, which comprise interpersonal and intrapersonal qualities frequently referred to

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as noncognitive skills.[28] Tables 1 and 2 summarize the key abilities and skills by O*NET job zone identified by Golubovich et al. to be "integral to success across the majority of middle-skill jobs."[29]

Table 1 presents the percentage of jobs by zone where workers' abilities "that influence the acquisition and application of verbal information in problem solving"[30] are deemed *important* or *very important* for success.[31] What is immediately clear is that for Zone 4 jobs—a majority of which require a bachelor's degree—written comprehension (100 percent), written expression (97.7 percent) inductive reasoning (97.7 percent), and category flexibility (97.7 percent) are deemed to be *important* or *very important* worker abilities. Fluency of ideas (79.5 percent) and bringing originality to work to solve problems (75 percent) are also regarded as *important* or *very important* for workers in a majority of Zone 4 jobs. Not surprisingly, from this analysis, cognitive skills in the service of problem-solving would be essential for success in Zone 4 jobs.

According to O*NET classifications, Zone 3 jobs typically require a medium level of preparation and 1 to 2 years of job experience, with most occupations in this zone requiring vocational school training, on-the-job training, or an associate's degree or more.[32] An analysis of Zone 3 jobs shows a similar pattern as that of Zone 4 jobs for abilities in written comprehension (90.2 percent), inductive reasoning (88.4 percent), flexibility in thinking (84.8 percent), and the ability to communicate effectively in writing (written expression, 75.9 percent). In other words, as with Zone 4 jobs, an array of cognitive abilities is integral for a majority of jobs in this largely middle-skill job zone.[33] Where Zone 3 and Zone 4 differ is with respect to the fluency of ideas and originality. This finding may reflect the way expectations increase to solve problems with a level of creativity and innovation commensurate with increased job complexity.

Zone 2 jobs require some preparation and are available to those with limited work experience; the typical level of education for Zone 2 jobs is a high school degree, though some of the jobs in this zone do require vocational training or more. As can be seen in Table 1, Zone 2 jobs do not rise to the level of cognitive demand seen in Zone 3 and Zone 4 jobs. Nevertheless, written comprehension and inductive reasoning are considered integral for half of the jobs in this zone.

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Table 1: Select Cognitive Abilities Rated as Important or Very Important by Experts[34]

O*NET, COGNITIVE ABILITIES	DEFINITION	JOB ZONE 2	JOB ZONE 3	JOB ZONE 4	DIFF. ZONE 2 - 3	DIFF. ZONE 2 - 4	DIFF. ZONE 3 - 4
Written Comprehension	The ability to read and understand information and ideas presented in writing.	50.7	90.2	100	**39.5**	**49.3**	**9.8**
Written Expression	The ability to communicate information and ideas in writing so others will understand.	23.2	75.9	97.7	**52.7**	**74.5**	**21.8**
Fluency of Ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	5.1	33	79.5	**27.9**	**74.4**	**46.5**
Originality	The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.	6.5	25.9	75	**19.4**	**68.5**	**49.1**
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)	53.6	88.4	97.7	**34.8**	**44.1**	**9.3**
Category Flexibility	The ability to generate or use different sets of rules for combining or grouping things in different ways.	34.1	84.8	97.7	**50.7**	**63.6**	**12.9**

Note. Percent of occupations within zone that have important or very important attribute ratings.[35]
Data from **O*NET OnLine** by the U.S. Department of Labor, Employment and Training Administration (USDOL/ETA). Used under the **CC BY 4.0** license. O*NET® is a trademark of USDOL/ETA.

Table 2 examines jobs in Zones 2, 3, and 4 based on the importance of core skills necessary to "facilitate learning or the more rapid acquisition of knowledge."[36] This table shows that for most jobs in Zone 4, skills such as active learning (95.5 percent), coordination (97.7 percent), complex problem-solving (93.2 percent), judgment and decision-making (98.9 percent), and time management (95.5 percent) are judged to be *important* or *very important* skills. Reading comprehension skills are uniformly considered integral (100 percent) across Zone 4 jobs, which given the strong connection between reading comprehension and knowledge building is largely expected.[37]

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Zone 3 jobs follow a similar pattern to Zone 4 jobs on skill attributes, especially regarding reading comprehension (88.4 percent), complex problem-solving (84.8 percent), and judgment and decision-making (83 percent) skills. Zone 2 jobs largely depart from the pattern evident in Zones 3 and 4; however, reading comprehension remains an important skill attribute for nearly half of the jobs in this zone (47.1 percent).

Table 2: Select SKILLs Rated as Important or Very Important by Experts[38]

O*NET SKILLS	DEFINITION	JOB ZONE 2	JOB ZONE 3	JOB ZONE 4	DIFF. ZONE 2 - 3	DIFF. ZONE 2 - 4	DIFF. ZONE 3 - 4
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	47.1	88.4	100	**41.3**	**52.9**	**11.6**
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	18.1	65.2	54.7	**47.1**	**36.6**	**-10.5**
Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.	8.7	62.5	95.5	**53.8**	**86.8**	**33**
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	34.1	67	86.4	**32.9**	**52.3**	**19.4**
Coordination	Adjusting actions in relation to others' actions.	45.7	76.8	97.7	**31.1**	**52**	**20.9**
Complex Problem-Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	34.1	84.8	93.2	**50.7**	**59.1**	**8.4**
Judgment and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	37.7	83	98.9	**45.3**	**61.2**	**15.9**
Time Management	Managing one's own time and the time of others.	32.6	75.9	95.5	**43.3**	**62.9**	**19.6**

Note. Percent of occupations within zone that have important or very important attribute ratings.[39]
Data from **O*NET OnLine** by the U.S. Department of Labor, Employment and Training Administration (USDOL/ETA). Used under the **CC BY 4.0** license. O*NET® is a trademark of USDOL/ETA.

A key takeaway from the analysis of attributes and skills by job zone classification is the substantial degree of similarity in the cognitive abilities and skills deemed integral for jobs in Zone 3 and Zone 4, despite the differences in training typically associated with these zones. This finding suggests that the abilities and skills needed for middle-skill jobs, which are traditionally associated with postsecondary education below a 4-year bachelor's degree and

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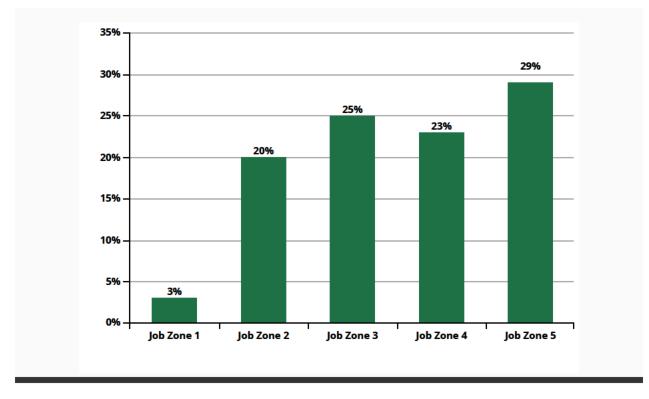
most prevalent in Zone 3, are similar to those in demand for Zone 4 jobs, which typically require a bachelor's degree. Also noteworthy is the fact that Zone 3 jobs are well differentiated from those in Zone 2. These findings have important implications for middle-skill workers regarding their training/retraining and educational pathways.

Knowledge, Skill, and Ability Expectations for Emergent Jobs

In order to explore the types of skills needed for the future labor market, we examined a number of different projections, including our own estimate based on O*NET's Bright Outlook occupations.[40] Bright Outlook occupations are those that are expected to grow faster than average (employment increase of 7 percent or more) from 2018–2028 and/or are projected to have 100,000 or more job openings in that same period. To understand the skill needs of jobs in these occupations, each Bright Outlook occupation was recoded to an O*NET job zone using the O*NET Online Crosswalk search.[41] As shown in Figure 3, nearly half of the Bright Outlook occupations will fall into Zones 3 and 4 by 2028, with less than a quarter falling below Zone 3 and 29 percent falling in the highest zone. The takeaway here is that a majority of the growth occupations, according to O*NET, will be in job zones that require increasingly higher levels of skills.

Figure 3: Percentage of O*NET Bright Outlook Occupations by Job Zone, 2018–2028
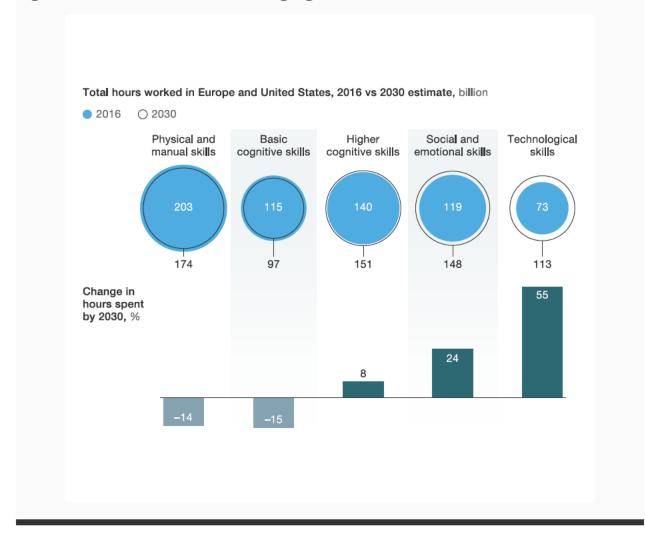
Source: O*NET Bright Outlook occupations cross-walked to O*NET job zones by authors using O*NET crosswalk information. See Appendix A for crosswalk results.

Data from the McKinsey Global Institute (MGI) offer a slightly different take on future skill demands by analyzing hours worked across all labor sectors using a five-cluster, 25-skill taxonomy, again, informed by O*NET.[42] Specifically, MGI examined the distribution of labor

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hours in 2016 and as estimated for 2030 based on automation and macroeconomic trends and projections. By their calculations, physical and basic cognitive skill hours will decline by 14 percent and 15 percent respectively, while higher cognitive, social and emotional, and technological skills will increase by 8, 24, and 55 percent respectively (Figure 4). The increases in the latter three classifications of skills were slightly higher, 9, 26, and 60 percent respectively, when just considering the United States. With regard to cognitive skills, these findings may be misleading in the sense that whereas jobs requiring *only* basic cognitive skill hours are diminishing, this does not mean that basic or essential skill expectations are not still required; rather, having this level of skills is subsumed in the higher-order cognitive skills growth. The notion that one needs these essential cognitive skills in order to build higher-order cognitive skills is an assumption that we explore in the next section of this paper.

Figure 4: Skills needed in a changing workforce

Source: Figure from Jacques Bughin, Eric Hazan, Susan Lund, Peter Dahlström, Anna Wiesinger, and Amresh Subramaniam, *Skill Shift: Automation and the Future of the Workforce (Washington, DC: McKinseyGlobalInstitute, 2018)*, https://www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce. Copyright ©2020 McKinsey & Company. All rights reserved. Reprinted by permission

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Other research similarly supports the contention that more and higher levels of skills have redefined the baseline needed for today's workplace. Pearson and Nesta (formerly, NESTA, National Endowment for Science Technology and the Arts) gathered expert panels and applied trend analyses and machine learning to O*NET data to organize occupations into high-growth clusters, including advanced manufacturing, skilled trades, health care, computer and mathematical operations, personal care and service, and engineering and technology.[43] They then examined critical skills required in these emergent jobs, which allowed them to extrapolate future skill demands. Top-ranked skills included the following:[44]

- Interpersonal skills
- Higher-order cognitive skills (e.g., critical thinking and decision-making)
- Fluency of ideas skills (e.g., oral and written communication)
- Digital technology skills
- Intercultural fluency skills

Given findings discussed in this section, workers in middle-skill occupations will need higher levels of skills including, for example, the ability to problem solve and think critically in order to work effectively alongside new technology and automated processes.In the next section, we explore one critical question: are middle-skill workers prepared?

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The Paradox of Increasing Skill Expectations

Many readily acknowledge that skills such as problem-solving and critical thinking are increasingly important, but perhaps what is not fully appreciated is the extent to which these skills rely upon a strong foundation of literacy and numeracy skills that are increasingly associated with digital environments. It is difficult—if not impossible—to critically evaluate, interpret or make meaningful inferences, or problem solve in any area of knowledge without the ability to decipher various kinds of texts and to meaningfully understand and apply numeric information in both work and everyday contexts. Research also shows that across a range of issues including wages, health, and indicators of civic engagement and trust, adults with higher levels of literacy and numeracy skills fare better than their counterparts with lower skill levels.[45]

As we argued previously, the literacy and numeracy skills gained in a typical U.S. high school education may have been sufficient to acquire and maintain a job paying middle-class wages during much of the last century. Increasingly since the mid-1970s, however, these skills have become "just the starting point"[46] toward mastering the kinds of competencies needed for emerging middle-skills jobs.
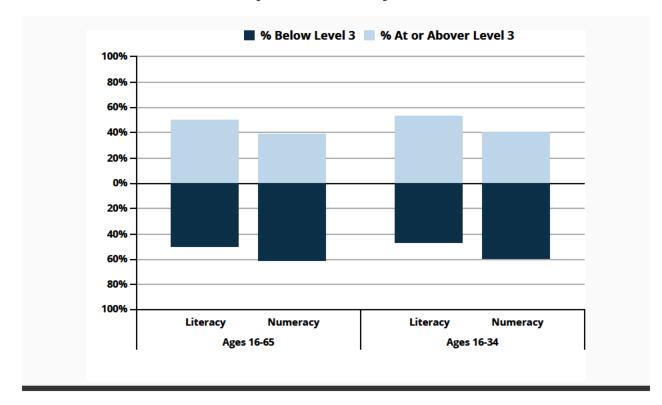
Extensive research on adult literacy conveys a similar message. As Kirsch et al. (2002) noted at the turn of this century, "[L]iteracy can be thought of as a currency in this society. Just as adults with little money have difficulty meeting their basic needs, those with limited literacy skills are likely to find it more challenging to pursue their goals—whether these involve job advancement, consumer decision making, citizenship, or other aspects of their lives." If this was an apt statement two decades ago, it is even more so today. In fact, the authors prophetically warned at the time that "even if adults who performed in the lowest literacy levels are not experiencing difficulties at present, they may be at risk as the nation's economy and social fabric continue to change."[47]

Large-scale assessmentsof adult proficiencies can help us evaluate the extent to which key segments of our population are prepared for the challenges they are currently confronting and those that will almost certainly lie ahead. First administered in 2012, the PIAAC, overseen by the OECD, seeks to measure the key cognitive and workplace skills individuals need to succeed in the marketplaceand to fully participate in society. This household survey of adults ages 16–65 years of age is designed to assess essential 21st century literacy and numeracy skills. Real-world assessment tasks probe respondents' ability to distinguish between relevant and irrelevant information; correctly fill out online forms; integrate, synthesize, and interpret arguments offered in various forms of media; understand employment requirements; and calculate the costs and benefits of retirement plans, to name a few.

Results from PIAAC, shown in Figure 5, reveal that large segments of the U.S. population (ages 16–65) currently do not possess some of the essential skills upon which they will need to build their future. In fact, half perform below what many experts identify as a minimum standard (Level 3) for literacy, and 61.2 percent perform below the minimum standard for numeracy.[48] Moreover, the PIAAC results expose a striking paradox: although a larger proportion of our young adults (ages 16–34) than ever before are graduating high school or obtaining certificates and completing some form of postsecondary education, many lack the essential skills they will likely need to prosper.[49] For example, approximately 36 million, or nearly half of this young age cohort, performs below the minimum standard for literacy, and nearly 46 million (60 percent of the cohort) performs below the minimum standard for

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numeracy, despite the large share of this cohort graduating from high school and pursuing postsecondary education and the fact that they are the most recent products of the educational system.[50]

Figure 5: Percent of Population by Age Group Performing Below and At or Above Level 3, PIAAC Literacy and Numeracy Skills, 2012/2014

Source: Graphic prepared by authors using data from the Organisation for Economic Co-operation and Development (OECD), Programme for the International Assessment of Adult Competencies (PIAAC), 2012/2014

In general, a key difference between the kinds of tasks that those who perform at or above Level 3 can do compared to those below this standard hinges on the complexity of what an individual is being asked to do with a text or display of information. For example, in numeracy, those who perform at Level 2 can likely interpret simple representations of data, but they struggle to recognize and work with more complex mathematical patterns and relationships and to interpret and act upon numerical information embedded in a broader range of common contexts. In literacy, those who perform at Level 2 can likely paraphrase main ideas contained in relatively short texts or make low-level inferences, yet they struggle to compare, contrast, evaluate, interpret, and synthesize one or more pieces of information that require varying levels of inference as well as to construct meaning across a variety of texts.
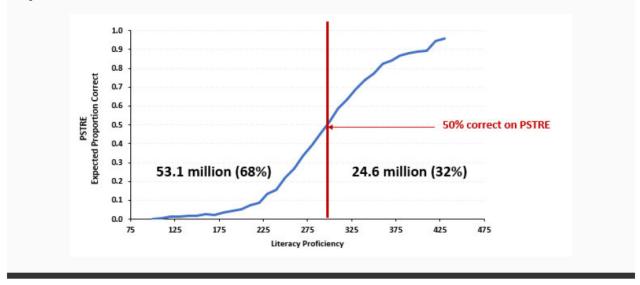
In addition to assessing literacy and numeracy skills, the PIAAC assessment includes a domain called problem-solving in technology-rich environments (PS-TRE). PS-TRE is defined by the OECD as "using digital technology, communication tools, and networks to acquire and evaluate information, communicate with others, and perform practical tasks."[51] Tasks in this

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domain measure a range of problem-solving skills and abilities including goal setting, planning, selecting, evaluating, organizing, and communicating results in digital environments such as interactive web pages, spreadsheets, and email.

Figure 6 demonstrates the important relationship betweenliteracy and higher-order skills by showing the association between performance on the PIAAC literacy assessment and the ability of adults to perform well on the PS-TRE tasks. In order to answer just half of the items correctly on the PS-TRE assessment in PIAAC, one would need to perform in the middle of Level 3 on the assessment (276–325 on a 0–500 scale). According to the PIAAC results, approximately 68 percent of young adults in the United States, or slightly over two-thirds of individuals ages 16–34, performed below the literacy level needed to obtain a score of 50 percent correct on the PS-TRE tasks. Findings were similar for those who pursued postsecondary education including for over two-thirds of those who either earned a certificate, attended a trade school, or obtained an associate degree. Results were worse—that is, percentages were higher across the board—when looking at the relationship between numeracy skills and performance on the PS-TRE assessment.

Figure 6: Association of PIAAC Literacy Proficiency with Expected Scores in PIAAC Problem-Solving in Technology Rich Environments (PS-TRE), Population 16–34, 2012/14

Source: Graphic prepared by authors using data from the Organisation for Economic Co-operation and Development (OECD), Programme for the International Assessment of Adult Competencies (PIAAC), 2012/2014.

The skills challenge is likewise prevalent among the U.S. incarcerated population, many of whom will be released into society and in search of sustainable employment opportunities.[52] Research shows that large percentages of those who reenter do so, according to the *U.S. PIAAC Survey of Incarcerated Adults,* without adequate levels of literacy and numeracy skills.[53] We also acknowledge that noncognitive skills associated with risk-taking, lack of emotional regulation, and social skills are important determinants of workplace success.[54]

The results from adult skill assessments are matched by equally troubling overall performance outcomes in reading as well as in mathematics from the National Assessment of Educational Progress (NAEP) at Grades 4, 8, and 12 (Figure 7). Here again, it is the more complex knowledge and skills that many of our students are lacking. In reading at Grade 12,

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for example, students below *proficient* struggle to locate and integrate information using sophisticated analyses of the meaning and forms of the text and to provide specific text support for inferences, interpretative statements, and comparisons. Similarly, 12th graders who perform below *proficient* in mathematics have difficulty not only recognizing when mathematical concepts, procedures, and strategies are appropriate, but also selecting, integrating, and applying them to solve mathematical problems.[55]
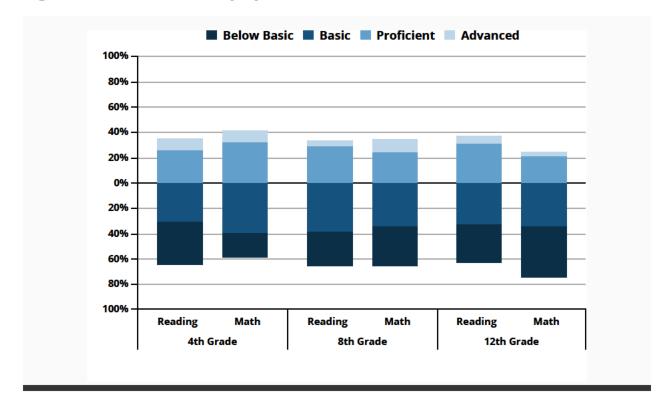
Figure 7: NAEP Proficiency by Select Domain and Grade, 2019

Source: Graphic prepared by authors using data from the U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019.

Skills deficits evident in this large-scale data are part of a deep and complex problem that we are currently facing:[56] too many adults do not have the essential literacy and numeracy skills required to support the changing demands of life in our fast-paced, technological world. And, as the NAEP data reveal, we do not seem to be growing our way out of the problem by preparing younger students with the skills they will need in the future. This skills issue is an especially difficult challenge for underskilled workers who will need increasing levels of literacy and numeracy to adapt to and work alongside technological advances happening across many middle-skill occupations. A key challenge before us, then, is to develop policies and interventions that can be put in place to meaningfully improve the literacy and numeracy proficiencies of those with low skills in order to help pave the way for their success given the increasing demands of middle-skill work.

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Action Agenda

Increasingly, various stakeholders in the business community, policy makers, and researchers are calling for significant investments in reskilling and upskilling America's workers, especially in response to the economic and labor market crises related to COVID-19.[57] However, for reskilling and upskilling efforts to be successful for middle-skill workers, we must be clear about the kinds of skills these workers will need, the skills many currently have, and how best to bridge any divide.

To do this, we believe, requires high-quality, targeted interventions grounded in the assumption that adults with insufficient levels of literacy, numeracy, and increasingly important digital skills—no matter what level of education or career—can significantly improve their skill levels when provided with learning and assessment systems that focus on key underlying constructs that reflect the types of knowledge and skills required for work, education, and everyday life. To accomplish this, we believe that interventions need to be developed using coherent, evidence-centered frameworks that clearly define and then systematically operationalize the acquisition of skills and knowledge that underlie key cognitive constructs. Moreover, we think this content should be delivered efficiently to learners through an integrated learning and assessment system that relies on innovative and flexible approaches that meet the current and future needs of adult learners.

A Theory of Action for Developing Targeted Interventions to Improve Adult Skills

Thetheory of action (TOA) presented here is intended to highlight thinking on how to best develop these targeted solutions. Creating a conceptual framework and highlighting assumed linkages among actions, the mechanisms of change, and outcomes are common practices that have a long history in program evaluation research literature.[58] Two examples of researchers using TOA include Randy Bennett in 2010, who used a TOA to describe a comprehensive formative and summative assessment model for K–12 learners, and Maurice Cogan Hauck et al., in 2016, who used a TOA to propose a model for English learner language proficiency assessments within the United States.[59] Both presented an explicit rationale for each component supported by research and theory.

As shown in Figure 8, our approach relies on ECD and includes an innovative delivery platform that is designed to stimulate and motivate learners and instructors/trainers throughout the learning experience. After describing our approach, we offer a model that describes the key components of a learning and assessment system for adults that are intended to work together to bring about a set of desired or intended outcomes. We also suggest a set of mechanisms that are likely to bring about the intended outcomes.

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Figure 8: Theory of Action to Promote Adult Skills Acquisition

EVIDENCE CENTERED DESIGN (ECD) LEARNING AND ASSESSMENT SYSTEM TO IMPROVE SKILLS			
Innovative, technology-based delivery platform			
COMPONENTS	MECHANISMS	INITIAL OUTCOMES	LONG-TERM OUTCOMES
• **Professional materials that guide the understanding and use of the system** • **Instructional materials developed to reflect desired constructs; content can be general or job specific** • **Assessments** ◦ **Formative assessments containing item sets representing specific competencies, practice exercises and interpretative information (feedback)** ◦ **Baseline and summative assessments representing targeted learning progressions and proficiency benchmarks**	• **Promote efficient and effective use of the learning system for trainers** • **Asynchonous and synchronous instruction supporting varied learning options** • **Motivational strategies that support learners** • **Immediate feedback to support learning** • **Actionable data to evaluate program effectiveness**	• **Learners acquire desired competencies at sufficient levels** • **Trainers and instructors understand the learning and assessment system in order to effectively support learners** • **Increase use of formative assessments to support and guide learning**	• **Learners can successfully continue career or educational opportunities** • **Data is collected to inform continuous improvement** • **Business leaders, educators and policy makers value skill gains among key populations**

The Approach

Recent advances in measurement science provide a model for the design and development of assessments that focus on the collection of validity evidence to support the development and appropriate use of the instruments. Linking learning materials with these assessments requires the same rigor and understanding needed to develop assessments. The approach used to develop this type of learning and assessment system is referred to as construct-based, or ECD, and offers a critical roadmap for the development of coherent and quality interventions.[60]

In brief, an ECD approach requires a conceptual framework in which there is agreement on an operational definition of target constructs, including the knowledge and skills that should be assessed and an understanding of how the assessment data will be used. The operational definition for each construct is developed in collaboration with one or more groups of domain experts in order to ensure that it reflects current research and thinking in the field. The conceptual framework then expands upon that definition to further identify the knowledge and skills of interest. This framework forms a blueprint for the development of an assessment designed to collect the types of evidence needed to locate individuals along a continuum or scale of key competencies in the domain of interest (e.g., literacy, numeracy, or digital skills). With this information, assessment developers can create short descriptions of the tasks that fall along the scale representing the underlying construct using the features that were used to build the tasks. Once the assessment items are developed and

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administered, statistical analyses are used to place items along the domain scale, ranging from easiest to hardest. Then developers create short descriptions of those items, focusing on the key task features that were defined in the framework and used to build the tasks. Such descriptions make it possible to go beyond simply identifying that one item was more difficult than another and, instead, define levels of performance by articulating how the skills and knowledge required to successfully complete the items progressively change and increase along the scale. Using such a model provides an opportunity to design and build standardized assessments that allow for benchmarking proficiency and diagnostic information that is tied to desired learning progressions. In addition, this model also allows users to gauge progress and evaluate the need for continued learning.

An effective intervention system should be developed around an innovative, technology-based delivery platform that will deliver learning and assessment materials in an efficient and effective manner while also offering maximum flexibility for instructors and learners through the use of flexible learning options and embedded motivational strategies.

Further, the design features—innovative, technology-based design and delivery—of this learning and assessment system are expected to support both instructors and learners with nimble and flexible content delivery options including synchronous, asynchronous, and blended approaches that can be used across a variety of settings.

Synchronous instruction supports learning by allowing instructors to use their knowledge of the framework to communicate and elaborate on the learning materials provided. This approach also allows for, and promotes, interactions among the learners. The system should be designed to also provide "on demand," or asynchronous learning, that enables learners to engage in learning and practice at their convenience. The flexibility of the system would fully support blending these approaches where doing so makes the most sense for learners.

The most important pedagogical features provided by enhanced digital technologies across learning environments are that the instructional content is presented in small "chunks" or "micro lessons" that allow for rapid absorption and rehearsal and that practice items are followed by immediate feedback. Ultimately, the instructional content should be relevant, allow for learner and instructor control of the learning process, be provided over a relatively brief period of time, and demonstrate explicit and manageable activities in a proposed task-interaction learning analytics model.[61]

Such an approach to learning and instruction supports successive or incremental "wins" for learners. If learners are expected to sustain their commitment to learning, they need to see that they are progressing and that they are acquiring the knowledge and skills expected, even if progress is sometimes slower than learners may wish. This approach is a fundamental principle of motivation (i.e., building learner self-efficacy).[62] If learners do not see even small, continuous progress, they are less likely to remain committed to their own growth and development.

Components of an ECD Learning and Assessment System

As Figure 8 illustrates, the underlying premise in our TOA is that targeted interventions that successfully build on ECD principles tend to share a set of core, integrated components: support materials that guide understanding and use of the system; instructional materials grounded in ECD design principles that can be general or job specific; and, assessments, including formative assessments that guide learning through practice and feedback on

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specific competencies, as well as standardized assessments representing targeted learning progressions and proficiency benchmarks that can be used to collect baseline and summative data from students.[63]

SUPPORT MATERIALS

Support materials are intended to help instructors develop a deeper understanding of the knowledge and skills that are the focus of the intervention in order to provide a more effective and engaging learning experience. These materials include training modules, teacher manuals, explanations of key aspects from the domain frameworks, and suggestions for best practices associated with interpreting assessment results and preparing and delivering instruction. Acquiring a deeper understanding of the construct and associated competencies will also enable instructors to adapt materials to a specific occupational sector or employment context. The support materials also provide instructors with information that will assist them with the interpretation and use of the assessment data in order to identify individuals who can benefit most from these interventions and monitor their progress. In addition, the interim or formative measures embedded within the instruction provide both the learner and the instructor with important feedback that can support on-going learning and improve outcomes.

INSTRUCTIONAL MATERIALS

Instructional materials will be based on the domain frameworks developed by content and measurement experts who will begin by reaching consensus around a definition of the construct that includes the identification of what is important for individuals to know and be able to do. For example, in the PIAAC assessment of literacy, the development process included efforts by a panel of international reading experts to specify both the different purposes for reading and the types of texts to be included—two key features associated with the definition of literacy. A set of context/content areas also was identified to help assure adequate variation in language structures, vocabulary, and background knowledge. In developing instructional materials, the focus would be similar; that is, instruction would focus on the structure of various text types including informational texts and documents such as tables, charts, graphs, and diagrams, along with lessons that focus on recognizing the various purposes for engaging with these texts and the strategies associated with each purpose.[64] In this way, both instructors and learners become familiar with the various text types, their rhetorical structure, and how various purposes interact to impact goals and strategies. The knowledge and skills associated with developing these competencies should be the focus of the instructional materials.

Contextualization of instructional materials is another key feature of successful interventions we have in mind. Because the assessment and learning materials will rely on ECD, a learning and assessment system can be developed around the range of printed and digital information found in everyday life and of interest to adult learners. This approach was used to develop the literacy, numeracy, and problem-solving instruments found in recent international assessments of adult skills such as PIAAC.[65] Beyond the development of instructional materials that are based on everyday tasks, the opportunity exists to adapt these instructional and assessment materials to specific occupational and job contexts. Because the proposed intervention is based on a model in which key features of each domain are identified and defined, well-trained instructors and/or trainers can incorporate

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job-specific content and materials tied to career-centered knowledge and skill progressions so that learners are able to both improve their essential literacy, numeracy, or digital skills and acquire job- or context-specific knowledge.

Incorporating contextualized interim or formative assessment exercises along with practice materials enables learners to improve their core skills while also acquiring specific job skills and knowledge that will benefit both the employer and the current or future employee. This approach is recommended by Columbia University's Community College Research Center on cocurricular activities and remediation while taking credit-bearing courses.[66] Furthermore, the skills and knowledge learners develop will not only be immediately useful to them but also provide a "stackable" and transferable set of skills that will provide them a foundation on which they can obtain additional education or training, either on their own, or as part of a formal program, as society and the workplace continue to evolve and career progression opportunities arise.

ASSESSMENTS

In contrast to baseline and summative assessments, which are highly structured and standardized, *formative assessments* are linked to specific knowledge and skills associated with the instructional materials. Exercises associated with specific instructional materials should be provided as part of the system, but instructors would be encouraged to adapt or contextualize these interim assessments and practice materials as well as create their own. This approach will enable learners to see and understand the connections with their own lives and may motivate them to spend more time with the materials. Overall, these materials are intended to both support and enhance learning.

Baseline and summative assessments are standardized assessments that can be linked to current national and/or international assessments focused on constructs of interest such as literacy and numeracy. It is expected that these assessments will be delivered on technology-based devices and will be able to provide important information about individuals in terms of the current level of knowledge and skills they are able to demonstrate. This type of information is important to determine where each individual is with respect to a particular construct and whether they are likely to benefit from the targeted intervention. After the intervention has been completed, the summative assessment will be able to measure the amount of learning that has taken place at the individual level and can be used more broadly to evaluate for whom and under what conditions the intervention was effective. The summative measure can also be used to develop predictive information about future educational or workplace success.

Mechanisms of an ECD Learning and Assessment System

Several action mechanisms connect the various system components to the desired outcomes:

- Support materials will promote efficient and effective use of the learning and assessment system.

- The delivery platform will support synchronous, asynchronous and blended options that can be used across a variety of settings.

- Instructional materials will be presented in relatively small "chunks" or "micro lessons" that allow for discussion or rehearsal through practice exercises providing

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immediate feedback.
- The conceptual framework will provide actionable information about individual learners and the overall effectiveness of the program.

First, the use of the support materials by instructors is expected to promote efficient and effective use of the learning and system. How is this likely to occur? The support materials are intended to provide instructors with information pertaining to the conceptual framework that underlies each construct. Our expectation is that the framework provides not only the guidelines for how the instructional system is organized and delivered, but also an understanding of how instructors can best communicate this information to learners as they move through the materials. Also, a deep understanding of the overall framework will enable instructors to adapt and/or develop supplementary materials for specific work contexts.

A second mechanism that is expected to have an impact on outcomes is the fact that the delivery platform will support synchronous, asynchronous, and blended options that can be used across a variety of settings. Adult learners often have multiple responsibilities, including working and taking care of family members, that present constraints on their time. It is important, therefore, that interventions recognize the need for adults to have some control of their learning experience in terms of where and when they can engage with the instructional materials.

Third, it is also expected that the instructional materials will be presented in relatively small "chunks" or "micro lessons" that allow for discussion or rehearsal through practice exercises providing immediate feedback. This approach is intended to motivate learners by providing them with the opportunity to demonstrate that they are acquiring new knowledge and skills, which will reinforce the fact that the time and effort they are investing in their learning is worthwhile. This mindset is important in helping them to stay committed to their own growth and skill development.

Finally, because the conceptual framework also informs the formative and summative assessments, actionable information will be available about individual learners as well as the overall effectiveness of the program. For example, information provided by the baseline and summative assessments will be used to identify learners who are best able to benefit from the instruction and s well as demonstrate the overall effectiveness of the system in terms of individual growth. In addition, the availability of practice materials with immediate feedback will provide learners and instructors with opportunities for additional engagement with exercises that can both reinforce the instruction and correct any misunderstandings on the part of learners.

Initial Outcomes

To be successful, the learning and assessment system will first need to provide direct evidence that, with appropriate effort and engagement with the system, individuals are able to demonstrate that they have increased their literacy, numeracy, and digital skills to a point where they can benefit from additional education and/or job-specific training programs. This will require the collection and use of the data from the baseline and summative assessments, which allow programs to evaluate the level of skill that learners demonstrate when they begin and the amount of learning that has taken place. The assessment components of the integrated system described here will be able to administer, score, and display this type of information.

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The second initial outcome that we expect from engagement with the type of learning and assessment system we are proposing is the recognition that the cognitive skills required to understand, use, and interpret written and mathematical information in digital contexts is the bridge to the types of higher-order skills increasingly required to obtain stable, sustainable employment. A key part of this is that instructors and learners gain knowledge and understanding of the underlying conceptual framework, including the characteristics associated with how it has been operationalized and applied to both the learning and assessment parts of the system. This awareness relies on the fact that the support materials, instructional system, and assessment instruments are based on the same conceptual framework and, therefore, are linked to create an efficient and effective learning and assessment system. By shoring up literacy, numeracy, and digital skills, teachers and instructors understand that they have access to a new model that can help improve the talent base that will allow adult learners to be better equipped for the jobs of today and better able to engage in ongoing learning that will prepare them for the jobs/employment opportunities of the future.

A third initial outcome we anticipate from adoption and use of an ECD learning and assessment system is that there is an increased use of formative assessments to support and guide learning. Interim assessments are designed to provide specific information about whether individuals understand the instruction they are receiving. This is best accomplished using practice exercises or specially designed tasks aimed at specific competencies associated with the instruction. As these materials are designed to provide immediate feedback and support for learning, it is important to have evidence that these materials are routinely used by the learners through workbook-like materials and by instructors during direct instruction.

Long-Term Outcomes

A key long-term outcome for this system is that learners recognize that they have improved their literacy, numeracy, and digital skills. With these improved and stackable or transferable skills, individuals will recognize that they are better able to benefit from job-specific training and, longer term, are better equipped to learn on their own in a time of rapidly evolving technologies and workplace demands.

To ensure that the system is effectively meeting this goal requires continuous improvement of the components and mechanisms that comprise the model. This will mandate the development of a set of indicators that can guide data collection strategies, monitor progress, and point to needed enhancements and improvements to the system. To be most effective, these indicators should be based on ongoing research and findings from various interventions implemented across a range of contexts and populations. Ultimately, the question we should be asking is not whether a specific intervention is effective; but for whom it is effective and under what conditions.

With this proposed approach, we have the opportunity to reimagine how successful interventions are designed, delivered, and promoted and to help millions of our struggling middle-skill workers develop the literacy, numeracy, and digital skills needed to advance their career and life opportunities. A critical outcome for the learning and assessment system is that its successes garner the interest and support of business leaders, educators, and key stakeholders. This support would facilitate implementation of the model in high schools, community colleges, and other organizations including those serving incarcerated populations and those offering after-school/work options.

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Ultimately, this effort for linking essential skill development with additional education or actual career opportunities aims to:

- Attract more—and more diverse—students who need access to improved learning and assessment opportunities that will help propel them through to successful completion of educational and career and technical programs

- Improve the design of essential skills programs to more intentionally align with actual job and career opportunities for which preparation requires certain literacy, numeracy, and digital literacy as well as other work-readiness skills

- Demonstrate that more adults will have access to and succeed in educational and job-specific training opportunities

- Provide learners with stackable and portable skills that they can continue to build on in the future

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Some Final Thoughts

As our society continues to undergo change that requires larger percentages of our population to acquire higher-order skills such as complex problem-solving and critical thinking, strategic and systematic policies and interventions are needed to change the circumstances of those with insufficient levels of literacy, numeracy, and digital skills so that they are better positioned to succeed in the economy and society of today and tomorrow.

Through targeted learning and assessment systems, adults with insufficient skill levels can develop the competencies that they need today. Successful interventions will also help prepare them for a future in which they must be able to benefit from ongoing educational and training programs in rapidly changing workplace and societal environments, and be able to continuously and independently acquire new knowledge and higher-order skills .

As the number of voices calling for investments in upskilling and reskilling America's workers mount, we must be mindful that interventions take into account learners' existing literacy, numeracy and digital skill levels. As we come to recognize the importance of these essential skills, we should also consider the current narrative around degrees, certificates and certification. For too long, we have relied on increasing the quantity of education, assuming this would provide better skills and set individuals on the right course toward entering and sustaining an economically stable life. Yet, as discussed above, a surprisingly large number of young adults are leaving upper secondary and postsecondary education lacking the essential skills they need for future success in education or the labor market. Policy makers and others must focus on providing opportunities for adults—even those with certificates and degrees—to improve their literacy, numeracy, and digital skills to support future learning, including job-specific training and retraining.

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Appendix A: Bright Outlook Occupations, O*NET Crosswalk

Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk

CODE	OCCUPATION	JOB ZONE RECODE
15-2011.00	**Actuaries**	**4**
29-1199.01	**Acupuncturists**	**5**
29-1141.01	**Acute Care Nurses**	**3**
25-2059.01	**Adapted Physical Education Specialists**	**4**
11-3011.00	**Administrative Services Managers**	**3**
29-1141.02	**Advanced Practice Psychiatric Nurses**	**5**
13-1011.00	**Agents and Business Managers of Artists, Performers, and Athletes**	**4**
45-2091.00	**Agricultural Equipment Operators**	**1**
53-2022.00	**Airfield Operations Specialists**	**3**
29-1069.01	**Allergists and Immunologists**	**5**
53-3011.00	**Ambulance Drivers and Attendants, Except Emergency Medical Technicians**	**2**
39-3091.00	**Amusement and Recreation Attendants**	**1**
29-1071.01	**Anesthesiologist Assistants**	**5**
19-1011.00	**Animal Scientists**	**5**
39-2011.00	**Animal Trainers**	**2**
19-3091.01	**Anthropologists**	**5**
19-3091.00	**Anthropologists and Archeologists**	**5**
25-1061.00	**Anthropology and Archeology Teachers, Postsecondary**	**5**
13-2021.00	**Appraisers and Assessors of Real Estate**	**4**
13-2021.02	**Appraisers, Real Estate**	**4**
23-1022.00	**Arbitrators, Mediators, and Conciliators**	**5**
19-3091.02	**Archeologists**	**5**
17-1011.00	**Architects, Except Landscape and Naval**	**4**
25-1031.00	**Architecture Teachers, Postsecondary**	**5**
25-4011.00	**Archivists**	**5**
25-1062.00	**Area, Ethnic, and Cultural Studies Teachers, Postsecondary**	**5**
29-1125.01	**Art Therapists**	**5**
25-1121.00	**Art, Drama, and Music Teachers, Postsecondary**	**5**
13-2021.01	**Assessors**	**3**
29-9091.00	**Athletic Trainers**	**5**
19-2021.00	**Atmospheric and Space Scientists**	**4**
27-4011.00	**Audio and Video Equipment Technicians**	**3**
29-1181.00	**Audiologists**	**5**
39-5011.00	**Barbers**	**3**
35-3011.00	**Bartenders**	**2**
49-3091.00	**Bicycle Repairers**	**2**
43-3021.00	**Billing and Posting Clerks**	**2**
43-3021.02	**Billing, Cost, and Rate Clerks**	**2**
43-9111.01	**Bioinformatics Technicians**	**4**
25-1042.00	**Biological Science Teachers, Postsecondary**	**5**
19-4021.00	**Biological Technicians**	**4**
15-2041.01	**Biostatisticians**	**5**
47-2021.00	**Brickmasons and Blockmasons**	**2**

Notes: *Unable to determine Job Zone Category
Source: Data for Crosswalk from O*NET OnLine by the U.S. Department of Labor, Employment and Training Administration (USDOL/ETA). Used under the CC BY 4.0 license. O*NET® is a trademark of USDOL/ETA.
*O*NET Bright Outlook Occupations*, accessed November 2019. https://www.onetonline.org/help/bright/
O*NET Online Crosswalk Search, accessed November 2019. https://www.onetonline.org/crosswalk/.

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
37-2019.00	**Building Cleaning Workers, All Other**	*
15-1199.08	**Business Intelligence Analysts**	4
25-1011.00	**Business Teachers, Postsecondary**	5
27-4031.00	**Camera Operators, Television, Video, and Motion Picture**	3
29-2031.00	**Cardiovascular Technologists and Technicians**	3
43-5011.00	**Cargo and Freight Agents**	2
47-2031.00	**Carpenters**	2
17-1021.00	**Cartographers and Photogrammetrists**	4
47-2051.00	**Cement Masons and Concrete Finishers**	1
35-1011.00	**Chefs and Head Cooks**	3
21-1021.00	**Child, Family, and School Social Workers**	4
29-1011.00	**Chiropractors**	5
19-4061.01	**City and Regional Planning Aides**	4
19-2041.01	**Climate Change Analysts**	5
15-2041.02	**Clinical Data Managers**	4
29-1141.04	**Clinical Nurse Specialists**	5
19-3031.02	**Clinical Psychologists**	5
19-3031.00	**Clinical, Counseling, and School Psychologists**	5
27-2022.00	**Coaches and Scouts**	4
35-3021.00	**Combined Food Preparation and Serving Workers, Including Fast Food**	1
49-9092.00	**Commercial Divers**	3
53-2012.00	**Commercial Pilots**	3
43-2099.00	**Communications Equipment Operators, All Other**	*
21-1099.00	**Community and Social Service Specialists, All Other**	*
21-1094.00	**Community Health Workers**	4
15-1111.00	**Computer and Information Research Scientists**	5
11-3021.00	**Computer and Information Systems Managers**	4
51-4012.00	**Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic**	3
15-1199.00	**Computer Occupations, All Other**	*
15-1121.00	**Computer Systems Analysts**	4
15-1199.02	**Computer Systems Engineers/Architects**	4
15-1151.00	**Computer User Support Specialists**	3
47-4011.00	**Construction and Building Inspectors**	3
47-4099.00	**Construction and Related Workers, All Other**	*
47-2031.01	**Construction Carpenters**	2
47-2061.00	**Construction Laborers**	2
11-9021.00	**Construction Managers**	4
35-2014.00	**Cooks, Restaurant**	2
13-1051.00	**Cost Estimators**	4
19-3031.03	**Counseling Psychologists**	5
21-1019.00	**Counselors, All Other**	*
23-2091.00	**Court Reporters**	3
13-2071.00	**Credit Counselors**	4
25-1111.00	**Criminal Justice and Law Enforcement Teachers, Postsecondary**	5
29-1141.03	**Critical Care Nurses**	3
25-4012.00	**Curators**	5
29-2011.01	**Cytogenetic Technologists**	4
29-2011.02	**Cytotechnologists**	5
15-1199.07	**Data Warehousing Specialists**	4
15-1141.00	**Database Administrators**	4
15-1199.06	**Database Architects**	4

Notes: *Unable to determine Job Zone Category
Source: Data for Crosswalk from O*NET OnLine by the U.S. Department of Labor, Employment and Training Administration (USDOL/ETA). Used under the CC BY 4.0 license. O*NET® is a trademark of USDOL/ETA. *O*NET Bright Outlook Occupations*, accessed November 2019. https://www.onetonline.org/help/bright/
O*NET Online Crosswalk Search, accessed November 2019. https://www.onetonline.org/crosswalk/.

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
31-9091.00	**Dental Assistants**	3
29-2021.00	**Dental Hygienists**	3
51-9081.00	**Dental Laboratory Technicians**	2
29-1021.00	**Dentists, General**	5
29-1069.02	**Dermatologists**	5
47-5011.00	**Derrick Operators, Oil and Gas**	1
29-2032.00	**Diagnostic Medical Sonographers**	3
29-1031.00	**Dietitians and Nutritionists**	5
35-9011.00	**Dining Room and Cafeteria Attendants and Bartender Helpers**	1
11-9039.01	**Distance Learning Coordinators**	5
15-1199.12	**Document Management Specialists**	4
47-5021.00	**Earth Drillers, Except Oil and Gas**	2
25-1063.00	**Economics Teachers, Postsecondary**	5
19-3011.00	**Economists**	5
11-9039.00	**Education Administrators, All Other**	*
11-9033.00	**Education Administrators, Postsecondary**	5
11-9031.00	**Education Administrators, Preschool and Childcare Center/Program**	4
25-1081.00	**Education Teachers, Postsecondary**	5
21-1012.00	**Educational, Guidance, School, and Vocational Counselors**	5
49-9051.00	**Electrical Power-Line Installers and Repairers**	3
47-2111.00	**Electricians**	3
47-4021.00	**Elevator Installers and Repairers**	3
29-2041.00	**Emergency Medical Technicians and Paramedics**	3
31-9099.02	**Endoscopy Technicians**	3
41-3099.01	**Energy Brokers**	4
25-1032.00	**Engineering Teachers, Postsecondary**	5
19-3011.01	**Environmental Economists**	5
17-3025.00	**Environmental Engineering Technicians**	4
19-2041.02	**Environmental Restoration Planners**	5
19-4091.00	**Environmental Science and Protection Technicians, Including Health**	4
19-2041.00	**Environmental Scientists and Specialists, Including Health**	4
53-7032.00	**Excavating and Loading Machine and Dragline Operators**	2
29-1128.00	**Exercise Physiologists**	5
47-5099.00	**Extraction Workers, All Other**	*
29-1062.00	**Family and General Practitioners**	5
13-1074.00	**Farm Labor Contractors**	2
47-4031.00	**Fence Erectors**	2
27-4032.00	**Film and Video Editors**	3
43-3099.00	**Financial Clerks, All Other**	*
13-2061.00	**Financial Examiners**	4
11-3031.00	**Financial Managers**	*
11-3031.02	**Financial Managers, Branch or Department**	4
47-1011.00	**First-Line Supervisors of Construction Trades and Extraction Workers**	3
35-1012.00	**First-Line Supervisors of Food Preparation and Serving Workers**	2
37-1011.00	**First-Line Supervisors of Housekeeping and Janitorial Workers**	2
37-1012.00	**First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers**	3
39-1021.00	**First-Line Supervisors of Personal Service Workers**	3
11-9039.02	**Fitness and Wellness Coordinators**	4
39-9031.00	**Fitness Trainers and Aerobics Instructors**	3
53-2031.00	**Flight Attendants**	3
47-2042.00	**Floor Layers, Except Carpet, Wood, and Hard Tiles**	2

Notes: *Unable to determine Job Zone Category
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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
47-2043.00	**Floor Sanders and Finishers**	2
35-9099.00	**Food Preparation and Serving Related Workers, All Other**	*
35-2021.00	**Food Preparation Workers**	1
35-3041.00	**Food Servers, Nonrestaurant**	1
11-9051.00	**Food Service Managers**	2
25-1124.00	**Foreign Language and Literature Teachers, Postsecondary**	5
19-4092.00	**Forensic Science Technicians**	4
33-2022.00	**Forest Fire Inspectors and Prevention Specialists**	3
43-5011.01	**Freight Forwarders**	2
13-1131.00	**Fundraisers**	4
11-9071.00	**Gaming Managers**	3
39-1011.00	**Gaming Supervisors**	2
11-1021.00	**General and Operations Managers**	4
29-9092.00	**Genetic Counselors**	5
15-1199.05	**Geographic Information Systems Technicians**	4
19-4041.00	**Geological and Petroleum Technicians**	4
19-4041.02	**Geological Sample Test Technicians**	4
19-4041.01	**Geophysical Data Technicians**	4
15-1199.04	**Geospatial Information Scientists and Technologists**	4
47-2121.00	**Glaziers**	2
39-5012.00	**Hairdressers, Hairstylists, and Cosmetologists**	3
47-4041.00	**Hazardous Materials Removal Workers**	3
29-1199.00	**Health Diagnosing and Treating Practitioners, All Other**	5
21-1091.00	**Health Educators**	4
25-1071.00	**Health Specialties Teachers, Postsecondary**	5
29-2099.00	**Health Technologists and Technicians, All Other**	3
29-9099.00	**Healthcare Practitioners and Technical Workers, All Other**	*
21-1022.00	**Healthcare Social Workers**	5
31-9099.00	**Healthcare Support Workers, All Other**	3
29-2092.00	**Hearing Aid Specialists**	3
49-9021.01	**Heating and Air Conditioning Mechanics and Installers**	3
49-9021.00	**Heating, Air Conditioning, and Refrigeration Mechanics and Installers**	3
47-3019.00	**Helpers, Construction Trades, All Other**	*
47-3011.00	**Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters**	2
47-3012.00	**Helpers--Carpenters**	2
47-3013.00	**Helpers--Electricians**	2
47-5081.00	**Helpers--Extraction Workers**	2
49-9098.00	**Helpers--Installation, Maintenance, and Repair Workers**	2
47-3015.00	**Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters**	2
51-9198.00	**Helpers--Production Workers**	2
47-3016.00	**Helpers--Roofers**	2
29-2011.03	**Histotechnologists and Histologic Technicians**	3
31-1011.00	**Home Health Aides**	2
29-1069.03	**Hospitalists**	5
35-9031.00	**Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop**	2
17-2112.01	**Human Factors Engineers and Ergonomists**	5
11-3121.00	**Human Resources Managers**	4
19-2043.00	**Hydrologists**	5
19-2041.03	**Industrial Ecologists**	5
17-2112.00	**Industrial Engineers**	4
19-3032.00	**Industrial-Organizational Psychologists**	5

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
15-1121.01	**Informatics Nurse Specialists**	**4**
15-1122.00	**Information Security Analysts**	**4**
15-1199.09	**Information Technology Project Managers**	**4**
47-2132.00	**Insulation Workers, Mechanical**	**2**
41-3021.00	**Insurance Sales Agents**	**4**
27-3091.00	**Interpreters and Translators**	**4**
37-2011.00	**Janitors and Cleaners, Except Maids and Housekeeping Cleaners**	**2**
37-3011.00	**Landscaping and Groundskeeping Workers**	**1**
25-1112.00	**Law Teachers, Postsecondary**	**5**
29-2061.00	**Licensed Practical and Licensed Vocational Nurses**	**3**
19-4099.00	**Life, Physical, and Social Science Technicians, All Other**	*****
33-9092.00	**Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers**	**2**
13-2071.01	**Loan Counselors**	**4**
43-4131.00	**Loan Interviewers and Clerks**	**3**
13-2072.00	**Loan Officers**	**3**
39-3093.00	**Locker Room, Coatroom, and Dressing Room Attendants**	**2**
29-1122.01	**Low Vision Therapists, Orientation and Mobility Specialists, and Vision Rehabilitation Therapists**	**5**
29-2035.00	**Magnetic Resonance Imaging Technologists**	**3**
39-5091.00	**Makeup Artists, Theatrical and Performance**	**3**
13-1111.00	**Management Analysts**	**5**
39-5092.00	**Manicurists and Pedicurists**	**2**
17-2121.02	**Marine Architects**	**4**
17-2121.01	**Marine Engineers**	**4**
17-2121.00	**Marine Engineers and Naval Architects**	**4**
13-1161.00	**Market Research Analysts and Marketing Specialists**	**4**
11-2021.00	**Marketing Managers**	**4**
21-1013.00	**Marriage and Family Therapists**	**5**
31-9011.00	**Massage Therapists**	**3**
15-2021.00	**Mathematicians**	**5**
49-9011.00	**Mechanical Door Repairers**	**2**
27-3099.00	**Media and Communication Workers, All Other**	*****
29-2012.00	**Medical and Clinical Laboratory Technicians**	**3**
29-2011.00	**Medical and Clinical Laboratory Technologists**	**4**
11-9111.00	**Medical and Health Services Managers**	**5**
51-9082.00	**Medical Appliance Technicians**	**3**
31-9092.00	**Medical Assistants**	**3**
31-9093.00	**Medical Equipment Preparers**	**2**
29-2071.00	**Medical Records and Health Information Technicians**	**3**
19-1042.00	**Medical Scientists, Except Epidemiologists**	**5**
43-6013.00	**Medical Secretaries**	**3**
13-1121.00	**Meeting, Convention, and Event Planners**	**4**
21-1023.00	**Mental Health and Substance Abuse Social Workers**	**5**
21-1014.00	**Mental Health Counselors**	**5**
29-9099.01	**Midwives**	**4**
49-9044.00	**Millwrights**	**2**
53-3099.00	**Motor Vehicle Operators, All Other**	*****
49-3052.00	**Motorcycle Mechanics**	**3**
25-4013.00	**Museum Technicians and Conservators**	**4**
29-1125.02	**Music Therapists**	**4**
29-1199.04	**Naturopathic Physicians**	**5**

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
29-2099.01	**Neurodiagnostic Technologists**	5
29-1069.04	**Neurologists**	5
19-3039.01	**Neuropsychologists and Clinical Neuropsychologists**	5
39-2021.00	**Nonfarm Animal Caretakers**	2
29-1069.05	**Nuclear Medicine Physicians**	5
29-2033.00	**Nuclear Medicine Technologists**	3
29-1151.00	**Nurse Anesthetists**	5
29-1161.00	**Nurse Midwives**	5
29-1171.00	**Nurse Practitioners**	5
31-1014.00	**Nursing Assistants**	2
25-1072.00	**Nursing Instructors and Teachers, Postsecondary**	5
29-9012.00	**Occupational Health and Safety Technicians**	3
29-1122.00	**Occupational Therapists**	5
31-2012.00	**Occupational Therapy Aides**	3
31-2011.00	**Occupational Therapy Assistants**	3
47-2073.00	**Operating Engineers and Other Construction Equipment Operators**	2
15-2031.00	**Operations Research Analysts**	5
51-9083.00	**Ophthalmic Laboratory Technicians**	2
29-2057.00	**Ophthalmic Medical Technicians**	3
29-2099.05	**Ophthalmic Medical Technologists**	3
29-1069.06	**Ophthalmologists**	5
29-2081.00	**Opticians, Dispensing**	3
29-1041.00	**Optometrists**	5
29-1022.00	**Oral and Maxillofacial Surgeons**	5
29-1023.00	**Orthodontists**	5
29-1199.05	**Orthoptists**	5
29-2091.00	**Orthotists and Prosthetists**	5
23-2011.00	**Paralegals and Legal Assistants**	3
29-1069.07	**Pathologists**	5
47-2071.00	**Paving, Surfacing, and Tamping Equipment Operators**	2
39-9021.00	**Personal Care Aides**	2
39-9099.00	**Personal Care and Service Workers, All Other**	*
13-2052.00	**Personal Financial Advisors**	4
37-2021.00	**Pest Control Workers**	2
37-3012.00	**Pesticide Handlers, Sprayers, and Applicators, Vegetation**	2
29-2052.00	**Pharmacy Technicians**	3
25-1126.00	**Philosophy and Religion Teachers, Postsecondary**	5
31-9097.00	**Phlebotomists**	3
29-1069.08	**Physical Medicine and Rehabilitation Physicians**	5
31-2022.00	**Physical Therapist Aides**	2
31-2021.00	**Physical Therapist Assistants**	3
29-1123.00	**Physical Therapists**	5
29-1071.00	**Physician Assistants**	5
29-1069.00	**Physicians and Surgeons, All Other**	5
19-2012.00	**Physicists**	5
25-1054.00	**Physics Teachers, Postsecondary**	5
47-2072.00	**Pile-Driver Operators**	2
47-2152.01	**Pipe Fitters and Steamfitters**	3
47-2151.00	**Pipelayers**	2
47-2152.02	**Plumbers**	3
47-2152.01	**Plumbers, Pipefitters, and Steamfitters**	3

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
25-1065.00	Political Science Teachers, Postsecondary	5
19-4099.02	Precision Agriculture Technicians	4
25-2011.00	Preschool Teachers, Except Special Education	3
29-1069.09	Preventive Medicine Physicians	5
33-9021.00	Private Detectives and Investigators	3
11-9141.00	Property, Real Estate, and Community Association Managers	4
29-1024.00	Prosthodontists	5
31-1013.00	Psychiatric Aides	2
29-2053.00	Psychiatric Technicians	3
29-1066.00	Psychiatrists	5
19-3039.00	Psychologists, All Other	5
25-1066.00	Psychology Teachers, Postsecondary	5
11-2031.00	Public Relations and Fundraising Managers	4
53-7072.00	Pump Operators, Except Wellhead Pumpers	2
19-4099.01	Quality Control Analysts	3
29-1124.00	Radiation Therapists	3
29-2099.06	Radiologic Technicians	3
29-2034.00	Radiologic Technologists	3
29-1069.10	Radiologists	5
47-4061.00	Rail-Track Laying and Maintenance Equipment Operators	2
41-9021.00	Real Estate Brokers	4
41-9022.00	Real Estate Sales Agents	3
39-9032.00	Recreation Workers	4
29-1125.00	Recreational Therapists	4
49-3092.00	Recreational Vehicle Service Technicians	2
49-9021.02	Refrigeration Mechanics and Installers	3
53-7081.00	Refuse and Recyclable Material Collectors	2
29-1141.00	Registered Nurses	3
21-1015.00	Rehabilitation Counselors	5
47-2171.00	Reinforcing Iron and Rebar Workers	2
19-4099.03	Remote Sensing Technicians	4
39-9041.00	Residential Advisors	3
29-1126.00	Respiratory Therapists	3
47-2181.00	Roofers	2
47-5012.00	Rotary Drill Operators, Oil and Gas	2
47-2031.02	Rough Carpenters	2
47-5071.00	Roustabouts, Oil and Gas	1
41-3099.00	Sales Representatives, Services, All Other	4
19-3031.01	School Psychologists	5
15-1199.10	Search Marketing Strategists	4
49-2098.00	Security and Fire Alarm Systems Installers	3
47-4091.00	Segmental Pavers	2
25-3021.00	Self-Enrichment Education Teachers	3
47-4071.00	Septic Tank Servicers and Sewer Pipe Cleaners	1
47-5013.00	Service Unit Operators, Oil, Gas, and Mining	2
39-5093.00	Shampooers	2
47-2211.00	Sheet Metal Workers	2
39-5094.00	Skincare Specialists	3
39-1012.00	Slot Supervisors	2
11-9151.00	Social and Community Service Managers	4
21-1093.00	Social and Human Service Assistants	4

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Appendix Table A: Bright Outlook Occupations, O*NET Crosswalk (Cont.)

CODE	OCCUPATION	JOB ZONE RECODE
19-4061.00	**Social Science Research Assistants**	4
25-1113.00	**Social Work Teachers, Postsecondary**	5
19-3041.00	**Sociologists**	5
15-1132.00	**Software Developers, Applications**	4
15-1133.00	**Software Developers, Systems Software**	4
15-1199.01	**Software Quality Assurance Engineers and Testers**	4
19-1013.00	**Soil and Plant Scientists**	5
47-1011.03	**Solar Energy Installation Managers**	3
47-2231.00	**Solar Photovoltaic Installers**	3
47-4099.02	**Solar Thermal Installers and Technicians**	3
39-1021.01	**Spa Managers**	3
25-2059.00	**Special Education Teachers, All Other**	*
25-2051.00	**Special Education Teachers, Preschool**	5
29-1127.00	**Speech-Language Pathologists**	5
31-9099.01	**Speech-Language Pathology Assistants**	3
29-1069.11	**Sports Medicine Physicians**	5
43-3021.01	**Statement Clerks**	2
43-9111.00	**Statistical Assistants**	4
15-2041.00	**Statisticians**	5
47-2022.00	**Stonemasons**	3
47-2221.00	**Structural Iron and Steel Workers**	2
21-1011.00	**Substance Abuse and Behavioral Disorder Counselors**	5
29-2099.07	**Surgical Assistants**	3
29-2055.00	**Surgical Technologists**	3
53-3041.00	**Taxi Drivers and Chauffeurs**	2
27-3042.00	**Technical Writers**	4
47-2053.00	**Terrazzo Workers and Finishers**	2
29-1129.00	**Therapists, All Other**	*
47-2044.00	**Tile and Marble Setters**	2
39-7011.00	**Tour Guides and Escorts**	3
11-3131.00	**Training and Development Managers**	4
13-1151.00	**Training and Development Specialists**	4
53-6099.00	**Transportation Workers, All Other**	*
39-7012.00	**Travel Guides**	3
11-3031.01	**Treasurers and Controllers**	5
37-3013.00	**Tree Trimmers and Pruners**	2
19-3051.00	**Urban and Regional Planners**	5
29-1069.12	**Urologists**	5
29-1131.00	**Veterinarians**	5
31-9096.00	**Veterinary Assistants and Laboratory Animal Caretakers**	3
29-2056.00	**Veterinary Technologists and Technicians**	3
15-1199.11	**Video Game Designers**	4
35-3031.00	**Waiters and Waitresses**	2
47-4099.03	**Weatherization Installers and Technicians**	2
15-1199.03	**Web Administrators**	4
15-1134.00	**Web Developers**	3
49-9081.00	**Wind Turbine Service Technicians**	3

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Appendix B: PIAAC Literacy Skills by Level of Educational Attainment, Population 16–34, 2012/14

National Center for Education Statistics (NCES)
Institute of Education Sciences (IES)
Program for the International Assessment of Adult Competencies (PIAAC)
This report was generated using the U.S. PIAAC International Data Explorer. https://nces.ed.gov/surveys/piaac/ideuspiaac

Appendix Table B: PIAAC Literacy Skills by Level of Educational Attainment, Population 16–34, 2012/14

EDUCATION - HIGHEST QUALIFICATION - LEVEL	AGE	BELOW LEVEL 1		LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4		LEVEL 5	
		%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Lower secondary or less (ISCED 1,2, 3C short or less)	16-34	6	(1.3)	24	(2.4)	42	(2.8)	24	(2.5)	4	(1.4)	‡	†
Upper secondary (ISCED 3A-B, C long)	16-34	3	(0.6)	12	(1.3)	38	(2.0)	37	(2.0)	10	(1.3)	1	(0.3)
Post-secondary, non-tertiary (ISCED 4A-B-C)	16-34	‡	†	9	(2.6)	46	(4.9)	38	(4.4)	7	(2.3)	‡	†
Tertiary - professional degree (ISCED 5B)	16-34	‡	†	3	(1.3)	29	(4.2)	51	(4.9)	17	(3.6)	‡	†
Tertiary - bachelor degree (ISCED 5A)	16-34	‡	†	2	(0.8)	16	(1.9)	50	(2.9)	30	(3.0)	2	(0.9)
Tertiary - master/research degree (ISCED 5A/6)	16-34	‡	†	2	(1.3)	11	(3.2)	43	(5.1)	39	(4.5)	6	(2.7)

† Not applicable.

‡ Reporting standards not met.

NOTE: Detail may not sum to totals because of rounding. Some apparent differences between estimates may not be statistically significant.

SOURCE: U S. Department of Education, National Center for Education Statistics, Statistics Canada and Organization for Economic Cooperation and Development, Program for the International Assessment of Adult Competencies (PIAAC), PIAAC 2012/2014 Literacy, Numeracy, and Problem Solving TRE Assessment.

About the Authors

Irwin Kirsch is the Ralph Tyler Chair in Large Scale Assessment and director of the Center for Global Assessment at ETS in Princeton, NJ. In his role as director of the center, he oversees several teams of research scientists, assessment designers, and platform developers who are responsible for the development, management, and implementation of large-scale national and international assessments. Over the course of his career, Dr. Kirsch has worked in close collaboration with a number of state, national, and international organizations including the World Bank, UNESCO, the International Association for the Evaluation of Educational Achievement, and the Organisation for Economic Co-operation and Development where he currently has responsibility for the development and conduct of the two largest international assessments that provide policy makers and key stakeholders with national and international comparative data on literacy and workforce preparedness—PIAAC and PISA. In addition to his assessment work, Dr. Kirsch is a member of the ETS research management team, serves on the board of a nonprofit literacy organization, and acts as a reviewer for several journals. He has published numerous research articles and book chapters dealing with issues around designing, developing, and interpreting cognitive-based scales and has written a number of policy reports using large-scale assessment data that focus on the growing importance of skills and their connections to life outcomes.

Anita M. Sands is a lead policy researcher and author in the ETS Center for Research on Human Capital & Education. Her published work covers education equity, economic opportunity, racial and economic segregation, concentrated poverty, research methodology, and program evaluations. Sands has coauthored numerous policy reports for the Center including *Curbing America's Reading Crisis: A Call to Action for Our Children* (2019), *If You Can't Be With the Data You Love: And the Risks of Loving the Data You're With* (2019), *Too Big to Fail: Millennials on the Margins* (2018), Choosing Our Future: A Story of Opportunity in America (2016), and America's Skills Challenge: Millennials and the Future (2015). Prior to joining ETS, Ms. Sands taught in the Department of Sociology at Rider University and owned a consulting firm where she directed projects to address racial and economic segregation, poverty, and land-use policy inequities. Ms. Sands is ABD in the Department of Sociology PhD program at Temple University.

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Madeline J. Goodman is a researcher and author for the National Assessment of Educational Progress (NAEP) at ETS. Since joining the organization, Dr. Goodman has served as coordinator for the NAEP social science assessments and director for the NAEP website. Dr. Goodman has written numerous national, state, district, and special reports based on national and international assessments including, most recently, *Too Big to Fail: Millennials on the Margins* (2018) and America's Skills Challenge: Millennials and the Future (2015). Goodman received a PhD in US history from Carnegie Mellon University and is the recipient of a Spencer Fellowship for research on improvement in education and a Fulbright Scholar Award.

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Endnotes

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February 28, 2022

Submitted via email to ███████████████████████

RE: Connected Health RFI

The University of Illinois Chicago's Office of the Vice Chancellor for Research strongly supports the further consideration of community health equity in relation to engagement with digital technologies. We see extensive opportunities and educational and infrastructure building needs to allow for the broadest adoption of digital health technology while respecting ethical considerations like privacy and cultural standards. For the purposes of this response, we focused on two areas of the Connected Health RFI - Area 5: Tool and Training Needs and Area 7: Health Equity. However, we anticipate that our examples will also draw upon other areas as well.

Area 5. Tool and training needs

There are significant tool and training needs to facilitate community health engagement and interaction with health technology. Among the fundamental needs is that for the capital expense of acquiring appropriate technology. Accessing, storing, and using health information and data requires technology with specific security measures and, increasingly, computational power. The use of the cheapest tablets or laptops will not suffice in this situation. Further, technological and policy change requires resources to maintain and upgrade physical technology and software on an ongoing basis. Supportive grants to facilitate maintaining and continuing to improve networks are needed to supplement initial capital startup funding.

In addition to the need for physical technology such as cell phones, tablets, computers, and digital storage and for related software, engaging with digital health initiatives requires consistent access to high-speed internet. A significant portion of the country is unable to access high speed internet at all and where it is available, there continue to be cost barriers for a large portion of the population. These access and cost barriers are concentrated in communities that have other social challenges to utilizing health services. This limits individuals and community groups to accessing health information frequently only through mobile interfaces and limited by costly data plans or access to free wifi.

Beyond meeting the needs of the end users in these communities is the need for investment in technology tools which allow for the creation and broad uptake of low-

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barrier diagnostic tools which could be more broadly deployed. An example of this is the COEUS model, which uses AI and an ultrasound wand at point of care to provide easily mobile breast cancer screening and referrals. By supporting novel application of these technological possibilities, we could improve earlier diagnostic capture of major health issues to improve interventions and prevent advancement of disease and loss of quality of life or ability.   This could also introduce greater possibility to target regions or communities where specific diseases or conditions are over represented.

The global pandemic has shown the need for increased health information literacy and health information access across all educational and geographic regions. A present limitation is that most scholarly health information continues to be put behind publisher paywalls, inhibiting immediate and comprehensive access. While the NIH Public Access Policy has led the way in providing taxpayer and community access to more information, the ongoing 12 month embargo continues to create unnecessary barriers. Further, as significant amounts of research may not have NIH funding, this cannot be a sole solution. Access alone, however, does not immediately reduce the need for ongoing continuing education, particularly aimed and medical professionals, community leaders, and colleagues who are working with community groups and in underserved areas. An example of how this has been addressed and could be expanded is the NLM funded NeXT project, which has brought efforts to rural areas in Illinois to help nurses incorporate evidence-based practice and translating current research into clinical practice.

Education and training to support digital health initiatives will need to be a variety of levels to broadly democratize access and, following a Rawlesean model of justice, uplift those currently least advantaged. This education and engagement with community cannot form a deficit mindset but truly focus on accessibility to meet community health groups and individuals where they are. A model that we could build upon is that of the extension agency system. This has been used historically for providing local and regional education and training related to agriculture and more recently to assist in the deployment of electronic health records. The National Network of the Library of Medicine was initially set up as a form of extension agency for health information and these networks could be expanded and built upon to advance community health needs.

We recommend the development of curricula which could support foundational and ongoing educational needs. However, these cannot be solely proscriptive and must be grounded in understanding the needs at a community level, identified through targeted needs assessments and establishment of local and regional partnerships. Further development of case studies and blueprint drawing from a variety of health systems to create best practices, models and examples that industry and community groups can

draw upon are also recommended. These curricula could develop into programs at community colleges and other technical and junior college programs, terminating in an Associate's Degree focused on community health through technology. Efforts must be taken to avoid over professionalization, however a clear educational path including standard articulation agreements for those interested in pursuing a related bachelors or graduate degree could follow the examples already established by Nursing programs, where programs provide educational growth for working professionals seeking a BSN, DNP, or PhD.

Area 7. Health Inequity

Policy guidance is among the areas where we face health inequities. For example, in the spring of 2020, there was significant focus on the use of SOFA scores in determination of ventilator allocation despite known issues with the score calculation and cultural norms such as the prioritization of health care workers. As we pull back from the state of national emergency, it is critical that we take this opportunity to ensure that we have policies and partners who have considered evidence-based policy needs for future emergencies. These partners can be identified by exploring national exemplar organizations, such as the Population Health Analytics Metrics Evaluation (PHAME) Center, a network of researchers, community activists, policymakers and neighbors advancing data-driven public health decisions, and a community of researchers.

The digital divide is an issue and we need an onramp to address how we begin to give communities access before they can use and engage with health data and information. Access needs have been critically apparent in rural and urban areas throughout the two years of the global pandemic and must be addressed. A specific example of this is in the rollout of vaccine against COVID-19. Vaccine appointments and reliable education were provided much more easily to people and communities with higher technology acceptance. Often patients with the least technological savvy were the ones in greatest danger of exposure to the virus and highest risk of a bad outcome through infection with COVID-19. And since the vaccine availability we see a concentration of morbidity and mortality related to COVID-19 infection in those communities. Even when there were specific efforts to counteract this predictable outcome, the lack of technological infrastructure hindered efforts to protect some of the most vulnerable patients.

An underexplored aspect of health inequities is siloed health data by different health professions. Despite the implementation of data standards, there remain enormous technological and cultural barriers to allowing seamless transfer of data, where appropriate, interprofessionally. As a result, dentists do not have full access to health

records that a primary physician might see, nor do they have a way to easily transfer their findings. Even within hospitals various disciplines struggle to provide each other access due to reliance on unique software solutions.

Finally, we must acknowledge that there are enormous issues of trust due to our historic treatment of women and minorities in health care and the challenges of currently providing tools only to those with the ability to pay exorbitant prices. We cannot approach this from the white knight perspective but instead must truly engage with community champions to enable the equitable exchange of health data. Many communities are correctly cautious of the history of patient treatment and the past theft of data and knowledge from them. This has been exacerbated by current mistrust of experts and science, as demonstrated by recent concerns related to vaccine hesitancy in minority communities. By deliberately foregrounding community experts and developing engagement such as the Mile Square Community Clinics Program, we can promote outreach that academic health centers may not traditionally have had to underserved communities.

Sincerely,

Joanna L. Groden, Ph.D.
Vice Chancellor for Research

Andrew Boyd, M.D.
Chief Research Information Officer
Associate Vice Chancellor for Research in Computing and Data Initiatives

January 20, 2022

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

Re: Request for Information (RFI) on Strengthening Community Health Through Technology

To Whom It May Concern:

I write on behalf of the University of Vermont Health Network in response to your recent request for interested stakeholder input on "how digital health technologies are used, or could be used in the future, to transform community health, individual wellness, and health equity."[1] We are excited for the opportunity to share information about the work happening at our rural health system serving all of Vermont and the northern counties of New York, as we have adapted to the public health emergency, and in so doing, established digital health as a permanent tool in not only delivering high quality health care services, but in "strengthening community health."

Digital health technologies are currently being used in many ways: video visits with patients at home, between providers leveraging eConsults within a patient's electronic health record (EHR), Remote Patient Monitoring, inpatient consults using video technology, emergency medical transport, and so on. Many of these technologies impact health, equitable access to health care services and overall wellness.

In 2020, when we experienced rapid telehealth expansion in response to the public health emergency, we observed both opportunities and barriers regarding patient experience, provider experience, technological requirements, what worked well, as well as areas for improvement that should be taken into account going forward.

A quote from one of our providers during that time, "Telehealth has a role to play in the future both as an additional component of everyday clinical practice and in the way we innovate care delivery to prioritize quality, safety and patient needs."

To that end, we urge you to consider the following areas in your evolving strategies and construct focus groups on each:
- Certain patient populations should be engaged. For instance, marginalized or disadvantaged populations, such as refugees and immigrants living in the United States, those who live in rural areas, and those who experience varying degrees of adverse social determinants of health.
- Increased access to specialty services. At FQHCs (ex: dermatology), at Critical Access Hospitals (Telestroke, tele-ICU) and within communities (EMS, outreach resources).
- Partnerships and integrations. Apple, Samsung, Microsoft, Google and Zoom should be a focus; with these come ease of use, improved access, created efficiencies, higher productivity and higher satisfaction.

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[1] 2021-28193.pdf (federalregister.gov)

- Community partnerships. Partnerships between health care organizations and schools, senior centers, libraries, food shelves, housing authorities, shelters and community health teams can provide patients with support in connecting with their health care providers when they otherwise may not be able to.

Thank you for taking the time to read this, and to consider what we have noted as part of your strategy moving forward. We would be happy to continue this conversation and serve as a resource.

Sincerely,

Todd Young

Associate Vice President, Digital Health Services
University of Vermont Health Network
111 Prospect Street
Burlington, VT 05402

EXECUTIVE MEMORANDUM

To: White House Office of Science and Technology Policy

From: Terrence Lewis
        Senior Associate Counsel, UPMC Legal Department

        Carla Dehmer
        Director, UPMC Telemedicine Department

Date: February 28, 2022

Re: Connected Health RFI

This Executive Memorandum constitutes the UPMC Legal & Telemedicine Departments' comments on the request from OSTP to provide information regarding the use of digital health technologies. UPMC is an Integrated Delivery and Financing System, made up of 40 hospitals and over 800 doctors' offices and outpatient sites. More than 4 million members are covered by UPMC Insurance Services products.

TELEHEALTH SERVICES

1. Successful Models within the US / Health Equity

Comments: UPMC values access to sub-specialty care for our patients, regardless of location. To best serve our patients with limited broadband strength, UPMC has developed strategically located outpatient telemedicine centers in rural areas. For new patients, the time to a scheduled appointment is faster for telemedicine visits than in-person, meaning increased utilization of telehealth can provide increased timely access of health care, including for historically underserved populations.

UPMC Altoona
- Infectious Disease

UPMC Bedford
- Endocrinology
- Genetics
- Infectious Disease
- Pulmonology
- Rheumatology

UPMC Cole
- Behavioral Health
- Endocrinology
- Epileptology
- Pediatric Urology
- Pulmonology
- Rheumatology

UPMC Northwest
- Endocrinology
- Genetics
- Infectious Disease
- Neurology
- Rheumatology
- Vascular Surgery
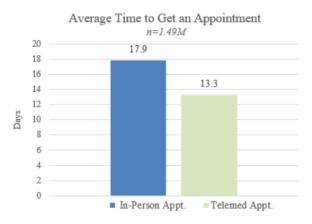
UPMC Somerset
- Endocrinology
- Neurosurgery
- Uro Gyn

UPMC Westgate
- Endocrinology
- Infectious Disease
- Primary Care

Supporting Data: *UPMC ambulatory data of completed visits from March 1, 2020 through December 31,2021 demonstrates patients are seen 26% sooner when scheduling telemedicine versus an in-person appointment.*

Average Time to Get an Appointment
n=1.49M

2. **Barriers to the use of digital health technologies**

Comments: Both beneficiaries and providers have incorporated telehealth services into their daily models of care. Population health management in the 21st Century requires a robust offering of telehealth services to meet the needs of patients and provide timely access to quality healthcare, especially sub-specialty professional services.

UPMC is strongly supportive of Congress enacting legislation to permanently remove the geographic location and place of setting requirements set forth in Section 1834(m). Without the permanent removal of these outdated and illogical barriers, the practice of telehealth will revert to the pre-PHE environment, meaning more disparate access and outcomes based on geography.

Supporting Data: *UPMC telehealth data show that both urban and rural locations benefit from the use of telehealth. The table below showcases telehealth visits in Allegheny County, an urban hub in Western Pa.*

UPMC Ambulatory Telehealth Visits
of Residence Living in Allegheny County

Year	# of Allegheny County Visits	% of Allegheny County Visits to Total UPMC Telehealth Visits
2020	588,708	54.3%
2021	510,906	52.8%

This data below indicates that telehealth visits in the patients' homes are a large percentage of total ambulatory telehealth visits. The need for in-home care is geographically agnostic and benefits patients in urban and rural areas.

UPMC In-Home Telehealth Patient Visits*
of Patients Livings in all Geographic Regions

Year	# of In-Home Visits	% of In-Home Visits to Total UPMC Telehealth Visits
2020	864,232	79.7%
2021	818,502	84.6%

*Includes two-way, audio-video communication as well as audio-only communication

Comments: UPMC recommends that audio-only telehealth calls meet the criteria for reimbursable telehealth, with audio-only services to include Level 4, Level 5 and E/M visit codes. Most providers rendering audio-only services should be given the authority to use their independent medical decision making when deciding the level of the service to be billed. UPMC patients without access to advanced technology appreciate and make the most of their opportunity to participate in telehealth. We have seen through the pandemic that several vulnerable populations in urban and rural settings do not have access to advanced technology.

Supporting Data:
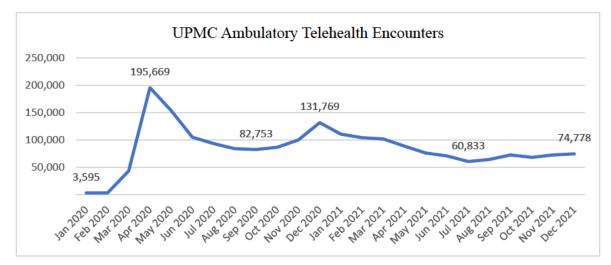
UPMC Audio-Only Telehealth Patient Visits
of Patients Living in all Geographic Regions

Year	# of Audio-Only Visits	% of Audio-Only Visits to Total UPMC Telehealth Visits
2020	196,262	18.1%
2021	149,728	15.5%

3. Trends from the pandemic

Comments: The graph below represents the leveling off of telemedicine utilization in 2021. In 2021, ambulatory telemedicine visits made up 16% of overall ambulatory volume. UPMC expects to maintain this level of utilization if the telemedicine waivers remain permanent.

Supporting Data:

UPMC Ambulatory Telehealth Encounters

January 31, 2022

Dr. Eric S. Lander
Director, White House Office of Science and Technology Policy
1600 Pennsylvania Avenue, NW
Washington, DC 20500

RE: Request for Information on Strengthening Community Health Through Technology

Dear Dr. Lander,

URAC is the independent leader in promoting health care quality through leadership, accreditation, measurement, and innovation. URAC is a non-profit organization that uses evidence-based measures and develops standards through inclusive engagement with a range of stakeholders committed to improving the quality of health care. Our portfolio of accreditation and certification programs span the health care industry, addressing digital health, health care management and operations, health plans, pharmacies, physician practices, and more. URAC accreditation is a symbol of excellence for organizations to showcase their validated commitment to quality and accountability.

Health care accreditation plays an important role in the process of quality improvement. Generally, accreditation programs feature comprehensive standards, a thorough self-assessment, and provision of a detailed accreditation report identifying strengths and ████████████████████ An ongoing relationship between an accreditor and its ████████████████ustained over the course of the accreditation cycle, fostering continued quality improvement. Organizations are also randomly selected for monitoring reviews to ensure their operations remain in compliance with URAC standards.

Telehealth has grown significantly since the onset of the COVID-19 pandemic. However, there are questions regarding an oversight framework for telehealth, particularly in the areas of program integrity and quality assurance. We believe accrediting organizations play an important role to help solve these problems and encourage organizations to meet and exceed regulatory requirements. Accredited organizations demonstrate to stakeholders that their processes and procedures promote better clinical outcomes, especially in the areas of patient safety and consumer protection. We urge policymakers to consider the important role of accreditation as they develop the laws and regulations governing telehealth usage

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beyond the COVID-19 pandemic. This has been successfully modeled by other countries and believe it has great potential in the United States.[1]

URAC consistently updates its telehealth accreditation standards to reflect best practices. As the industry leader in telehealth accreditation, URAC published updated telehealth standards that were created with extensive input from an industry-leading advisory group.[2] This included experts at the U.S. Office of Personnel Management, the Washington University School of Medicine, UC San Diego Health, Blue Cross Blue Shield Association, Children's National Hospital, and more. The standards go beyond policy recommendations and measures; they reflect the best comprehensive building blocks for high-quality organizations to put patients at the center of quality care. Our aim ensures that patient care delivered through a telehealth visit meets the same standard of care provided during an in-person visit.

URAC standards provide the roadmap for health care organizations to enhance processes according to best practices with the ultimate goal of improving patient care and outcomes. These accreditation standards can play an important role as a tool for policymakers to address the challenges of creating an oversight framework for telehealth. We offer ourselves as a resource and guide as the administration develops further policies. If you have any questions regarding this letter, or wish to discuss our feedback further, please contact Daniel Spirn, URAC's Vice President, Government Relations, at ▮▮▮▮▮▮▮.

Sincerely,

Shawn Griffin, M.D.
President and CEO of URAC

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[1] https://www.dha.gov.ae/Documents/HRD/RegulationsandStandards/standards/Standards%20for%20Telehealth%20Services%20Final.pdf (page 23)
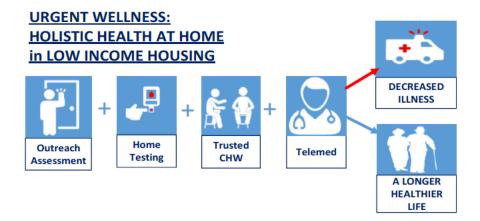
[2] https://www.urac.org/wp-content/uploads/2020/11/TAPv3.0StandardsataGlance091020.pdf

Request for Information (RFI) on Strengthening Community Health Through Technology

From: White House Office of Science and Technology Policy (OSTP).
Respondent: Freya Spielberg. MD MPH, Founder and CEO of Urgent Wellness
Date: 2/25/2022
To: ██████████████████████

1. **Introduction – A Model of Care to Address Health Disparities** - Many people that experience health disparities don't seek out primary care, as scheduling and attending appointments is difficult without transportation, childcare, and time off work. Others have low health literacy and are unaware that they need primary care. Many low-income individuals only receive care in Urgent Care and ER settings when they have an acute problem which leaves preventive and chronic disease needs unmet. This leads to late diagnosis of preventable diseases, poor health outcomes and high health care costs. We are currently redesigning healthcare to address these needs. Placing Wellness Clinics in low-income housing projects makes care more convenient than ER visits. Using Community Health Workers to proactively assess all resident needs and provide education and wellness plans improves health literacy and linkage to care. Providing telemedicine and home testing for medical, behavioral and social health needs further improves the accessibility and acceptability of care.   Urgent Wellness (urgentwellness.com) is a social enterprise designed to address these needs:

2. **Understanding Needs and Preferences of Individuals who experience health disparities** We conducted a prospective cross-sectional study of community needs and preferences among low-income housing residents in Washington DC (2017-2018, n=146) and Austin TX (2019-2020, n=504). In response to the assessment results, a new model of care was designed and is being implemented in Austin (Bringing Health Home) and Washington DC (Urgent Wellness). In the surveys we identified that despite high levels of health insurance in DC and Austin (99%, 88%, respectively), the vast majority of residents in both cities had significant needs currently not being met within the existing healthcare system. Prevalent needs (DC, Austin) included primary care (68%, 43%), preventive care (66%, 86%), mental health care (12%,20%), chronic disease management (69%, 67%), health behavioral risk services (95%, 95%), and social determinant needs (88%, 82%). Additionally, ER use one or more times in the past year was common in both DC and Austin (37%, 50%). Additional data from the Austin demonstration of redesigned healthcare showed that with home screening, individuals **previously unaware** of their chronic diseases (obesity (57%), hypertension (63%), Diabetes (97%), and Depression (30%)) could be identified, educated and linked to care.

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3. **Technology Needed to Support Community Health Workers –** Since 2018 Urgent Wellness has slowly been growing its services. Currently we have two clinics in a public and private low-income housing development in Ward 7 and 8, Washington DC. Sustainability has been achieved through a contract with Amerihealth, a Medicaid MCO, which includes payment for Community Health Worker services. Lack of start-up funding has slowed the further technological development and expansion of Urgent Wellness. Making available start up funds to organizations with MCO contracts that are implementing new models of care to achieve the Quintuple Aim (better health, better patient experience, better provider experience, lower health care costs, and decreased health disparities) is necessary to test and disseminate effective programs.

4. **Barriers, Solutions and Needs**

   a. **Trust and Education –** We developed effective trusting relationships through recruiting individuals with Certified Nurse Assistant certificates who lived in the housing communities that they served. We trained these individuals to be Community Health Workers and to deliver the Urgent Wellness model of care. Over time, they became the first person that clients called when they had a health issue. Funding is needed to hire and train individuals from the community. Ideally, there would be a scholarship pipeline that would allow individuals to progress from Community Health Worker, to Medical Assistant, to Nurse, to Physicians Assistant or Physician. Growing capable and culturally competent healthcare providers from low-income communities will help address access to acceptable care.

   b. **Technology –** In order to optimize the effectiveness of the Urgent Wellness program investment in three technologies are necessary:

      i. **Technology for Patients –** Currently, we use RedCap surveys delivered by CHW to collect holistic health and social determinant needs. The responses then need to be interpreted by hand so that a collaborative care plan can be developed with clients who select goals for health care access, social service access and health behavior change. This process is time consuming, and subject to CHW errors providing accurate education and appropriate referrals.

      Technology to automate this process would improve client disclosure, improve accuracy of education provided and make referrals more efficiently. Previously we developed a tool for low literacy individuals to support HIV medication adherence and prevention of HIV transmission. An RCT showed the tool to significantly decrease viral load and decrease transmission behaviors among individuals with HIV. Subsequently, we created a tool to support Community Health Workers in India and Bangladesh to provide accurate assessments, education, point of care testing, and referrals to individuals in the community. This tool was shown to have high usability and acceptability scores, however, micro-breaks in syncing of data and program updates, resulted in variable errors, thus additional funding is needed to solve that technical problem, and to adapt the tool for use in the United States.

      Disclosure of sensitive health information and health literacy can be improved through the use of an **audio computer assisted interview** (ACASI), we would like to find funding to develop the ***Wellness Care Tool***, to allow low-literacy residents to self-report sensitive health information. This tool would also provide **an automated**

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Wellness Plan through integration of the *Wellness Care Tool* with the national health and social determinant referral tool, Aunt Bertha; In addition, **a health summary screen** would present important education and referral needs based on EHR data and self-reported data.

ii. **Technology for Community Health Workers -** In order to make care more efficient, and to help target clients with the highest need we would like to find funding to build a Community Health Worker dashboard that would include: 1) a **list of residents** with uncontrolled chronic diseases, and unmet social determinant needs, as well as listings of residents at highest risk of ER use and hospitalization based on predictive risk analytics. Additionally, we would like a **referral tracking tool** so that CHW will know who to provide extra support when referrals are not completed; and 6) For managers, an **evaluation screen** to assess population health outcomes and healthcare costs so that continuous quality improvement programs can be efficiently evaluated.

iii. **Technology for Collaborative Care -** In order to optimize collaborative care across the city and country, we need an integrated health information exchange and collaborative care decision support tool that will contain data from patients, community health care workers, primary care providers, specialists, ERs and Hospitals. Ideally, CHW will be prompted anytime a client shows up at the ER or Hospital, or has laboratory or home monitoring result that suggests that a chronic disease is out of control. We built a prototype of such a system through a CMS Innovation Award, but there was not an entity to continue funding the tool when the grant ended. Federal funding is necessary to create a National Health Information Exchange and Collaborative Care Decision Support Tool, so that individuals can be appropriately supported no matter where they access care, duplicate care can be minimized, and collaborative care can be supported.

5. **Access to Telehealth and remote monitoring –** COVID has in some ways helped overcome barriers to care, in that Telephone visits help overcome challenges with transportation, childcare and work. Frequently now, when I have a patient that does not come it for a clinic visit, I am able to call them and reach them for a telephone visit. Video calls are more challenging. Most patients prefer telephone calls to video calls, so it will be critical that reimbursement allows for telephone visits.

6. **New Medicare barriers to care –** Recently I have experienced a requirement that patients sign acknowledgement forms that they may be billed if Medicare finds the test that was ordered to not be medically necessary. This has resulted in patients declining medically necessary tests because of their fear of being billed. This policy will further increase health disparities. Rather than dissuading patients from accepting testing, require EHRs to include decision support when tests are ordered without accepted diagnosis codes or at too frequent intervals.

March 31, 2022

Stacy Murphy, Operations Manager
White House Office of Science and Technology Policy
Re: Request for Information on Strengthening Community Health Through
Technology, *via email*

Dear Ms. Murphy:

Thank you for requesting input from community stakeholders on how digital
technologies are currently used or could be used to transform community
health, individual wellness and health equity.

USAging is the national association representing and supporting the network
of Area Agencies on Aging (AAAs) and advocating for the Title VI Native
American Aging Programs. Our members are the local leaders that develop,
coordinate and deliver a wide range of home and community-based services,
including information and referral/assistance, case management, home-
delivered and congregate meals, in-home services, caregiver supports,
transportation, evidence-based health and wellness programs and more.

As long-standing, trusted community resources on healthy aging, the social
determinants of health and home and community-based services, AAAs are
experts at providing programs and care that is person-centered and
addresses complex care needs, chronic disease management and wellness
for both clients and caregivers. There is a long history of community
partnerships between AAAs and health care entities but these relationships
have and continue to evolve to more formal contracting relationships that
allow for AAAs to be paid for their role in achieving better health outcomes.
In a recent survey, 47 percent of AAAs report having health care contracts.[i]
This work has led to innovative models of service delivery that improve the
health care delivery system and also the person-centered health outcomes.
This work benefits from the development of AAA-led regional and statewide
networks of CBOs ready to fill service gaps while continuing their tradition of
excellent person-centered, deep in community and in-home care.

**The AAA network's on-the-ground experience and contributions to
the health of older adults and people with disabilities is why
USAging is writing to you today.** Some AAAs hire traditional health care
workers such as nurses or, increasingly, Community Health Workers; others
contribute to health and integrated care partners' care services through

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Washington, DC 20003

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formal health care contracts; and all contribute via the services they offer to support SDOH. Examples of AAA innovation in health care provision and partnership from [Maryland](), [Massachusetts]() and [Washington state]() are illustrative.

While we share the Office's interest in leveraging technology to better address equity and health, it's important that technology not be seen as a cure-all that can replicate the experienced, hands-on work that older adults usually require for optimal results. **Given the length constraints of this RFI, we will simply raise two examples that offer both the promise of positive technology use *if balanced properly to leverage existing community resources and meet older adults and other consumers where they are,* as well as some concerns.**

Telehealth: The rapid expansion into telehealth, although done to respond to the public health emergency, has meant that many older adults living in rural areas, or those unable to go in person for health and social services, now have easier access or have received access for the first time to medical and mental health services. But the "health" in telehealth should be broadly defined. Integration of telehealth techniques by AAAs during the pandemic has greatly helped USAging members serve more older adults, and safely. Whether it is for provision of wellness checks, mental health, nutritional counseling, medication management or care coordination, AAAs are finding new opportunities to expand (and sustain) access to critically needed HCBS for older adults.

It is critical that telehealth standards include the deployment of social care by experts like the AAAs and that the continued evolution of the use of telehealth recognize the provision of social care when appropriate. Additionally, if telehealth is to work for more older adults, hands-on support for using the technology involved will be critical to success. AAAs' experience with this level of direct support provided in older consumers' homes should be valued. They are navigators for older adults and are the nexus for access to aging services, so if new pilots or systems are developed to address the technology gap for older adults in accessing telehealth, AAAs must be involved.

Referral Technology Platforms: A second issue is the rise in technology platforms overstepping their purpose or exploiting existing resources already in the community. Specifically, social care access referral platforms (SHARPs) which are often paid by health care payers to make referrals on behalf of their members to AAAs and other community-based organizations (CBOs), rarely pay the AAA or CBO for the needed service. These SHARPs and other new apps from for-profit companies have only recently arrived on

the scene, promising the health care sector that they alone can most efficiently connect patients, including those with complex needs, to services that address health-related social needs. While technology can be an important tool in connecting the health care and social sectors, it is imperative that the core values of assessing and providing person-centered care (which often needs to be conducted in person) are not lost.

Furthermore, the nearly 50-year-old Aging Network infrastructure that Congress has charged to actually make referrals, conduct thorough and often in-person assessments, coordinate care and provide direct services to older adults with complex care needs should not be overridden, wasted or exploited by erroneously unloading patients on underfunded social services systems. AAAs already have Information and Referral/Assistance (I&R/A) staff extensively trained to support older adults and caregivers, case managers who specialize in person-centered and complex care, and networks of providers at the community level to deliver all the other social care services their clients require.

To be person-centered means providing an integrated experience for the consumer, taking the whole person and their needs into consideration and helping them access needed services. To do so requires that all of the systems—health care, social care and the technology vendors who want to assist communication between the two (i.e., SHARPs)—be in sync and that we co-design these systems together.

As you gather examples of successful technology use and craft policies to encourage further technology use to achieve better community health, we respectfully request that both the expertise and potential of USAging members is not overlooked, nor are the very specific needs of older adults.

Sincerely,

Sandy Markwood
Chief Executive Officer

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[i] Suzanne R. Kunkel, Abbe E. Lackmeyer, Robert J. Graham and Jane K. Straker, Scripps Gerontology Center, Miami University, *Advancing Partnerships: Contracting Between Community-Based Organizations and Health Care Entities*, January 2022, www.aginganddisabilitybusinessinstitute.org/adbi-resource/advancingpartnerships-contracting-between-community-based-organizations-and-health-care-entities

Velatura Health Information Exchange (VHIEC), a one of the largest health information exchange networks in the U.S. comprised of stakeholders across the health care ecosystem, is pleased to submit comments on the White House Office of Science and Technology Policy's Connected Health RFI. VHIEC would like to see a health and social care ecosystem in which Social Determinants of Health (SDoH) screenings in health care settings deliver a mechanism for social care between sectors and disparate vendors. This allows Community-Based Organizations (CBOs) and Provider Organizations to interoperate and share data with all systems that health care has developed. Furthermore, we'd like to see barriers removed via federal government action during the pandemic to stand when the public health emergency ends, and that the federal government would convene vendors to achieve comprehensive health data interoperability in the immediate future.

Barriers – Digital health technology adoption, specifically telemedicine and a comprehensive health data interoperability infrastructure traditionally has faced two key barriers – lack of reimbursement and legal/regulatory requirements and penalties. Across the continuum of care, CBOs, providers, and patients are concerned that when the public health emergency caused by COVID-19 is over, that the Centers for Medicare & Medicaid Services (CMS) and commercial payers alike will no longer pay for the continued use of digital health technologies and implementation of health data interoperable infrastructure.

In community-based settings, CBOs do not have the staff to review and perform the legal work necessary to sign the appropriate paperwork for HIPAA compliant framework. The amount of legal risk to share information is immense and provides an invisible hurdle for small organizations outside of existing health care systems. In addition to this invisible hurdle, CBOs often lack the organizational capacity compared to traditional health care providers to ensure a digital transformation: with the absence of administration and operations staff, many CBOs' systems are unable to be digitized.

The Highlighting and Assessing Referral Program Participation (HARP) research project[1] by Trenton Health Team found that organizations do not have a perceived strong need to use a Coordinated Care Network. This mindset comes from three major themes: no need to make or receive referrals; already having strong contacts with referring organizations; and already being required and/or incentivized to use other case management systems[2]. In the case of those already using a case management system, double documentation was a perceived barrier due to concerns over redundant capturing of data across multiple records. A way to solve for redundancy is to utilize health information exchange networks as the trusted centralized data aggregator across all health data silos.

At a community level, where social care takes place, information-sharing cannot occur in a meaningful way due to a lack of infrastructure connecting health and social care, the need to identify data to be shared, and standards are for exchanging that data: this is necessary to improve the efficacy of data sharing. Assuming these barriers can be rectified, then, we must look to and address the legalities of sharing data at the CBO level.

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[1] https://trentonhealthteam.org/projects/harpp-research-project/
[2] https://trentonhealthteam.org/reports/harp-research-findings/

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There are barriers to digital health technology and infrastructure adoptions at the CBO-level presented by what is considered private. VHIEC believes decisions must be made and include social dynamics/choices in identity and behavior and how those fit into a person's overall care record. CBOs do not only treat medically, but they are also looking at whole-person care, so the digital health technologies, and their vendors, must take this into account.

Successful Models within the U.S. – One of the most successful community health models in the U.S. is 211 San Diego Community Information Exchange (CIE). The San Diego CIE works to improve service delivery through integrated technology platform that coordinates both health and social care and to provide holistic, person-centered care[3]. The San Diego CIE has 6 major features[4]: Network Partners committed to redefining patient/client thinking beyond individual programs and services; Shared Language by way of an individual longitudinal health record informed by community members' social determinants of health; Integrated Technology that connects data from multiple partners' data systems to create a single longitudinal record; Resource Database to effectively and appropriately match individuals with providers in their communities; and Community Care Planning which allows for proactive care by offering tools built within technologies that allow shared demographic information, status changes, and care information updates between agencies. The success of the San Diego CIE has inspired communities around the U.S. to aspire to similar levels of community interconnectivity. As such, San Diego CIE provides toolkits, trainings, resources for building a CIE, and CIE consulting services.

Following the San Diego model, and the efforts of and Michigan's Community Health Innovation Regions (CHIRs) models[5] (5 regions in MI that create a neutral space for partners to unite around a common vision, align objectives and services to meet the needs of a community), Washtenaw County, MI has recently taken first steps toward implementation of a CIE by Washtenaw Health Initiative. This CIE would include infrastructure to manage health at a population level, a resource directory to streamline assessment, referrals, and information exchange, and would build upon community partnerships. This relatively new initiative is starting with key community stakeholders of Washtenaw Health Initiative, as well as other stakeholders within the state of Michigan: governments, health, community, payers, and VHIEC's parent company - Michigan Health Information Network (MiHIN) – to gain input on what would make a successful CIE as well as discuss difficulties that a CIE may face.

Trends from the Pandemic – In its original scope, the Center for Medicare and Medicaid Services (CMS) allowed for Medicare coverage of telemedicine for rural patients that were visiting specific sites[6] – and in March of 2020, CMS in an effort to address a growing need for remote care, expanded coverage to all patients in all care settings[7]. Due to these CMS changes and the implementation of Telehealth Emergency Triage, Treat, and Transport

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[3] https://ciesandiego.org/san-diego/

[4] https://ciesandiego.org/what-is-cie/

[5] https://michirlearning.org/about-chirs

[6] https://www.commonwealthfund.org/blog/2019/telehealth-where-congress-heading-next

[7] https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet

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(ET3) Model[8], community paramedics are now able to bring mobile devices to patient call sites and video conference with ER providers. This allows the providers to perform telemedicine visits and determine if patients that placed the call needed to visit the ER.

Within hospital settings, providers now can use telehealth to screen patients who have presented with COVID-19 symptoms. This improved care team safety, as there wasn't a need for a person to be present to triage a COVID-19 symptomatic patient. ER physicians can now consult virtually with providers outside of the ER (i.e. specialists). COVID-19 has brought increased acceptance of digital health technologies within the community health arena: Social workers and therapists can perform visits with patients remotely, removing the need for in-office visits. A therapist can connect with their patient from the comfort of their home – a private, safe environment. Even as the country begins to re-open, therapy patients can continue to use remote visits.

We believe that the increased adoption of digital health technologies and implementation of a comprehensive health data interoperability infrastructure will continue following the pandemic emergency, as the funding sources came from CMS.

User Experience – There is no future without creating partners in care. Making digital health easier for the patients to use and access will increase adoption – having to call a doctor office to set up a telehealth visit is a major turnoff for a patient to using digital health. How do you get the patient to have an investing mindset in a digital application? If you can consolidate the health information in one place, this is valuable to a patient – the patient has everything with them. Continue with what is working, continue to think about bringing all information into one place, will help patients continue to want to use digital health technologies.

Proposed Government Actions – Because currently social care and health care data is not aligned due to lack of adoption and investment in health data interoperability, patients are being left behind socially. We propose that the federal government rename and redistribute health care dollars into care dollars so that CBOs and social care organizations receive a much-needed funnel for funds within the next two years to invest in health data technologies. Expanded use and utilization of health information exchange networks is an excellent starting point and works on a macro-level connecting EHRs, States, Hospital Systems, and Payers. What needs to be brought to bear, is federal support for connections of CBOs into the larger data-sharing networks (like health information exchanges).

Additionally, we would like to see the federal government invite vendors of for-profit tech solutions to a round-table. This discussion would need to commit EHRs to interoperable systems. We'd like to see them working in a synthetic sandbox, to figure out the interoperability now, instead of in 10 years. This could be done in the next six-months to one year via the Interoperability Institute's development sandbox environment. To achieve disparate vendor interoperability, timing is everything. We do not want to see a monopoly created around the public health infrastructure – now is the time to start designing the future we want, so that CBOs can work in their chosen record, and work with social care across sectors. There must be a mechanism in place that ensures that to work within the care setting, your solution must interoperate across vendors.

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[8] https://innovation.cms.gov/innovation-models/et3

velatura
Health Information Exchange

Request for Information on Strengthening Community Health Through Technology: Remote Temperature Guided Avoidance Therapy

Submitted by: VHA Innovation Ecosystem, Diffusion of Excellence

1. Successful models within the U.S.

Approximately 1.6 million Veterans have a diagnosis of diabetes and in FY21, VA reported 154,000+ ulcers in 70,000 unique Veterans. Diabetic Foot Ulcers (DFU) are treated annually at the VA at a cost of $3.5 billion. 60% of DFU's will become infected and 20% of those infections will lead to an amputation. Furthermore, at-risk Veterans face a 5-year mortality rate of 43% after developing their first DFU. Early detection helps direct interventions to prevent DFUs and related complications, such as major amputations. The Office of Healthcare Innovation and Learning (OHIL), in partnership with VA's Prevention of Amputation for Veterans Everywhere (PAVE) program, the Office of Health Equity (OHE) and Podimetrics (a SmartMat technology company), launched the Initiative to End Diabetic Limb Loss at VA (TIEDLLV). This initiative focuses on the evidence-based benefits of remote temperature monitoring (RTM) in early detection of DFU.

TIEDLLV supplies at-risk, diabetic Veterans with mats that use thermal imaging to measure the temperature of a Veteran's foot. Interestingly, the only preventive practice for the diabetic foot that has been proven effective through multiple randomized controlled trials and national and international clinical guidance documents is once-daily foot temperature monitoring.[i-7] Daily monitoring has the potential to reduce the burden of DFUs to Veterans, improve Veteran access to needed preventive care, and reduce costs incurred by the VHA treating diabetic foot complications. Yet despite a recent national guidance document detailing its appropriate use in PAVE 3 Veterans, it remains underutilized.

The objective of TIEDLLV is to establish a new standard of care in DFU management which includes the use of remote technology to diagnose and help treat DFU, while increasing the access to care of at-risk Veterans efficiently and effectively. Major goals include:

- Increase utilization of telehealth services to increase access to diagnosis and treatment
- Standardize care through uniform management of connected device data
- Obtain patient-centered outcomes and objective treatment data to evaluate the quality and effectiveness of care
- Reduce travel time and lost work hours
- Promote self-management
- Decrease the incidence of Diabetic limb amputations

In short, TIEDLLV is expected to improve access, efficiency, and efficacy of DFU care. Currently this solution has been deployed at 80 VHA Clinical Sites, serving 3,300+ Veterans.
A comprehensive overview of VA's application of this remote temperature monitoring technology and workflow can also be found on the Diffusion Marketplace, VA's public knowledge repository: Diffusion Marketplace (va.gov).

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2. Barriers

First, there is a risk for data interoperability between VA Medical Record platform, CPRS (soon to be Cerner) and SmartMat data, which could affect ISO approval. However, there are stakeholders in the process of developing a national data interoperability plan to mitigate this risk. Also, the VA must be capable of allocating a flexible and scalable cloud hosting architecture to enable fast page-loading times for providers *inside* the firewall and Veterans *outside* the firewall. In addition, the SmartMat must also send data to the Patient Generated Database (PGD) as necessary, which could lead to patient data privacy and security concerns. However, the biggest risk is that RTM of DFU is dependent on the availability of SmartMat equipment with wireless capability. SmartMats will be made available to all eligible Veterans, based on established patient selection criteria. Any significant increase in access to DFU care at a national level is dependent on this technology adoption. The prime variables of patient adherence and provider oversight may also be a risk. A simple notification from the clinician congratulating patients monthly could mitigate some of that variable by keeping the patient engaged with the provider.

3. Trends from the pandemic and Health Equity

The COVID-19 pandemic has aggravated the issue; people with diabetes-related foot problems are experiencing more severe infections, more emergencies, and necessitating more amputations. A recent private sector study found that the odds of undergoing any level of amputation was 10.8 times higher during the pandemic versus before the pandemic.[ii] Compounding the problem, in March of 2020 many VA health care systems reduced outpatient clinics and suspended elective procedures in anticipation of COVID-19 surges that would overwhelm hospitals.

To reduce the exposure of patients at risk for developing severe symptoms of the illness, physicians turned to telehealth for patient encounters. At VA, podiatry telehealth visits have increased by 244% since March 2020, making remote monitoring systems align well with the evolution of virtual care in the prevention of amputation. Telemedicine solutions have the potential to reduce the impact of chronic wounds on overburdened clinic resources, schedules, and local and federal budgets.

4. User experience

In addition to creating clinical value, this innovation will also generate improvements in operational efficiency, especially in the time spent for clinicians to diagnose and treat patients. Given the exceedingly high burden of diabetic foot complications in the VA, a paradigm shift is needed among HCPs from a culture of treatment to one of prevention. Bus and colleagues reported that in Europe, for every euro spent on ulcer prevention, 10 are spent on ulcer healing, and for every randomized clinical trial conducted on prevention, 10 are conducted on treatment.[9-11]

Prevention has the potential to rein in costs as well as reduce strain on the hospital and clinic by preventing outcomes that require frequent visits for treatment or hospitalization. Wound treatment is very burdensome to the clinic; patients require frequent (in many cases, weekly) examinations, and chronic wounds often require hospitalization, necessitating rounding and additional coordination in care. Thus, preventing wounds or reducing their severity at

presentation substantially reduces burden on the clinic, even after accounting for the modest clinical resources needed to administer preventative care. Preventive care allows for substantially better patient outcomes, and the minimal time invested prevents the clinical burden of extensive wound treatment.

5. Tool and training needs

The VHA has been at the vanguard of translating the evidence and research underlying RTM into clinical practice. A clinical guidance document governing appropriate use of RTM with the study mat was recently published by the VA Prosthetic and Sensory Aids Service in collaboration with the National Podiatry Program office.[8] This guidance document recommends once-daily RTM for at-risk Veterans designated PAVE level 3. It defines roles and responsibilities required for the successful implementation of an RTM program with the study device. The document additionally presents various clinical monitoring protocols for Veterans, although the protocol and thresholds used are at the discretion of the prescribing clinician and should reflect the risk profile of the Veteran in question.

A staged response to inflammation has proven popular, whereby an initial high sensitivity threshold is chosen for monitoring. The initial response is telephone outreach by a designee supplied by the clinic or device manufacturer, typically a trained registered nurse, to the Veteran to collect subjective history and instruct off-loading and reduced ambulation, with a target of 50% baseline reduction in step count. Should the inflammation persist despite off-loading, an examination may be necessary to identify and resolve its cause. For recalcitrant inflammation, more targeted pressure off-loading of the affected area may be accomplished with custom orthotics, accommodative insoles, removable cast walkers, and total contact casting. After 2 to 4 weeks without signs of inflammation, the cause is deemed to have been resolved and lowered the acute risk for developing further diabetic foot complications. SmartMats have been rolled out to Veterans on an ambitious schedule. Podimetrics, the vendor, was contracted in September 2020. Both provider and patient-facing portals were completed at the end of February 2021, including integration with the servers of the manufacturer and integration with VA's electronic medical record (CPRS). The remote temperature monitoring program has been integrated into many Veteran daily routines as evidenced by > 70% retaining full engagement after having been monitored for > 1 year. Troubleshooting was completed in May 2020 and pilot testing and evaluation began at two sites in June 2020. During the implementation phase, initial tasks include bringing the IT integration team on-board, setting up test/development environments, and creating a technology infrastructure (i.e. hosting configuration) capable of servicing clinician and Veteran users at high speeds.

6. Proposed government actions

This is for informational purposes at this time. VHA is working to understand how to efficiently test, fund, deploy, regulate, and scale emerging health technologies, such as Podimetrics.

If you would like to understand more about VA's work in this domain, please contact us at

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February 28, 2022

To Whom It May Concern:

I write on behalf of Virta Health[i], a novel physician-led continuous remote specialty care clinic that is focused on reversing type 2 diabetes and pre-diabetes. Our integrated approach relies on personalized nutritional guidance, remote monitoring and other digital health tools, and clinical support from physicians, nurse practitioners and coaches. As the health eco-system adjusts to shifts in site-of-service and practice patterns that occurred during the pandemic, we are at a pivotal inflection point to consider the future of connected care and how it can help address long-standing friction in American health care.

Appropriate and innovative use of digital health technologies has the potential to transcend access and equity barriers while dramatically improving both the effectiveness and efficiency of care delivered in the United States. We have seen this among our patients in our trial and who are covered by our health plan and employer clients. Our treatment was specifically designed to be remote in order to intentionally expand our ability to reach and effectively treat more people. Our founders recognized that providers cannot offer the intensity of support needed on a face-to-face basis in real-life nor do patients have the ability in their busy lives to secure in-person visits or seek assistance when making food choices in real-time. The treatment model was designed to provide maximum effect with minimal intrusion into a patient's daily life. In short, our model was remote before the pandemic and will remain remote once the pandemic recedes.

While there are obvious challenges that accompany an increase in the use of technology to support better health, it is time to directly solve for such challenges in order to leverage the promise of thoughtful digital health solutions to support better equity and address other systemic issues in our system.

Diabetes: Endemic equity issues with potential for measurable progress

Diabetes and its complications present a crushing burden to individuals and society in terms of outcomes and costs. In the last 20 years, the number of adults in the US diagnosed with diabetes has more than doubled, while total annual economic effects attributed to diagnosed diabetes is estimated to exceed $327 billion (including $90 billion in lost productivity and $237 billion in medical costs).[ii] Nearly one in two Americans aged 18 or over suffer from diabetes (37.3 million) or pre-diabetes (96 million), including tens of millions who are undiagnosed or unaware that they are inching toward a diagnosis. [iii] Even among those who have been diagnosed, too many patients unnecessarily experience the condition as chronic and progressive, facing sub-optimal outcomes and preventable complications. Moreover, rates of pre-diabetes are also rising among children, with one in five children between the ages of 12-18 having pre-diabetes. [iv]

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Importantly, diabetes prevalence varies significantly by race and ethnicity, where American Indian and Alaska Native populations (15.1%) are more than twice as likely as white populations (7.4%) to have been diagnosed with diabetes. Hispanic (12.7%) and Black non-Hispanic (12.1%) persons are also significantly more likely to be diagnosed relative to white persons.[v]

Virta: An innovative, effective digital health model that improves health and reduces spending

At Virta, we use digital health tools – including remote monitoring, a patient-facing mobile application and electronic health record -- alongside expert clinicians and coaches to provide person-centered care that helps patients with type 2 diabetes or pre-diabetes normalize hemoglobin A1c levels. As seen in our landmark clinical trial and replicated among patients in more than 200 health plans, our treatment reliably reduces A1c levels, resulting in rapid de-prescription of diabetes medications and clinically significant weight loss.

After one year of treatment, 60% of patients who remained under care in our trial met the criteria for diabetes reversal, meaning an A1c <6.5% and no glycemic medications with the exception of metformin.[vi] Health spending also dropped dramatically as a result of reducing and eliminating medications. These patients also achieved weight loss of 12%.[vii]

Moreover, using digital health tools, our unique model meets patients where they are -- both in terms of their individual health journey and with respect to their physical geographic location -- in order to best support their move toward better health. As a result, Virta patient outcomes are not only significant, but also durable over time. Retention in Virta treatment greatly exceeds that in other behavioral health programs: After one year of treatment in our trial, 83% of patients remained under care[viii], compared to just 15-30% in traditional programs.[ix] Clinical trial retention at two-years remained notably high at 74%.

While our primary focus is improving metabolic health, we also have separate peer-reviewed papers that document significant improvements in sleep[x] and depressive symptoms among our patients, and show that patients with depression experience comparable metabolic health improvements as those without depression,[xi] reinforcing the effectiveness of a digital approach to chronic disease.

Virta offers the rare example of an evidence-based intervention that reliably leads to better health and less spending.

Digital health barriers

Evidence is clear that digital approaches are a necessary tool to combat chronic disease in the United States. Efforts to expand access to digital health services must be considered in the broader context of connectivity and tech literacy, where most – but not all -- Americans now have access to broadband and devices. The challenges with

respect to closing these gaps are present across issue areas, whether telework, the need for remote learning or even telehealth. We should work as a nation to close such gaps, and not allow them to preclude use of technological advancements to solve pressing problems. While the recently enacted infrastructure law may facilitate additional access, some of our clients have also pursued innovative approaches to help their constituents take advantage of remote access opportunities. For example, the Veterans Administration created a technology access program at the start of the pandemic, while SCAN Health Plan (which services Medicare beneficiaries) started a program prior to the pandemic to offer personalized tech support to its senior citizen members in order to facilitate use of remote care and medication refills. Medicare data show an increasing number of beneficiaries now have access to computers or devices.

We do not advocate for a purely digital approach, but it is clear that traditional in-person care alone will not solve our nation's health problems at scale.

Hospitalizations, ventilator use and death among Virta COVID-19 patients

It has been well-documented that diabetes and obesity are significant risk factors for severe COVID disease. While we have a peer-reviewed paper under review, preliminary analysis presented at the ADA Scientific Sessions in 2021 showed that a group of our patients reported low rates of hospitalization (10.9%), ventilation (2.0%) and death (0.3%) relative to national reports.[xii] According to our analysis, Virta patients who had a greater weight loss prior to COVID-19 onset had significantly lower odds of a COVID-19 related hospitalization. Weight loss concurrent with the broad spectrum metabolic health improvements observed in patients initiating a well-formulated ketogenic diet, as detailed in prior research, may confer some benefit in the face of severe COVID-19 disease.

User experience and patient satisfaction at Virta

We use data to assess patient satisfaction and drive continuous improvements to our mobile application, website and other digital tools in pursuit of a delightful user experience. Our net promotor score (NPS), particularly for patients who start Virta on insulin, is consistently well above industry averages, and generally exceeds leaders in other sectors as well.[xiii] Of particular note, two Virta patients have obtained permanent tattoos of our logo following success on the program. We are not aware of other health care companies whose patients have expressed their gratitude and satisfaction in this fashion.[xiv]

Policy changes to support digital health

Most urgently, the Public Health Emergency (PHE) declaration has significantly relaxed a number of underlying restrictions and requirements that normally govern access to telehealth, including those affecting the originating site, the patient's location, the types of eligible services and more. If a post-pandemic vision for continued telehealth access is not redefined before the PHE is lifted, there will be a significant contraction in access to care. Moreover, it is critical that such efforts contemplate both new models of care (e.g.,

Virta) as well as simple substitutions for consultations, office visits and other services that may be conducive to remote alternatives. For example, patients in need of highly specialized care for rare conditions could save in time and travel expenses if they are able to complete initial consultations and work-ups remotely.

Likewise, changes may be needed in Medicare to ensure that all beneficiaries have access to services originally designed outside of the traditional fee-for-service model. For example, Virta relies on a risk-based capitated payment for its diabetes treatment in the commercial market; the protocol includes elements that are not separately covered under Medicare today, but which are integral to the treatment's success. Whether through the Innovation Center or other avenues, policymakers need to ensure that evidence-based approaches are more quickly integrated into the Medicare program while protecting against the real threats of waste, fraud and abuse.

Ensuring data privacy and security, while requiring appropriate sharing among legitimate parties, must remain at the forefront of efforts to secure a truly transformative digital health future.

Conclusion

While Virta is currently focused on improving diabetes-related outcomes and reducing spending for patients with type 2 diabetes, our clinical data show that Virta patients experience statistically significant improvements on a range of other biomarkers, including lipids, markers for fatty liver disease and more.[xv] Preliminary observational data are particularly intriguing with respect to the potential for Virta treatment to delay progression or reverse mid-stage chronic kidney disease.[xvi]

Thank you for issuing this request for information to support the Community Connected Health initiative at the White House Office of Science and Technology Policy (OSTP). We welcome the conversation you have generated in this space, and hope to be a partner in discussions as you move forward. I can be reached at ███████████████████████ if you need additional information or would like to schedule a meeting to learn more about how we are using a digital health approach to reverse diabetes trends.

Sincerely,

Cybele Bjorklund
Senior Vice President, Policy and Government Strategy

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xvi Internal data

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White House OSTP RFI: *Community Digital Connected Health*

Background

Telehealth has proven to be highly effective and cost-efficient in improving timely patient access to care with better outcomes, reducing system costs and enhancing workforce sustainability. Telehealth options are critical for more equitable access to care for all citizens while decreasing our total healthcare spend as a nation. Prior to the COVID-19 pandemic, telemedicine was limited by restrictive regulations, policy, and reimbursement rules. As a result, fewer than 10% of all clinical interactions occurred using remote technologies. Legacy delivery models limited EHR data sharing and accountability with fragmented workflows isolating telehealth initiatives from the mainstream onsite care. Therefore, the scale and value to patients and providers had been small and slow growing.

During the pandemic, necessity drove innovation and change, including the implementation of enterprise cloud-based, modular telehealth platforms and waivers for legacy restrictive regulations and policy with limited reimbursement. These waivers catalyzed the emergence of new value-based telehealth solutions. Most telehealth surveys demonstrated robust consumer acceptance (over 90% satisfaction). As we re-calibrate future connected care strategies for the post-pandemic, new normal, we must scale and align public policy, reimbursement, and technology investments to incentivize integrated telehealth services as a standard of care. Current technology and software interoperability standards support this rapid growth opportunity. Achieving sustained 20+% of patient encounters via virtual care will help the U.S and its citizens realize significant cost savings with improved outcomes associated with ubiquitous access to the right care, by the right provider at the right time.

Successful recent Telehealth delivery models within the U.S.

The National Emergency Tele-Critical Care Network (NETCCN) is a joint telemedicine initiative coordinated by the US Army's Telehealth and Advanced Technology Research Center (TATRC) with funding from HHS (ASPR). NETCCN provides on-demand remote critical care medical services using a modern mobile cloud-based health information system that supports underserved or overwhelmed healthcare facilities and/or alternate care sites during disasters & medical emergencies (e.g. COVID-19 pandemic patients treated in local critical access hospitals who cannot be transferred due to surge capacity limitations at receiving hospitals).

NETCCN was created to help medical facilities that lack adequate onsite critical care expertise by augmenting local caregivers with timely lifesaving telemedicine services by a team of remote qualified experts (including doctors, nurses, respiratory therapists, social workers, and pharmacists). This virtual care team solution leverages and expands the reach of medical specialists to areas where they are needed without having to be physically deployed.

While initially deployed to provide critical care support expertise to medical sites with reduced onsite expertise necessary for treating severe COVID-19 illnesses, NETCCN is also designed to be an integral resource for an all-hazards approach to emergency preparedness for local, regional, and national disasters. Thus, NETCCN can become the next key component of a regional and national emergency/disaster medical network of capabilities, clinical services and health IT systems.

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Telehealth as a new frontier in OB/GYN

Low-risk pregnant women can benefit from telehealth through routine, at-home appointments with their prenatal providers. Women participating in these virtual visits are given supplies to use at home and are educated regarding how to use the supplies. A typical virtual visit includes the pregnant woman utilizing home monitoring medical devices to track measures such as fetal heart rate, maternal blood pressure, and fundal height.

A pregnant patient at high risk is one who has current or prior conditions-such as high blood pressure, venous thromboembolism, psychiatric disorder, substance abuse, or family history of a genetic disorder-that may threaten the health or life of the mother or infant. Telehealth has been used to improve outcomes for high-risk obstetrical patients. Maternal-fetal medicine (MFM) specialists are crucial to monitoring high-risk pregnancies and have engaged remote Pediatric Cardiologists from regional and national Children's Hospitals to evaluate babies *in utero* for cardiac malformations using Tele-ultrasound in real-time.

Telehealth in other community care settings

Virtual Crisis Care (VCC), a partnership between **Avel eCare** and the South Dakota Unified Judicial System, finished its second year of operation by expanding to a total of 40 counties across the state in 2021. In collaboration with local law enforcement, the VCC program equips police officers with 24/7 access via tablet technology to Avel eCare behavioral health professionals who can assist in quickly responding to people experiencing a mental health crisis. The goal is to divert people from involuntary committals at psychiatric hospitals across South Dakota, and alleviate the waitlist for beds at the Human Services Center in Yankton. Through the program, law enforcement responds quickly with de-escalation, stabilization, and safety assessment methods, particularly in areas where local crisis services are limited.

Evergreen Family Medicine is partnering with **nursing homes**, **schools, and the Boys & Girls Club** to provide remote primary care to these community-based sites. Parental involvement is highly encouraged during the pediatric Telehealth visits. Watch this video to see what resources are available and are online (https://youtu.be/nZkeqsMtPDQ).

When schools were closed during the COVID-19 pandemic, **Evergreen Family Medicine** redeployed these same telehealth resources and appropriate clinical services to support **skilled nursing facilities for at-risk seniors** who needed to have remote virtual visits.

Barriers to Telehealth Adoption

As innovation of new Telehealth applications continues to emerge several legacy barriers remain that slow sustainable adoption including: 1) Administrative on-boarding of remote consultants requiring time consuming cross-state licensure, medical liability insurance and hospital privileging for remote inpatient care; 2) Need to transition from separate departmental telehealth point solutions to central enterprise program coordination built upon telehealth platforms with data integration from the electronic health record (EHR) system; 3) Improved provider acceptance with program support for standard protocols, familiar workflows that mirror in-person practice, enhanced software usability, training and parity reimbursement for virtual visits; and 4) Alignment of financial incentives by payers and health systems with accountability for virtual encounters. Of note, consumer/patient acceptance has not been a barrier and in fact has been a demand catalyst for telehealth growth in recent years.

User Experience

The provider experience has incrementally improved as technical feasibility, reimbursement and consumer demand has exerted adoption pressure on health systems to offer telehealth options for its patients. Central program coordination and support has been a key advancement to streamline workflows, standardize protocols, providing user training, and standardizing reporting for leadership accountability. The improvements in software and medical device usability on a modular telehealth platform with bidirectional integration with the EHR ("system of record") has been important for accurate single entry clinical data sharing and continuity of care across care settings. Health System leadership strategic prioritization of virtual visits has been crucial to improved staffing and infrastructure investments in Telehealth programs.

Tools and training needs

Over the past decade there has been exponential growth in stand-alone telehealth applications. Many are not integrated with the EHR for data sharing. This "Apps Store" approach often creates data storage and workflow silos, which are neither sustainable nor scalable. More recently, investments have been made in enterprise cloud-based, modular platforms connected to the EHR. This modern integrated approach reduces the cost and complexity of the telehealth infrastructure and simplifies the user experience for providers and patients alike. ViTel Net's proprietary user experience platform rapidly configures or reconfigures to the workflow and data set specifications for each service line of a health system. A drag and drop library of pre-defined features and functions avoids the need for costly and time-consuming custom code development for changing clinical workflows and medical documentation. In addition, the automated bi-directional data sharing to and from third party systems for telehealth visits and built-in common service modules such as scheduling, medical imaging, custom documentation/workflows, analytics & reporting, real-time video language interpretation for virtual encounters significantly enhances provider satisfaction, productivity, and efficiency. The enterprise telehealth platform reduces cost & maintenance of standards-based interfaces or API connections to the EHR, medical devices and data warehouses. Training is simplified, less costly and more sustainable leveraging the platform common service modules readily accessible from a web browser on any computer or mobile device.

Proposed government actions

The recent COVID-19 pandemic exposed key vulnerabilities in our national health care networks at the state and regional levels. Based on the global scale and prolonged duration of this medical emergency, resources (staffing, equipment, PPE consumables) were in short supply and interstate telehealth services became mission critical when local staffing, patient transport and bed availability were significantly reduced for extended periods. Health systems did not have the infrastructure to scale from 5% to over 70% virtual visits overnight.

Re-alignment and/or increased financial incentives for virtual health networks that target underserved and isolated patient populations will help expedite this new level of integrated provider and patient adoption.

Continued Federal leadership is needed - working with states to better address both contingency and routine interstate credentialling/hospital privileging, medical liability insurance, state-based/federal telehealth regulations, and protocols for expedited onboarding of new remote medical professionals.

Leverage the investments the government has made in NETCCN for the DoD, VHA and expand HRSA grants for eCritical Access Hospitals to implement a national safety net for critical access hospitals, which they can use for routine telehealth services between medical disasters. This will better prepare them for contingency scaling of services during a crisis when patient transports are not available and improve their ongoing financial viability.

For more information contact Mark Noble, Chief Operating Officer, ViTel Net in McLean, Virginia
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March 23, 2022

Submitted via email to: ████████████████████████████

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Acting Director and Deputy Director of Science and Society
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Re: Connected Health RFI (87 FR 492)

Dear White House Office of Science and Technology Policy:

Vizient, Inc. appreciates the opportunity to comment on the White House Office of Science and Technology Policy (OSTP) request for information on strengthening health through technology (hereinafter, "RFI"), as many of the topics included in the RFI have a significant impact on our members and the patients they serve.

Background

Vizient, Inc. provides solutions and services that improve the delivery of high-value care by aligning cost, quality and market performance for more than 50% of the nation's acute care providers, which includes 95% of the nation's academic medical centers, and more than 20% of ambulatory providers. Vizient provides expertise, analytics, and advisory services, as well as a contract portfolio that represents more than $100 billion in annual purchasing volume, to improve patient outcomes and lower costs. Headquartered in Irving, Texas, Vizient has offices throughout the United States.

Recommendations

In our comments, we respond to various questions raised in the RFI. We thank the OSTP for the opportunity to share insights regarding successful models for strengthening community health through digital health technologies, barriers to uptake, trends from the COVID-19 pandemic, user experience, ideas for potential government action and effects on health equity. Vizient notes our interest in continued communications with the White House OSTP regarding future efforts to increase utilization of digital health technologies and to analyze contributory factors leading to health disparities, including options to help address such factors.

Successful Models within the U.S.
Vizient is aware of several instances of community health providers successfully leveraging digital health technology to deliver health care services, enable healthier lifestyles, and reduce health disparities. The Vizient® Tech Watch informs hospital strategy, supports care delivery, and fuels performance improvement in key high-impact areas: medical devices, pediatrics, and diagnostic imaging.

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In addition, although there are numerous digital health technologies in the marketplace today (e.g., digital virtual assistants, patient financial engagement, unified patient messaging, mobile wayfinding, remote patient monitoring), it can be daunting for providers to determine which technologies to invest in or adopt. To help address this concern, a successful model is Panda Health which was founded by providers and vets digital health technologies and also helps in sourcing, implementation and management of digital health solutions.

Also, in recognition of the challenge of identifying the role each organization should play in addressing social determinants of health (SDoH), Vizient developed a three-part framework to help hospitals and health systems determine how they are best positioned to help impact the patients and communities they serve. This framework, which can be utilized broadly and uses different metrics for each of the three parts, focuses on addressing the clinical manifestations of SDoH.

Barriers
Vizient's members have noted that a substantial barrier to the use of digital health technologies is the lack of reimbursement clarity and predictability. During the pandemic, significant legal and regulatory changes (e.g., easing of Medicare geographic telehealth restrictions) improved the ability to facilitate broader access to digital health. Yet, the future of these flexibilities is unclear, making it difficult for health care providers to develop and implement longer-term digital health strategies. Further, uncertainty regarding other payer policies is also a barrier to adoption.

Also, additional time is often needed develop and implement an organization's digital strategy, including training providers on the use of digital technologies, identifying technology solutions, altering workflows and creating a robust data and analytic infrastructure. Other barriers include access to broadband infrastructure/reliable internet bandwidth and the need to streamline technology platforms while continuing to prioritize privacy and security protection.

Trends from the Pandemic
Through the use of Vizient solutions like the Clinical Data Base (CDB), Operational Data Base (ODB) and the Association of American Medical Colleges and Vizient's Clinical Practice Solutions Center (CPSC), we have deep insights regarding a range of trends from the pandemic, including how the use of telehealth has changed over the course of the pandemic. For example, in April 2021, Vizient published "Effects of the COVID-19 Pandemic on Telehealth", which provided an update regarding telehealth utilization based on specialty and payer type, among other variables. In addition, Vizient's CDB has been used by researchers for a variety of purposes, including to learn more about COVID-19. One example includes a peer-reviewed article, "Outcomes of COVID-19 adults managed in outpatient versus hospital setting", where aggregated, deidentified discharge records of adults with a diagnosis of COVID-19 between March 1, 2020 and January 31, 2021 were reviewed. Data analysis was performed on inpatient and outpatient management to better understand hospitalization rates and associated outcomes measures (e.g., rate of hospitalization, mortality). Vizient welcomes the opportunity to share more information with the OTSP regarding the latest trends from the pandemic.

Tools and Training Needs / Health Equity
Although health equity continues to be a priority, the connection between underserved populations and the issues surrounding their needs, is often fragmented and disconnected. Based on this gap, Vizient developed the Vizient Vulnerability Index (VVI), which serves as a singular clinical data index for social needs at the neighborhood level. The VVI helps quantify the direct relationship

between obstacles patients face in accessing care and patient outcomes personalized to their communities. Vizient welcomes the opportunity to share more detail about the VVI with the OSTP.

Proposed Government Actions

Vizient urges the Federal Government to consider opportunities to work with private sector stakeholders to ensure tools are available to support the transformation of community health settings through the uptake of innovative digital health technologies and telemedicine at the community level. Vizient has found that health care providers are increasingly interested in partnering and starting digital health solutions regarding consumer engagement and activation, patient assessment and intervention and patient monitoring and management. More information regarding these initiatives is available through Vizient's VentureSprout podcast. Vizient encourages the OSTP to consider opportunities to provide grants to health care providers and community health programs to support further transformation of community health through digital health technologies.

In addition, as noted above, the VVI is one tool that was created specifically to examine social needs data at the neighborhood level. As the OSTP considers options to strengthen community health, it is critical that such efforts can be effectively tailored to community needs, including assessment of digital readiness (e.g., digital literacy, patient's preferred model for communicating or accessing information, comfort with accessing digital solutions) for the community. Also, it is important that best practices in utilizing virtual platforms for connecting patients with community-based resources be shared. Finally, Vizient recommends that the government consider utilizing solutions like the VVI to help plan and measure the impact of solutions on social needs.

Conclusion

Vizient welcomes the OSTP's goal to identify opportunities to optimize digital health to improve community health. We are dedicated to providing innovative, data-driven solutions and expert and collaborative opportunities that lead to improved patient outcomes and lower costs, and we welcome the opportunity to further discuss Vizient's findings and capabilities with the OSTP.

Vizient membership includes a wide variety of hospitals ranging from independent, community-based hospitals to large, integrated health care systems that serve acute and non-acute care needs. Additionally, many are specialized, including academic medical centers and pediatric facilities. Individually, our members are integral partners in their local communities, and many are ranked among the nation's top health care providers. In closing, on behalf of Vizient, I would like to thank the OSTP for providing us the opportunity to respond to this RFI. Please feel free to contact me, or Jenna Stern at ███████████████████████ if you have any questions or if Vizient may provide any assistance as you consider these issues.

Respectfully submitted

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Shoshana Krilow
Senior Vice President of Public Policy and Government Relations
Vizient, Inc.

To: The White House Office of Science and Technology Policy (OSTP)

From: Tim Sullivan, State Director Washington 211

RE: Response to "Connected Health RFI"

3/31/2022

Washington 211 and our seven regional call centers in the State of Washington are a part of a national network of over 200 organizations providing the most comprehensive source of information on health and human services in the country.

Washington 211 is a non-profit 501(c) (3) organization incorporated in the State of Washington in April 2004. Prior to incorporation in 2003, the Washington State Legislature passed ESHB 1787 in support of the creation of a 211 system to provide easier access to available health and human services, to reduce inefficiencies in connecting people with the desired service providers, and to reduce duplication of efforts. Since February 11, 2006, when the first call was answered in the state, Washington 211 has assisted Washington residents with over 5 million referrals to local and state health and human services.

As the healthcare industry continues to move toward wholistic care and value-based payments, there has been a big push to finding ways to address social determinants of health to ensure better health outcomes. Health care providers are looking at ways to screen patients for SDOH, connect them to needed resources and track both the results of the referral and the impact on the patients' health outcomes.

211 has been engaged in SDOH work since its inception in 2001 when the Federal Communications Commission assign 2-1-1 as the abbreviated dialing code for consumer access to community information and referral services. The most vulnerable people in communities call 211 regularly about food, utility assistance, rent assistance, financial help, prescription assistance, and other services. Because of our intimate knowledge of local resources and relationships with CBO's and our ability to provide a central point of access to social determinants, 211 is uniquely positioned to be a key partner with healthcare in providing holistic patient care.

211 can support healthcare providers address social needs by providing linkage interventions to connect patients to community organizations outside the health system or identifying the right resource for a patient by knowing which CBOs are the most appropriate. Most importantly, 211 can provide customized live resource navigation assistance to state or local care coordination efforts, allowing partners to promote the 211 number as a point of entry into their services for potential clients/patients.

In states across the country, 211's partner with state agencies, Managed Care Organizations, Accountable Communities of Health and local health systems to support SDOH closed-loop referrals for care coordination, to ensure that there is equitable access to current state and

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local resources. Since 211 offers a central point of access to community resources through the toll free 211 phone number and maintains a comprehensive database of health and human resources, it is pragmatic to utilize this free resource and incorporate it, through API integration and interoperability, into the many care coordination efforts and software platforms in the country instead of recreating this public service.

From a healthcare perspective, 211 is directly relevant to addressing social needs for health improvement through the collection and reporting of social needs data within communities across the country. Over 25 million people in the United States dial 211 for help with basic needs like food and shelter or emergency services. Through a partnership with the Health Communication Research Laboratory at Washington University in St. Louis, 211's report caller data through 2-1-1 Counts an online interactive data dashboard. 2-1-1 Counts is the first tool to provide real-time, searchable, and visual presentations of data from 2-1-1 call centers across the nation.

By capturing every social need expressed by callers to 211 and visitors to 211 websites, 211 is effectively the nation's leading surveillance system for social needs. 211s possess highly unique data that documents not only the level of demand for a wide range of social need services, but also how those needs are distributed geographically, how they change over time, and in many instances, who they affect most. Such data are invaluable for identifying gaps in service, community planning and integrating the "alignment" and "advocacy" roles the healthcare sector seeks to fulfill through wholistic care.

Web analytics from 211 Counts confirms that healthcare organizations have been one of the sectors most interested in 211 data. These include the neighborhood health centers, hospitals, health insurance companies, Local, regional and national health systems, Medicaid managed care companies, and mental health service providers.

Focus-19 is produced through a collaboration between 211Counts.org and research scientists at the Health Communication Research Laboratory of the Brown School at Washington University in St. Louis. Focus-19 reports on the social impact of the COVID-19 pandemic. Focus-19 and 211Counts scan these data hourly to identify rising needs in communities across the U.S. The goal of the Focus 19 project is to give local leaders strong evidence to act quickly and help American families.

The National Data Platform was launched in 2016 to enable the 211 Network to aggregate, flexibly access, and share their proprietary resource data through an interoperable exchange of resource data through a national hub using the Open Referral Human Services Data Standard (HSDS) as a common data translation layer. The National 211 Data Platform has the potential to link all 211 resource databases together to provide standardization in data structure and exchange at a national level. The implications for this level of standardization could provide opportunities for national level SDOH partnerships, increase the impact of 211 during national

disasters, impact social policy and create new funding opportunities to support and expand 211 services in communities.

Many 211s already have a history of collaboration with state and local government agencies, and even some federal agencies, such as the Centers for Disease Control and Prevention (CDC) and FEMA for national disasters or pandemics like COVID-19. 211 is a central point of contact for emergency responders to share up-to-date information on shelter locations, evacuation, routes, road closures and public health advisories.

The Washington State Department of Health (DOH) contracted with WA211 in March 2020 to be the state's COVID-19 Helpline, to support an overwhelming need from Washington residents who were seeking COVID-19 information and assistance. WA211 handled over 2,000 calls a day when it began answering COVID-19 assistance calls. By the time that vaccines were available, the COVID Helpline experienced between 3,000-10,000 calls a day assisting callers in locating vaccine sites and scheduling appointments. Since March 2020, Washington 211 has responded to 600,000 calls.

Washington 211 continues to serve as an active partner with the Washington State Department of Health in the protracted battle against COVID-19 spread. In addition to handling calls into the statewide COVID-19 hotline, Washington 211 has been a key partner in scheduling vaccine appointments (approaching 60,000), assisting with contract tracing communication for WA Notify, updating records in the state vaccine record verification system as well as providing answers and guidance to caller questions.

211 Addresses inequities, 211 Specialists helped to identify and address vaccine access issues experienced by those without mobile devices, internet access, or technology skills by scheduling vaccine appointments online. 211's personal approach to working with people individually, created the opportunity to identify unseen needs and obstacles that can be addressed to broaden the reach and equity of our human and social service network for persons with digital access barriers.

Washington 211 also provided a flexible Response using technology by using upgraded call routing capabilities to allow the majority of 211 Specialist's to work remotely. This allowed the state 211 system to quickly respond to call surges and protected staff from virus exposure. Washington 211 also upgraded its texting service to integrate with its call system, added a temporary chat bot to the WA211 website and developed an enhance resource search engine, through a partnership called Connect 211, on our website www.wa211.org to provide self-help options.

Thank you for engaging non-profit organizations such as Washington 211 in this important national discussion. Washington 211 would welcome the opportunity to provide additional information and assistance to help provide you with more specific recommendations.

RE: Response to Request for Information (RFI) on Strengthening Community Health Through Technology *Federal Register, Vol 87, No. 3, Wednesday, January 5, 2022, pages 492-493.*

Submitted by: Colleen Kerr, J.D., Vice President for External Affairs and Government Relations and

                     Daryll B. DeWald, Ph.D., Vice President, Health Sciences; Chancellor, WSU Spokane

On behalf of Washington State University (WSU), we submit this response from the academic researcher stakeholder category. Below, we explore four examples, informed by the experience of our WSU Health Sciences, programs of deploying digital health technologies and the opportunities and challenges of utilizing these models in promoting access and improved health outcomes for all Americans.

EXAMPLE #1: Reducing smoke exposure among asthma patients

Exposure to wildfire smoke is occurring with greater frequency and intensity for many residents in Western states. WSU conducted a two-year (2020-2022) clinical trial testing a smartphone application to reduce exposure to wildfire smoke among young adults with asthma. This work was funded by the National Institute of Nursing Research (NIH R21NR01907). Recruitment and retention in this 8-week trial was excellent. Compliance with mobile spirometry exceeded expectations, per app usage data. Users made multiple recommendations to improve the app through an evaluation survey and individual interviews. Users reported that the app improves health outcomes and equity by providing real time information about air quality and recommendations to reduce wildfire smoke exposure without needing to access a provider or the health care system. However, users noted that app use requires internet access and a smartphone which may not be available to all users. Barriers for use relate to the lack of air quality monitors in rural areas, as well as literacy levels of populations, such as agricultural workers, who may be served by the app. https://onlinelibrary.wiley.com/doi/10.1111/phn.12986.

EXAMPLE #2: Online Chronic Pain Self-Management

WSU conducted three studies of an online chronic pain self-management program in populations receiving opioids prescribed by providers (two studies of adults with chronic pain prescribed opioids and one study on adults with chronic pain in treatment for opioid use disorder) funded by Washington State Life Sciences Discovery Fund [LSDF 08–02] and Washington State University [Grant # WSU124741-003] from funds provided for medical and biological research by the State of Washington Initiative Measure No. 171, and the National Institute on Drug Abuse [R01DA044248]. The first two study findings show positive outcomes on pain measures and opioid use or misuse, indicating that the pain self-management content was useful for people to adopt non-opioid pain management strategies and reduce reliance on or misuse of opioids for pain management. doi: 10.1016/j.pmn.2014.09.009;   https://doi.org/10.1016/j.addbeh.2018.04.019.

Barriers: Barriers noted in the online pain self-management studies include internet and computer access, and motivation to complete program modules. Faculty researchers have identified and published on these gaps. Coaching plans were created to improve online program adherence by using an accountability partner and rewards and conversations are underway to move the tested online content to an app to update the technology platform. It is

difficult to move all of the features onto an app without losing important content. It is expensive to maintain the online platform when it has not been widely adopted and insurance plans have not covered costs. Finding clinical partners who have the time to help engage their patients in the program outside of a research structure has also been a challenge. doi:10.4018/IJHISI.201710010; doi: http://hdl.handle.net/10125/41566

User experience: Researchers collected and published qualitative data to better understand the patient experience and used this feedback in each study iteration of the online self-management program – e.g. increasing staff support to keep people engaged in the technology and troubleshoot problems, using rewards and coaching to prompt program completion; doi: 10.1177/0193945916689068.

Health equity: There are gaps in access to well-vetted, evidence-based pain self-management programs throughout the U.S. Rural and underserved communities have even less access. Less access has led to increased physical and psychological symptoms, substance use and suicide https://www.fda.gov/media/122935/download. A critical need exists to train community health workers to help disseminate evidence-based pain self-management content and provide coaching so that individuals can have mastery over their pain management goals while they are being asked to rely less on opioids.

EXAMPLE #3: Smart Home Monitoring

WSU studies explore how providers might use smart home monitoring environmental sensor-based data to assist with managing chronic conditions and clinical decision-making. We presented information derived from a variety of sensors (passive infrared motion, magnetic door use, temperature, humidity, light) to 47 clinicians and asked them to help us create clinically meaningful and easy-to-use visuals of the data and then explored if they thought sensor monitoring of patients with chronic conditions could provide useful information for clinical decision-making. We found clinicians (nurses/providers) could conceptualize use of the data, how they would like it presented, and that they would use it in practice if it were available. *Funded by the National Institute of Nursing Research R01NR016732; article doi:10.1109/JBHI.2018.2864287.*

Barriers: With two studies exploring the adoptability of smart homes for health monitoring, we found that privacy, trust, safety, culture, language, cost, internet connectivity (especially rural), family opinions (the children of older adults), features/functionality of the tech (specific features for specific issues and whether it works as intended), and the timing of deploying the tech (on the continuum of illness or aging) would likely impact older adults' adoption of smart home monitoring. Studies funded by: National Science Foundation Interdisciplinary Graduate Education Research and Training Grant Number DGE-0900781; Washington State University Vancouver Office of Research. Articles: doi.org/10.4017/gt.2020.19.04.385 ; doi:10.4017/gt.2016.14.3.010.00.

User Experience: While ongoing research and collecting user experience data continues, early indicators show that older adults living with smart home monitoring find it unobtrusive while increasing their sense of safety and health security. Funded by the National Institute of Nursing Research R01NR016732.

Health equity: As we explored the use of smart home monitoring (ambient sensors) in the opioid use disorder population, we found that in-home sensor-based monitoring may be an unobtrusive and reasonable avenue to monitor sleep and behavior aspects of withdrawal, or for assisting with chronic pain management. Funded by the National

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Institute of Nursing Research R01NR016732. Article: doi: 10.2196/23943. Our research has also provided important evidence that using a community-engaged research approach promoted community empowerment in nurse scientists working with Asian immigrant cultural community leaders. *Article: Health-assistive smart homes for aging in place: Leading the way for integration of the Asian immigrant minority voice: https://doi.org/10.31372/20180304.1087.*

EXAMPLE #4: Evidence-Based Virtual Delivery: Strengthening Families for Parents and Youth 10-14

Strengthening Families Program for Parents and Youth 10-14 (SFP 10-14) is an evidence-based family prevention program delivered across seven weekly caregiver, youth, and family sessions and is shown to increase protective parenting, improve family relationships, and decrease adolescent substance use (Spoth et al., 2013). However, programs such as SFP 10-14 were developed for face-to-face delivery. In response to COVID-19, many prevention programs had to pivot to virtual delivery formats to reach audiences. This case study reviewed the development and process evaluation used by WSU to scale up a virtually adapted SFP 10-14 program. This interdisciplinary project engaged university researchers, program trainers, community-based program facilitators, and students as a Virtual Adaptation Team. Community facilitators were trained in the virtual program between February and April 2021 and four sites piloted the virtual program. Data are from a) a facilitator training feedback survey (n=20) and b) a post-implementation survey of caregivers and facilitators (n=13).

A total of 36 SFP 10-14 facilitators across 12 communities participated in virtual program training. Of those who completed a training feedback survey, 100% of respondents reported the training would benefit their professional development and/or practice, and 95% will use the information to change their current practice. A post-implementation survey administered at two sites indicated most caregivers (67%) would prefer online delivery going forward during non-COVID circumstances while most facilitators (57%) would prefer in-person delivery. Open-ended responses about virtual program successes centered around greater opportunity to connect with others across the state and a better network of support. Key challenges centered around technology, internet access, and the increased length of time and personnel support required for virtual delivery. This work was funded by the United States Department of Agriculture and the Substance Abuse and Mental Health Services Administration.

TOOLS & TRAINING NEEDS

Based on our experience, time is needed in training patients to understand the programs and how they work with different technologies (e.g. iPads or Chromebooks, versus smart phones, MAC versus Windows). Training is also needed for health workers to understand the importance of coaching to boost engagement and ability to troubleshoot technology failures. Engagement results in higher impact and improved outcomes and needs to be a part of the plan.

Dr. Connie Nguyen-Truong, Associate Professor of Nursing, WSU College of Nursing, developed and taught two curriculums, Interactive Co-Learning for Research Engagement and Education (I-COREE), and Techquity Curriculum, associated with training community health workers to assist with smart home health technology research. We found that attention to culture, trust, preferred language, timing, and giving credit for community health workers knowledge and effort were important to successful integration in health technology research. Funded by the National Institute of Nursing Research R01NR016732; Nursing Honor Society Sigma Theta Tau Beta Tsi Chapter. Article: doi:10.31372/20180304.1030.

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Response to a Request for Information (RFI) on Strengthening Community Health Through Technology by the Science and Technology Policy Office
By Steven C. Moyo, MD, CEO of Welfie I ███████████

Poor health literacy costs the U.S. health system an estimated $238 Billion Dollars. 87 Million U.S. Adults have low health literacy ([source](#)). Compared to those with above-average health literacy. People with low health literacy spend $2000 more per year on medications, $500 more per year on doctor's visits, and $993 more for hospitalizations. ([source](#)) . Low health literacy is disproportionate among lower-income Americans eligible for medicaid. Older adults, adolescents, people with low income and educational levels, and racial and ethnic minorities are disproportionately affected by low health literacy ([source](#)). Poor health education leads to an inability to navigate a complex and disconnected health system. Making the need to improve health literacy and a connected community health system imperative.

Welfie is founded by two, black immigrant physicians that have trained at The Johns Hopkins Hospital and Harvard University. Our expertise covers Internal Medicine, Pediatrics, Public Health, Rural, and International Medicine. Together with a diverse team of developers, designers and educators, we are building a digital health platform that addresses our siloed and inequitable health system. Our proposal centers on being (1) Kid Centric (2) Family-Focused and (3) Equitable. Always. Specifically, we believe schools, K-12 through higher education, can serve as critical hubs for health and social services for students, families, and communities. Our approach is in line with the CDC's [Whole School, Whole Community, Whole Child (WSCC)](#) model and is supported by a dual focus on population health data and population health equity.

At Welfie we believe that kids are the most powerful force for change. To impact the health of families, schools, and communities. We are focusing our health education and engagement products and programs on Whole Child Health. Personalization of health education and care coordination happens via the Welfie. This dynamic health record enables us to deliver health education that is contextual and culturally inclusive. Personalization of education will make it more engaging for students allowing our health education to be preventive and promote wellness. In addition, as the curriculum adapts to a student's needs and health record it becomes in fact interventional. Allowing the same content to be used for K-12 Health Education and Pediatric Patient Education. Furthermore, a core and innovative pillar of our health education platform will focus on digital health literacy. Teaching students, and by extension their families, how to leverage technology to improve their health and wellness. Just as we can personalize health education using the Welfie, giving people increased understanding of themselves. We aim to use the Welfie to automate care coordination. Delivering health service and product suggestions that are prescriptive and geared towards improving health outcomes.

Connected community health has the opportunity to improve the quality of care for children and adults. By centralizing schools as a hub of community-centric care and aligning school health requirements with quality of care metrics for pediatric health we can increase the frequency of meaningful touchpoints for patients with certified health professionals. Healthcare interoperability and education interoperability will be key to achieving this however there are

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several companies in both the health and education space that are solving this problem allowing organizations like Welfie to bridge the divide between school health and pediatric health. Further by decentralizing health records from hospital systems and creating patient-centric health records, we can empower patients and their families to access care earlier, and often which can decrease costs for Medicaid payers and Centers for Medicare and Medicaid Services.

Further, Virtual Health assistants have the opportunity to overcome the barriers to care coordination that we face. Due to staffing shortages for nurses, case managers, and social workers, there are patient backlogs and missed opportunities to connect families to care. Using patient health records to drive automated care coordination

We believe we can eliminate health inequity by empowering people to better care for themselves and each other. Our vision is that every high school student graduates with a 'Welfie Health Certificate' which is like a driver's license for your body. In addition, we are creating a high school to healthcare pipeline that serves to create generational health and wealth for communities of color. We aim to build the next generation of healthcare leaders, doctors, nurses, scientists, psychologists, hospital administrators, and more, that are trained to deliver equitable and empathetic care to communities of color and those living at or below the poverty line. It starts in high school where we are working to turn kids into super-H.E.R.O.s (Health Equity Response Organizers). Utilizing evidence-based Youth Participatory Action Research methodologies we are running our first student health and entrepreneurship program focused on giving teens the tools they need to identify a community health problem and work with adults to address this in their schools and communities. In essence, we are creating community-based health leaders that know how to navigate and care for the communities they come from. This pipeline approach has an immediate health impact in school settings and prepares students for careers in health care that will lead to generational wealth for them, their families, and their communities.

Barriers to delivery of a connected health ecosystem that we are building include a lack of access to broadband connectivity and internet-connected devices for underserved populations. Further, reimbursement models that support preventive and population health are critical for innovators to raise capital, fund development, and realize the social impact and improved health outcomes that we seek for populations, while having sustainable business models and return on investment for capital investors.

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Suggestions for how Federal, State and Local governments can support innovative community connected health solutions in a sustainable way with the goal of improving health literacy, access to care, and improving health outcomes for underserved communities and communities of color.

1. Make Health Education core to the K-12 curriculum and expand requirements to include [Digital Health Literacy](#), problem based learning and [youth participatory action research (YPAR)](#) as key vehicles to deliver health education and encourage generational, youth led improvements in health solutions and equity
2. Fund salary increases for school staff who achieve professional development credits in health prevention and intervention.
3. Make addressing 'Health Equity' a requisite for K-12 federal funding for health related funds
4. Reimburse School Health Professionals for improving quality of care metrics through Medicaid Managed Care Organizations
5. Increase access to and reimbursement for school based health services
6. Require K-12 and Higher Education systems to provide warm hand offs to pediatric health providers and vice-a-versa for high risk students
7. Standardize School Health Surveys and data collection to align with USCDI models
8. Standardize school health data requirements and tie it State/Federal Medicaid funding

We thank you for the opportunity to provide insight into the work that we, along with our ecosystem partners are doing to create community connected health networks via K-12 schools. We believe that this can impact the health of generations and increase the ability for people to care for themselves and each other via improved health literacy and access to care. We look forward to engaging in more strategic population health and innovation initiatives in collaboration with the White House and Department of Health and Human Services.

Steven C. Moyo, MD
CEO and Founder of Welfie

March 2, 2022

Dr Alondra Nelson
Director
White House Office of Science and Technology Policy.
Washington, DC

Re: Comments on Strengthening Community Health Through Technology

Dear Director Nelson:

As someone with more than 20 years in the healthcare and biopharma industries, with experience leading strategy for Pear Therapeutics, serving on the board of the Digital Therapeutics Alliance, and now as CEO of Wellinks, a healthcare company offering the first fully integrated virtual care system that empowers patients to manage their chronic obstructive pulmonary disease (COPD) – I am writing to you today in response to the Office of Science and Technology Policy (OSTP)'s request for information and input on strengthening community health through technology. Working to support people with COPD at Wellinks has made clear the frustration that many individuals experience with having to navigate a care system that is fragmented and often inaccessible. However, I see tremendous opportunity for new technology solutions, paired with some regulatory adjustments, to make it simpler for people with chronic conditions such as COPD to access the care they need.

Working for over five years with more than 20,000 people with COPD, the Wellinks team has seen firsthand many of the barriers that prevent access to and effective utilization of healthcare technology. Despite COPD being the third leading cause of death by disease in the U.S. and the fifth most costly chronic condition, virtual care models that have revolutionized care for other health conditions like diabetes, kidney care, and musculoskeletal concerns have not yet addressed COPD and widespread access issues persist. For example, we know that pulmonary rehabilitation is incredibly effective for managing COPD, but it remains dramatically underutilized and inaccessible for most patients – there are currently 18,000 COPD patients for every one pulmonary rehab facility. We're working to change that landscape for people with COPD at Wellinks. We applaud OSTP's shared commitment to maximize the impact of digital and virtual care solutions, and address current challenges to meaningful access that contribute to inequity in our current system through its Community Connected Health initiative.

As OSTP evaluates the barriers preventing the meaningful adoption of digital health solutions at the community level, several regulatory factors warrant the office's consideration. Despite accountable care

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organizations (ACOs) delivering Medicare, and taxpayers, $13.3 billion in gross savings and $4.7 in net savings since 2012, participation in such models has been relatively flat, leaving a huge opportunity to fulfill the promise of value-based programs. Nearly two years into the pandemic, regulatory guidance from CMS as it pertains to reimbursement and coverage for digital health tools remains patchwork and temporary. Moreover, a Brookings Institute analysis of census data found that 19 percent of rural and 14 percent of urban households are without broadband, often due to cost of service, presenting another barrier to the adoption of digital health solutions.

Wellinks has identified four opportunities to support a more equitable healthcare system through applications of technology: 1. Facilitating a shift to value-based payment models; 2. Providing adequate coverage for these services through the Centers for Medicare & Medicaid Services (CMS); 3. Utilizing a human-centered design approach when developing virtual care solutions; and 4. Expanding access to broadband across rural and urban communities.

1. We support an aggressive shift to encourage value-based care models, particularly among federally funded health programs. Current fee-for-service models incentivize providers based on the quantity of services they deliver instead of the outcomes their patients achieve. In this model, COPD places a significant strain on our healthcare system – an estimated $49 billion spent annually, according to the CDC – as patients are routinely funneled in and out of emergency care for acute fixes to a long-term condition. Value-based models are the ideal home for digital and virtual care interventions because they reduce or eliminate concerns about over-utilization and give providers the flexibility to deploy these tools for patients who need them most. The Administration has set an ambitious goal to have every traditional Medicare patient in an ACO by 2030, but the current trends indicate we will fall short of that objective without immediate action. By incentivizing expanded participation in ACO models, whether by increasing savings rates, reducing the program's administrative burdens, or fixing persistent benchmarking and risk adjustment challenges, we can drive care upstream, maximize the potential of technology-based interventions, reduce costs, and improve outcomes for patients. We commend the Centers for Medicare & Medicaid Innovation for improvements to the GPDC program reflected in the recent ACO REACH model announcement and look forward to further payments model innovation aligned to the quadruple aim of health care.

2. The 2020 outbreak of the COVID-19 pandemic underscored the urgency and opportunity presented by deploying digital health capabilities to improve the quality and reach of care, spurring many private insurance carriers to lean into coverage for these solutions. As the Advanced Medical Technology Association has identified, there are concrete steps the federal government can take to better accommodate digital health technologies as the public health emergency phase of the pandemic subsides. To start, CMS should make permanent its revisions to the originating site requirements for reimbursement to accommodate at-home care. Additionally, there is a need to expand reimbursement for evidence-based virtual interventions that will help beneficiaries manage chronic conditions, which require more consistent, frequent touch points beyond what can be provided by traditional in-person care. Technology-forward solutions can provide health related support and help reach in-need groups, like people with COPD, at the scale necessary to address such conditions at the population-health level, but only if there are incentive structures in place that encourage their adoption.

3. As OSTP evaluates potential digital and virtual interventions to improve community health, the department should focus on solutions that employ a human-centered design approach in their care

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delivery. It's one thing to have the most cutting-edge technology, it's entirely another to deploy that technology in a way that will actually engage your target population and fit into their daily routine. Wellinks has applied this design framework to our integrated, virtual-first COPD solution, and has seen impressive results to date. In our latest peer-reviewed study published in the *Journal of Medical Internet Research,* 81 percent of participants reported that the Wellinks app was valuable, and 94 percent said our app is easy to use. These findings are exciting because they demonstrate that our core members are willing and able to meaningfully engage with our solution.

4. Finally, while expanding rural access to broadband is imperative to removing barriers to care, any initiative to address the urban-rural broadband divide must not ignore the very real divide within urban communities. This is especially critical to improving patient outcomes, as the pandemic has demonstrated that populations across demographics are willing and eager to engage with their health through technology. We commend the Biden Administration and Congress for allocating $65 billion in the Infrastructure Investment and Jobs Act to expanding access to broadband and encourage further investment and implementation to ensure that Internet access is affordable for all Americans.

We applaud the OSTP for its commitment to strengthening community health through technology and are eager to support initiatives that bring us closer to this vision.

Sincerely,

Alex Waldron
CEO, Wellinks

Successful models within the U.S.:

- [Project ECHO](#) is a powerful tele-mentoring model now being used by more than 250 partners in all 50 states across the U.S. – and reaching providers in more than 180 countries around the world. The ECHO model leverages technology, including videoconferencing platforms such as Zoom, to ensure that clinicians on the ground in rural and underserved communities have the latest best practices, mentoring and support they need to provide the right care to their patients when they need it and where they live.
- We know the model works. A rigorous study published in the New England Journal of Medicine and funded by the Agency for Healthcare Research & Quality (AHRQ) focusing on hepatitis C in New Mexico showed that patients treated by an ECHO-trained community provider got the same quality care they would get if they went to a specialist. There are now more [400 published papers](#) on different aspects of the model.
- When COVID-19 hit, the ECHO network responded by pivoting its work and rapidly moving emerging best practices to the healthcare providers on the frontlines of the pandemic in communities in the U.S. and around the globe.

Barriers:

- Telehealth operates within many of the same constraints as the rest of the healthcare system. If there's an overall shortage of specialists to provide care for complex diseases and conditions, technology alone can't solve that problem.
- Telemedicine importantly bridges a geographic divide to connect a healthcare provider with a patient for diagnosis or treatment. It works well when there's enough capacity in the system, and we can use technology to "move it".
- Tele-mentoring models like ECHO are focused on doing just that – building new skills and expertise by mentoring providers in rural and urban underserved communities to treat complex conditions that they hadn't been supported to do previously. In West Virginia, the ECHO Program has been able to mentor and train **1,243** individuals. Additionally, the WVCTSI ECHO Program has also been able to help **18** other states access experts in specific topic areas. The solution is already in the community, and ECHO provides the support needed to help lift it up.

Trends from the pandemic:

- COVID-19 underscored the urgent need to quickly move new medical knowledge and emerging and evolving best practices to health professionals on the frontlines of the pandemic.
- And when COVID hit, the ECHO network in the U.S. and around the world was uniquely positioned to respond. We had long believed that the ECHO model could be put to work in a meaningful way in a pandemic, and in 2020 we were put to the test.
- The WVCTSI Project ECHO Program responded to the pandemic by launching its own COVID-19 ECHO in late March 2020 at the request of the WV State Task Force on COVID. The Task Force needed an effective way to disseminate the most recent new information and data to the providers in WV. With our track record of success made it an easy choice for the Task Force.
- Launched in October 2020, the AHRQ ECHO National Nursing Home COVID-19 Action Network was the nation's most comprehensive effort to reduce and prevent the spread of COVID-19 in nursing homes. At the time, COVID-19 was surging across the country – disproportionately affecting people living and working in nursing homes – and accounting for nearly 40% of all deaths from COVID-19. Despite the terrible pressures under which they were operating, more than 9,000

- of the nation's 15,000 nursing homes joined the Network, a partnership of the Agency for Healthcare Research and Quality (AHRQ), Project ECHO, and the Institute for Healthcare Improvement. More than 30,000 healthcare workers were mentored as part of this initiative.
- The ECHO Institute also partnered with the Assistant Secretary for Preparedness and Response (ASPR) at HHS to run a national program serving EMS and other emergency frontline workers focused on COVID-19. And it continues to this day. With new best practices emerging every week, the ASPR ECHO gets knowledge into the hands of frontline health workers across the U.S. Every week, some 400 to 1,700 clinicians log on to navigate the challenges of COVID-19 together in real time.
- Other ECHO networks active with the Indian Health Service, the CDC, and other federal agencies all shifted to get up to date, best-practice knowledge about COVID-19 into the hands of the health workers in rural and urban underserved communities who needed it most.
- The experience of COVID-19 – and whatever will follow it – only magnifies the need for tele-mentoring models like ECHO. We need ongoing, facilitated virtual learning communities to ensure that the doctors, nurses, public health experts, community health workers, nursing home employees and many others on the front lines of care get the knowledge, guidance and support they need to care for people in their communities.

User experience:
- Overwhelmingly, the "users" of tele-mentoring models like Project ECHO – health care providers in rural and urban underserved communities around the country and around the globe – have voted with their feet about the value of the model.
- ECHO started in one training center in one state (New Mexico) focused on one disease (Hepatitis C) reaching 21 different teams of community providers. It now reaches across the country with 250 training centers in all 50 states and engages providers in 180 countries across more than 80 different diseases and conditions.
- The community providers that participate in ECHO sessions report increased competency and self-efficacy as well as increased professional satisfaction.

Tool and training needs:
- COVID-19 underscored the urgent need to quickly move new medical knowledge and emerging and evolving best practices to health professionals on the frontlines of the pandemic.
- But for too long before the pandemic, our health care system has relied on an outdated approach to providing ongoing education and training to our healthcare workforce. COVID has made that urgency more visible. We need an education and training approach in healthcare that leverages technology to create virtual learning communities that support providers in the communities they live and serve.
- Think of ECHO as an ongoing, virtual grand rounds. Providers are mentored by expert teams, present on real patient cases, and get real-time feedback from experts and peers. They build skills and develop new expertise to better equip them to deal with the health challenges affecting their communities. And the experts learn too – from the real-time, ground-up experience of the community providers.
- By building up these virtual learning communities that often connect academic medical centers with community providers across regions and states, ECHO lays the tracks on which new medical knowledge can move instantly to the frontlines of care in times of health emergency. ECHO moves knowledge, not people.

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Proposed government actions:

- The pandemic exposed what we all knew long before the first COVID cases were diagnosed. We need to fundamentally reorient our healthcare system. Instead of placing the burden on patients in rural and urban underserved communities to find us – the medical experts who can treat and often cure them – we need to bring the right care to them, when they need it, where they live. Technology can help us get there, but it can't do it all.
- Much of the government's current telehealth focus been centered on the worthy aims of connectivity (increasing broadband) and enabling virtual visits between providers and patients. Those efforts should continue.
- But we also need to see telehealth not just as a means to advance the current system – but as a way to help us reimagine it. If we want to be prepared to move medical knowledge at the speed it will be needed to support us in the next pandemic, we need to reimagine how we get there – and tele-mentoring models like ECHO will be a part of that future.
- And we need to pay for it. We need to create the payment structures that incentivize new approaches like tele-mentoring.
- Currently, there is no good way to pay for tele-mentoring models like ECHO. Programs around the U.S. are supported through a patchwork of different funding, which includes philanthropic and government grant programs, state funding and some early experimentation of payment approaches through Medicaid and with health plans.
- We suggest the federal government consider approaches in the following areas:
    - The Department of Health and Human Services (HHS) through the Center for Medicare and Medicaid Innovation (CMMI) should explore different payment pathways for both the specialists/experts and community providers participating in tele-mentoring approaches.
    - Tele-mentoring extends the reach of graduate and continuing medical education. It creates ongoing, virtual learning communities responsive to the most pressing needs of providers in rural and underserved areas. The federal government should encourage academic medicine to reimagine its role in medical education and prioritize tele-mentoring as a core education strategy going forward.
    - Based on the experience during the pandemic, the Federal government should explore a standard mechanism for funding tele-mentoring approaches like ECHO in times of national health emergency as part of the government's response efforts. This will reward the institutions who have "laid down the railroad tracks" and allow them to quickly and robustly respond in times of national emergency. And it will encourage others to follow.

Health Equity:

- At its core, health equity means creating opportunities for everyone to live the healthiest life possible, no matter who you are, where you live or how much money you make.
- In healthcare, too frequently those living in rural or urban underserved areas lack access to the care they need to improve or save their lives. Instead, they wait months or travel hundreds of miles to see a specialist who can treat them. Often after it's too late to heal them. The ECHO model was created by Dr. Sanjeev Arora in New Mexico over a decade ago after time and again bearing witness to this failure of our healthcare system for those who often need it the most. The ECHO model is centered on health equity. Instead of placing the burden on patients to find us – the medical experts who can treat and often cure them – we need to bring the right care to them, when they need it, where they live.

Healthy Minutes - "Minutos Saludables" -
"connecting the underserved population to health and vitality"
for Pay as You Go (PAYG) mobile phones

 "Minutes" *are a barrier to reaching the underserved populations."* PCP's and health services are unable to contact some of their underserved populations due to lack of service "minutes" on the patients **PAYG** cell phone. - comment from an interview with Dr. Eric Warm - UC Health Cincinnati, Ohio

Pay As You Go (PAYG) plans are no-contract phone plans where users receive cell phone services in an inexpensive, flexible way. These plans are recommended for people seeking the most economical way to have a cell phone. It costs as little as $7 a month for talk, text, and data services. Federal Phone Assistance - Lifeline **Assistance Program** - ($9.25 per month plan subsidy) requires documentation to meet eligibility requirements.

"Minutos Saludables - Healthy Minutes" concept: reward usage of the WeWa.life app and engagement and reporting activities with prepaid minutes transferred to the user mobile phone registered with the WeWa.life app. This concept and others could be tested in a WeWa.life CareTeam pilot with low-income Americans. Major wireless carriers such as Verizon, Cricket Wireless (AT&T), T-Mobile, Ultra Mobile , Mint Mobile could provide ***Prepaid*** discounts or ***PAYG*** minutes and/or sponsor the program.

2019 - Pew Research - **Digital divide persists even as lower-income Americans make gains in tech adoption - in 2019, 71% of adults with annual incomes below $30000 own a smartphone**
Roughly three-in-ten adults with household incomes below $30,000 a year (29%) don't own a smartphone. More than four in ten don't have home broadband services (44%) or a traditional computer (46%). And a majority of lower-income Americans are not tablet owners. By comparison, each of these technologies is nearly ubiquitous among adults in households earning $100,000 or more a year.
 The most common uses of phones were talk (89%) and text messaging (65%). Only 28% of smartphone owners had health apps. Younger age was significantly associated with smartphone ownership and use of smartphones for Internet browsing, social media, and apps.

To improve the applicability of mHealth interventions aimed at patients who attend safety-net clinics and may have barriers to phone access or use, potential solutions include: subsidizing costs of mobile phone plans, routine updating of patients' phone numbers during each patient visit, providing tutorials on how to use mobile phone features, and using multiple (e.g., text message and a phone call) preferred phone modalities to reach patients. To avoid widening health disparities in the field of mHealth, mHealth campaign designers should consider mobile phone access and literacy.

We hope to identify hidden issues to adherence and compliance with underserved populations.

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Identify barriers to :
- Appointment adherence (any appt ie., lab tests, etc),
- Medication adherence,
- Self-management (diabetic self-checking)

Desired outcomes:
Reduced missed appointments
Reduced unnecessary hospital visits (ER visits)
Reduced avoidable readmission to hospital

As the US population diversifies, health disparity incidence and prevalence rates are not expected to decline; health disparities are predicted to be even more difficult to diagnose. According to Yancey et al, the proportion of people in the United States who are members of at least 2 ethnic groups will increase 10% by the year 2050, complicating assessments of health disparities. However, recent technology trends in the United States indicate mobile phone usage and smartphone adoption rates by those experiencing the highest rates of health disparities are increasing, providing a means for those who work in public health and health education to reach these populations through mHealth interventions.

The most common form of internet access for low-income Americans is via their mobile phone, and there are many barriers, including the cost of data plans, to engaging diverse patients in this way. Many safety-net systems have turned instead to telephone visits, which lack some of the benefits of video visits, including the ability to more easily establish rapport, visually assess the patient for clinical signs and symptoms, register non-verbal communication, efficiently conduct medication reconciliation, and more effectively engage caregivers and interpreters in the encounter. As such tools become an increasingly important part of routine care, they must be appropriate for all patients.

To support chronic disease self-management, Medicaid and Medicare should cover smart devices for home monitoring, as well as population health capacities such as chronic disease registries and panel managers. Home monitoring provides the necessary information to guide patient-provider shared decision-making. Data from home monitoring are especially critical for telehealth, and these devices are currently not consistently available across low-income populations.

Mobile phones are a more cost-effective way to access health information for those of a lower socioeconomic status (SES). In addition, mobile technologies have the potential to ameliorate the management of chronic diseases and smoking cessation while simultaneously improving communication between patient and provider. A recent report by the Institute of Medicine notes, "[health information technology] provides an opportunity for engaging populations not historically well served by the traditional health community…The impact of facilitating patient and population contribution to, and control of, their health information has the potential to provide further insights into, and opportunities to address, disparities in underserved populations"

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Re: Community Health and Technology

Josh Nesbit – March 2022
Co-Founder, Executive Director of Widespread Care

Background

I have spent the past 15 years building and deploying software alongside community health workers delivering care in the most challenging contexts on the planet – from slum communities in Uganda to mountain villages of Nepal. As the co-founder and CEO of Medic, I supported a global team that built open-source software to improve health equity. More than 40,000 community health workers (CHWs) across 100 health systems now rely on that software, which has supported nearly 100 million moments of care. I have served on boards of organizations focused on health workforce and community radio, collaborated with the US Department of State through tech delegations, contributed to the NASA/USAID partnership launch, and co-led other projects relevant to this RFI – including PeaceTXT, the 4636 Project, and a national, grassroots smartphone recycling initiative.

Today, as the co-founder of Widespread Care, I am working alongside caregivers in the US, starting with doulas in New Jersey, to build community-owned technology for mutual support and communities of care. Our work is informed by a decade of building with CHWs globally and a year collaborating with workers organizing for better conditions for platform-mediated "gig work", including delivery services, rideshare, domestic work, and remote, task-based work. I am fortunate to draw learnings and inspiration from a diverse set of colleagues and friends, including community health workers, community organizers, data scientists, economists, cooperative development specialists, engineers, designers, and artists.

Cross-Cutting Lessons

First, I will share learnings that cut across the RFI's focus areas.

1. Special attention must be paid to burnout in caregiving, and specifically moral injury – the experience of not having the resources morally demanded by the situation and people in front of you. Technology often adds "second jobs" that are, in effect, unpaid and lack the intrinsic value of care work.

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2. In the experience of caregivers and community members, the social and economic context for care work is oppressive. Artificial scarcity, particularly the lack of time, and perceptions of conflicts of interest lead to deteriorated relations. Building technology with community members is an opportunity to co-create and then experience new relations – this takes time and trust.

3. Those with the most at stake in a system of care often have the least power to make decisions and allocate resources. Technology deployed in this context will be seen and treated as tools to further consolidate power.

4. Community members and workers experience dehumanization when they are discussed and treated as objects, not persons. This shows up in language (e.g. "deploying CHWs"), training and program design, job descriptions, and technology platforms. Software platforms tend to exacerbate this problem, but they don't have to, and we can imagine alternative designs and experiences.

5. Care work is undervalued. Carers are not only infrastructure for other "productive" work. The private and public goods created by care between people are largely missing from return on investment calculations, and, as we've seen with the Covid-19 pandemic, so too are global risks. Technology should be designed to support what's actually valuable to communities, taking a more grounded and holistic view into account.

Specific Learnings

Next, I'd like to offer learnings in specific areas noted in the RFI.

Barriers to successful use of technology: Typical areas of underinvestment include participatory co-design, product and program iteration, hardware procurement and financing, and coordination with stakeholders designing parallel or complementary initiatives. Largely unexplored – and potentially transformational – concepts that could lead to successful use of new technologies include community ownership of technology, community-based review and accountability boards, and worker or user boards with budget and program oversight.

User experiences of platforms: Based on learnings from CHWs globally, people are highly adaptive and poor user experiences often lead to complex workarounds – which amounts to unnecessary, unpaid labor that then detracts from care work.

Based on learnings from workers in other sectors, we would be wise to reject the design patterns from labor marketplaces and gig platforms. The patterns are clear. In the context of providing for your family, gamification amounts to psychological manipulation. Labor arbitrage shifts tasks to people who are more desperate for a given task, suppressing wages and normalizing data forfeiture. Platforms make promises of connectedness (and flexibility) while isolating participants in the system, separating workers from one another, and removing chances for people to build trust and relationships.

Tools and training needs: If a technology is introduced as a requirement for work by an institution or private client, workers and caregivers will figure out how to use it. This introduces more hidden labor that stretches workers thin. We should not excuse a lack of institutional support, and instead design good (paid) onboarding, proper provision of equipment, infrastructure for peer support, transition periods, reflection and review sessions, and openness to shutting things down that have negative effects for workers and communities.

Envisioning a Beautiful Future

We can imagine *processes* that break from harmful patterns, including: transitioning from commercial, "user-centered" design to liberatory design; shifting from public-private subsidization toward public-social partnerships with block grants for community-level efforts; bringing trust and relationships into focus for technology planning and evaluation; and evolving from experts-only models toward organizing models bringing together many hands, hearts, and heads for community health technologies. We can imagine technology advancing care and healing.

We can also imagine illustrative "products" of this new way of working. Technology could directly support more communities of care forming and running day-to-day operations; care cooperatives could form to meet basic social and health needs in communities; critical infrastructure for care could be community-owned and operated; technologies with personal and IP rights could be owned by communities and shared across communities; and communities could set and work towards goals for their health and well-being, leading inquiry into their progress.

I believe that a new context for care can be created by people working together, and technology can serve us best in that context. Please do not hesitate to reach out if I can be helpful to your important efforts.

March 31, 2022

<u>Response of Wolters Kluwer to the White House Office of Science and
Technology Policy on Strengthening Community Health Through Technology</u>

Below is the response of Wolters Kluwer to the Request for Information (RFI) issued by the White House Office of Science and Technology Policy on Strengthening Community Health Through Technology. We appreciate the opportunity to share our views.

As way of background, Wolters Kluwer is a leading global provider of clinical technology and evidence-based solutions that drive effective decision-making and outcomes across the healthcare continuum. Key solutions include UpToDate®, Medi-Span®, Lexicomp®, Sentri7®, Lippincott® Solutions, Ovid®, Health Language®, Emmi®, and POC Advisor®. Wolters Kluwer had annual revenue in 2021 of €4.8 billion.

Wolters Kluwer shares the goal of advancing health equity across the US health system and reducing disparities in underserved communities. In 2021, we launched *Best Care Everywhere*, a mission-driven movement to strengthen health equity by leveraging our organization's evidence-based medical content and software solutions. Our response to the RFI offers examples of areas where digital health technology can help deliver the best care available, to all patients regardless of where they live. We also identify challenges to fully utilizing digital health technology in achieving a more equitable system, and offer policy recommendations for promoting the use of technology to strengthen community health.

In our view, health equity is achieved when all persons attain their full health potential without impediments that arise because of their race, ethnicity, religion, immigration status, sexual orientation or other socially determined circumstance. Unfortunately, the United States has much work to do to achieve an equitable health system. A recent Commonwealth Fund report [evaluated health equity](#) in 11 high-income nations using survey measures related to care processes and access to care, stratifying populations based on income. The United States ranked last. Health technology can help improve these metrics, and while there are many examples of how this can be done, we highlight below a few relevant to our organization.

The COVID-19 pandemic has shown the significant contribution **telemedicine** can make in facilitating access to care, so any successful strategy to improve health equity should invest in building a virtual care infrastructure on top of our current system. But transitioning to virtual care will require changes. Providers must develop new workflows and etiquette for virtual care environments, with solutions like our Digital Health Architect and Lippincott TelemedInsights helping clinicians transition to virtual care across a range of conditions. Medical and nursing schools must also integrate virtual care training into their curriculum, including telehealth call etiquette, or evaluating a patient's paraverbals and home environment.

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Engaging patients in their care can improve healthcare processes and outcome and reduce disparities. Many **patient engagements tools** such as apps, care management programs, and sophisticated, multimodal outreach programs based on advanced technologies are proven to improve care across varied populations. For example, our Digital Health Architect platform provides best-in-class consumer content that is harmonized with the same clinical decision support content their providers receive and is integrated into virtual care workflows such as telemedicine. To optimize patient engagement efforts, new approaches to communicate must also be developed and disseminated. For example, new language models can aid transgender patients, such as a transgender man (assigned female at birth) at an OB/GYN appointment. Patient notes should also include nonbinary preferences in notes. Patient communications and educational materials should also incorporate plain language, define terminology and reflect the patient population by incorporating references and images to people with different ethnic and racial backgrounds, body shapes, sizes, etc. Because Wolters Kluwer serves healthcare professionals, customers, and patients around the world, a team has developed a Diversity, Equity and Inclusion (DEI) Content Guide for our editorial team with the goal of creating a singular approach to the use of language and content that is intentional in embedding diversity and inclusion throughout the content. This in turn helps those who access our products to feel recognized and accurately represented, whether the material is being used to train medical or nursing students or by practicing clinicians interacting with patients at the point of care.

Technologies such as **artificial intelligence, machine learning, and data normalization software** like we offer through Health Language have the capability to extract key insights on specific patients from claims and medical record data, empowering care teams to develop individualized treatment plans with greater precision and certainty. When mapped to appropriate ontologies, the identification of Social Determinants of Health through the use of clinical natural language processing technology should be used to help extract key clinical and health equity insights. Racial or ethnic bias is a potential problem with any health software enabled by artificial intelligence and machine learning. Developers need to adopt best practices for algorithm development that focus on ensuring diverse data sets are used to train algorithms, and ongoing monitoring of algorithmic performance to identify emerging biases.

Clinical decisions, diagnoses and treatment recommendations should consistently reflect the best possible evidence, regardless of where a patient lives or their ability to access health facilities or resources. Helping health professionals to regularly consult with **decision support software and databases** will help improve outcomes for all patients while also reducing care variability and lowering costs. Access to, and regular use of clinical evidence databases can also help solve the "know-do" gap, which refers to the variance between the available knowledge and experience of the health professional and the diagnosis or treatment decisions actually made. The concept has been advanced mainly in the context of public health in low- and middle-income countries, which led us to donate use of our UpToDate clinical knowledge database to the *Better Evidence* program, a joint initiative between Brigham and Women's Hospital and the Harvard School of Public Health that offers free access to providers serving vulnerable communities worldwide. But the concept is equally applicable in wealthy

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nations where the gap between optimal approaches to care is reflected in unwanted care variability.

Decision support and surveillance software can also help improve patient safety by helping reduce diagnostic and medication errors. Such errors are not simply a matter of misdiagnosis, but reflect the many steps involved in the diagnostic process that can go awry. Thus, technology that enhances robust, repeatable processes to aid in the diagnostic process can improve health equity. Solutions like POC Advisor, which alerts clinicians to the early signs of sepsis in hospital patients, and Medi-Span, which helps prescribing clinicians identify potentially dangerous drug interactions are two examples.

We appreciate the opportunity to suggest policy changes to strengthen community health through technology. Medicare and Medicaid should authorize the use of telemedicine and other virtual care platforms across the full range of patient encounters. To promote use and increase trust in technology enabled by artificial intelligence and machine learning, the Food and Drug Administration (FDA) should finalize its regulatory regime for such products and promote best practices for ensuring clinical algorithms are free of bias.

The Centers for Medicare and Medicaid Services (CMS) can take a number of steps, including adding new quality measures to the Merit-based Incentive Payment System (MIPS) that track appropriate use of discrete services that are backed by evidence or avoiding the inappropriate use of other services that lack evidence. Adding new MIPS measures that track diagnostic and medication errors should be considered, as well as achieving better outcomes related to population health priorities (e.g. infant birth weight, maternal mortality). New bonus point opportunities for the MIPS Promoting Interoperability performance category could be implemented that rewards clinicians who improve equity by deploying health technology and/or more closely engage their patients using health technology.

We strongly supported the recent addition of a MIPS Practice Improvement Activity that rewards clinicians who update and use decision support with food insecurity and nutrition risk protocols, and similar Improvement Activities that incorporate other health equity-related protocols into CDS should be adopted. In both Fee-for-Service and Medicare Advantage, CMS can help improve communications with patients by guarding against the use of biased language and encouraging the use of words and images that reflect DEI. Medicare Advantage (MA) plans should also be permitted to provide enrollees from historically underserved populations with smartphones or other empowering health technology, with such costs included in the plan's medical cost ratio. MA plans might also incorporate additional questions related to health equity as part of the CAHPS survey used to determine Star Ratings.

Thanks again for allowing us to share our views. If you have questions, or want to discuss our response, please contact Bob Hussey at ▮▮▮▮▮▮▮▮▮▮ or ▮▮▮▮▮▮▮ who can connect you with the appropriate staff at Wolters Kluwer.

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March 31, 2022

TO: Office of Science and Technology Policy, Executive Office of the President
FROM: WW, Science Team
SUBJECT: Response to Connected Health RFI;
           Submitted by Email ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

WW International (formerly Weight Watchers) appreciates the opportunity to provide information in response to the "Request for Information (RFI) on Strengthening Community Health Through Technology" published in the Federal Register on January 5, 2022. Your attention to the vital and science based role of community organizations, community based workers, and technology to health improvement is heartening, as that work is seldom acknowledged or incorporated into health care delivery. We support public policy that incents the development of science based services and programs that provide scalable, science-based, effective and affordable wellness to our nation – the democratization of wellness.

WW believes that evidence based community and digital programs which are scalable and affordable means to address our country's chronic disease crisis, there are simply not enough health care professionals available to provide the evidence based treatment needed to improve health and prevent/delay the chronic conditions of obesity, pre-diabetes, and cardiovascular disease.

We offer information in response to this RFI based on 5 decades of experience translating the best human centered behavior change science and systems engineering into accessible, scalable, and replicable programs for consumers. Additionally, please note the following scientific evidence findings:

- *Intensive behavioral counseling for healthy lifestyle, delivered online or by community based providers, is a lynchpin service* to achieve wellness and improved health for our nation. USPSTF and other expert panels have identified the key elements to effective behavioral counseling to improve health. [USPSTFs draft recommendation on CVD risk reduction in](#)cludes an excellent table (Table 2) summarizing recommendations.
- *Community based programs, including digital programs, like WW, meet these expert identified standards* and deliver effective health improvement in a scalable, replicable and [cost-effective](#) manner. As the UK's National Health Service, the US Medicare Diabetes Prevention Program pilot, randomized clinical trials of WW for prediabetes and diabetes, and clinical trials utilizing our WW online program demonstrate, community-based intensive behavioral therapy for health living leads to lifestyle changes that result in weight loss and improvements in cardiometabolic health, which reduces the risk for lifestyle related chronic disease. Of particular note, randomized controlled trials found WW to be two times more effective than self-help (Tate et. al, 2021 under review) or [physician counseling,](#) three times more effective than [professional weight management programs,](#) and [twenty-seven times more effective for weight loss in those with prediabetes than a self-initiated program](#) and [produces greater improvements in glucose control](#).

We provide the following information for several of the RFI questions:

Successful models with the U.S. – WW, which has been implemented by cities like the [NYC Health Department,](#) has been [demonstrated to be a scalable and cost effective program](#) that is available nationally.

> *WW (formerly Weight Watchers*): Today WW provides multi-component intensive behavioral counseling for health lifestyle through workshops (in person and via Zoom) and a digital program through their cutting edge app. [WW has published more than 130 peer-reviewed studies, including 35 randomized controlled trials.](#)

The WW Unlimited Workshops and Digital Program is an evidence-based behavioral weight management program[i] that guides members toward their weight and wellness goals through a weekly curriculum that is complemented with specific behavioral goals each week across four main pillars (food, activity, sleep, mindset), to drive healthy habits. The WW program is based on recommendations by national and international guidelines to form the foundation for a healthy pattern of eating [ii]. The WW program includes ZeroPoint™ Foods (a list of foods that can be eaten in moderation without tracking), as well as the proven and proprietary Points system, where foods and beverages are assigned a points value based on their caloric and nutritional content (protein, fiber, unsaturated fat, saturated fat, and added sugar). Using a member's age, height, weight, and sex, a daily points value is calculated, as well as a weekly points target, and members are encouraged to track their food and beverages, with the goal of staying within their daily and weekly points target. Furthermore, the WW Unlimited Workshops + Digital Program offers a community-based approach, providing members with a personalized weight and wellness plan, a weekly check-in and progress report, and coach-led virtual or in-person Workshops that deliver weekly behavior change techniques. In addition, members have access to food, activity, water, sleep, and weight trackers, meal planning tools, recipes and a food barcode scanner, guided meditations and workouts, and always-on support from peers via Connect (a members-only social community) and WW-trained behavior change experts via 24/7 chat with a Coach.

National Diabetes Prevention Program: The CDC national diabetes prevention program recognizes entities offering behavior change programs that lead to diabetes prevention, it tracks outcomes and performance of these programs. Over 2,000 DPPs are recognized, including virtual programs and distance learning programs. WW is among the CDC recognized DPPs and consistently exceeds CDCs outcome standards.

Barriers - There are two primary barriers to implementation and use of evidence based community based programs:

1) lack of reimbursement for intensive behavioral therapy for healthy lifestyle for those with obesity, CVD, or pre-diabetes; and,

2) Weight bias and stigma which impeded treating and addressing obesity and overweight in an evidence-based manner and with interventions science clearly supports.

Specifically,

- States' essential benefit benchmarks often exclude "weight management programs", the most cost-effective programs that translate behavior change science for inteventions that prevent a number of chronic diseases.

- Health plans preventive benefits coverage rarely includes intensive behavioral counseling for healthy lifestyle. Typically payers limit coverage to screening for risk factors and do not provide coverage for the intensive behavioral weight management program that reduces risk and prevents chronic conditions is not offered or covered.

- Quality measures exclude referral to the evidence based treatment associated with prevention of lifestyle based conditions and just measure screening for risk/condition.

- Medicare coverage of behavioral counseling for those with obesity or pre-diabetes contains significant barriers and is NOT aligned with the evidence, it excludes community based providers and online programs which are shown to be more effective than trained health professionals.

- Medicaid plans seldom cover intensive behavioral counseling for healthy lifestyle, and face substantial hurdles to covering community based delivery of service which is the affordable, scalable and evidence based approach to such service delivery.

<u>Trends from the pandemic -</u> Consumer needs and attitudes shifted from the biophysical to behavioral with concerns about sleep, stress, and self-care; WW's program shifted to meet those needs:

- [WW found that those enrolled in WW at the onset of the COVID-19 pandemic had a month-long plateau, but then returned to the program and continued to improve their health with weight loss that mirrored what was observed before the pandemic](.).

- Consumer attitudes and needs shifted to mental health and WW's program shifted to support that compenent of wellness and health, including an emphasis on stress management.

<u>User experience:</u> Programs must meet people where they are, both physically and emotionally:

- WW designs it programs with user experience and human centric design at its core. It is constantly engaged in and with consumer research to ensure adjustments of delivery modalities to meet the needs of its members. Workshops take place in churches, workplaces, or other locations of convenience where consumers live,work, and play. Tthe program is also delivered through multi-component digital means with content and coaching delivered by text, phone, app, online, and social media channels.

<u>Proposed Government Actions:</u> Engage all possible policy levers to ensure health coverage includes broad coverage for all components, from ALL evidence based modalities (e.g. community based and digital programs) included in the United States Preventive Services Task Force A or B recommendations for obesity, abnormal blood glucose, AND cardiovascular disease risk. Limitations to narrow networks or that require extensive pre-authorization simply deter consumer/patient engagement.

<u>Health Equity:</u> Medicaid coverage of evidence based behavioral counseling for healthy lifestyle is essential. And, it must include programs that are delivered where people are – scalable and affordable.

WW offers a nationally available, evidence based, affordable, cost-effective program, but even when costs are low (e.g. $20-30 per month) it is unaccessible for those with low incomes. Recent research from WW demonstrates that it produces clinically significant weight loss for individuals from marginalized racial and ethnic groups and those with low socioeconomic status (Dean, et. al. Johns Hopkins Univestiy, manuscript in process).

Please feel free to contact Michelle Cardel, Director of Global Clinical Research & Nutrition, at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮ OR Gary Foster, Chief Science Officer, at ▮▮▮▮▮▮▮▮▮▮▮ more information or to answer any questions regarding the WW response to this RFI.

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March 31st, 2022

Response to the White House Office of Science and Technology Policy (OSTP) RFI, "Request for Information (RFI) on Strengthening Community Health Through Technology"

Wyoming 2-1-1 is a statewide helpline and website which provides free, confidential health and human services information and referral. By dialing 2-1-1 or visiting www.wyoming211.org, people receive personalized information from an experienced specialist in locating community resources.

We are pleased to have the opportunity to comment on the RFI issued by the OSTP.

Wyoming 2-1-1 and the other 2-1-1 organizations across the country have a unique and well-earned perspective on this subject, having been boots-on-the-ground participants in building information networks with other boots-on-the-ground organizations since, in some cases, as early as 1997.

If you ask not only the 2-1-1s, but any of the local nonprofit organizations, government agencies, or for-profit community resources contained in their respective databases, they can tell you that the success of the information and referral industry is predicated not merely upon the collection and possession of resource-related data, but also upon the establishment of ongoing relationships between these organizations. These relationships facilitate the continual updating of program and resource availability information, which in turn allows 2-1-1s to respond to changing circumstances in near-real time.

I'll provide an example: In February 2022, Cheyenne Wyoming was hit by a severe winter storm. As a result, schools and government offices closed, and many nonprofits and community resources were only able to function if staff members were able to successfully navigate the ice and snow in order to reach their location. Such an event throws a community – which is now in dire need of resources – somewhat into chaos as the availability of resources has become randomized in a manner which no algorithm could possibly navigate.

Realizing that this random element compromised the accuracy, and thus the value of the resources that our call center would be making referrals to, our staff began reaching out to the major resources that callers from Cheyenne would be needing, finding out who was open, who had food and shelter, and what parameters the weather-related emergency might impose upon their hours of availability on a location-by-location basis. Without this ability to become proactive in a crisis, the static information contained within a database becomes a hit-or-miss collective of contacts which may-or-may-not be answering their phones or providing resources in the midst of a crisis. Further, the perception of callers in need attempting to contact such

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agencies may end up feeling let down by yet another faceless, uncaring bureaucracy which failed them when they needed help the most.

In a very real way, this example reveals an extremely important element in the provision of our services: we evaluate our internal trend-identifying data and reach out to our resource contacts in order to determine what the needs are in each community we serve and utilize this information in order to identify any gaps and shape our services towards better addressing the needs we identify. This is the benefit of the boots-on-the-ground perspective.

I'd like to share one more example which demonstrates the importance of having our Community Resource Specialists actively engaged in the Information and Referral process. In October 2021 we received a call inquiring about contact information for the Wyoming Department of Family Services. Our Community Resource Specialist (CRS) provided the answer, simply enough, but fortunately Wyoming 2-1-1's CRSs are trained according to AIRS (Alliance of Information and Referral Systems) standards to be able to help callers locate specific resources according to each individual's unique needs and circumstances. This training helped to inform our CRS to ask a few questions and engage the caller in a productive conversation which yielded positive, and immediate results. As a result of this conversation, it was revealed that the caller was homeless and struggling with a disability. Our CRS was able to direct the caller to resources for food, transportation, housing, and healthcare - all of which was much more that the caller was hoping for with one call!

The implementation of effective, efficient Information and Referral services is much more than simply providing a specific answer to a specific question. It involves active listening, ensuring that callers are truly being heard and that their unique, individual circumstances are acknowledged as an important component of the process. It also requires a level of intuition that comes from training and experience in order to recognize the possibility of unmet needs from just a few bits of conversation, and knowing which follow-up questions will best help to reveal or eliminate those potential needs. It is this human element which helps us to better utilize our technology in the service of our clients' needs in a manner which addresses those needs in a more useful and satisfying manner.

The entrance of private companies hoping to duplicate the services of Wyoming 2-1-1 or any of the other 2-1-1s is problematic. In order to build their databases, they must either start from scratch and begin the long, arduous and expensive process of searching for resources one-by-one in the hopes of catching up with the local 2-1-1 (which has had many years or even decades worth of a head start), or they must find some way of catching up in a hurry in order to be up-and-running as quickly and inexpensively as possible.

Unfortunately, the latter option is more likely to appeal to the private, for-profit sensibility. Even worse, it can lead to the exploitation of existing resources, such as 2-1-1 databases. To be

clear, 2-1-1s value the importance of being able to share this information freely with those in need. But providing free information based on an individual's specific needs is very different from having a for-profit agency strip-mine a 2-1-1 of its most valuable resource – its database and all of the hard work it took to build and maintain – and then present that resource on their own domain as the core source of the product and services which they now hope to provide *in direct competition with the 2-1-1s which created the resource in the first place*.

Sadly, the private companies who might engage in such an action – and, make no mistake, there are many who have done exactly that – might rationalize their behavior on the basis that by 2-1-1s own admission the information is available for free, while failing to recognize that the bulk download of our intellectual property converted to become the core of their own database is unethical at the very least.

Further, the business model is not sustainable. Without having developed the discipline to build the database and establish the relationships within the communities being served, one would have to wonder about their commitment to actively maintain and update the information therein, *aside from continued downloads from 2-1-1.* In the event of a private company achieving such success that they eliminate the competition – the 2-1-1 – in their region, what becomes of the communities being served by a now-static database?

There are no short-cuts to providing this service in a sustainable manner without harming the very organizations which developed the necessary disciplines, established the relationships and networks within their communities, and rolled up their sleeves to do the hard work involved.

It is important that the information and referral industry remain the domain of organizations willing to provide compassionate stewardship of the resources and processes required for effective service provision. It is equally important that technological platforms partner with these organizations in order to improve the efficiency of service delivery and ensure more positive outcomes, rather than attempting to replace the human element with a purely technological platform. It is important to note that the Community Information Exchange developed in San Diego has developed a model which strikes a balance between the human element and technology that is very much worth reviewing.

Thank you for allowing us to contribute to this discussion. If you would like to discuss this further, please feel free to contact me at ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇.

Sincerely,

Karis Rowley
Program Associate, Wyoming 2-1-1

March 22, 2022

Yuvo Health's Response to the Request for Information on Strengthening Community Health Through Technology

We would like to thank the Office of Science and Technology Policy for this opportunity to comment on the critical question of how to strengthen community health through technology.

Federally qualified health centers (FQHCs) and other community health centers (CHC) are essential for improving outcomes and reducing overall healthcare spending, especially among historically underserved populations, including individuals on Medicaid, the uninsured, and the underinsured. Yet these organizations often operate without enough staff, financial support, and technology to meet the entirety of need in their catchment areas.

[Yuvo Health](https://...) helps FQHCs solve these challenges by providing administrative and managed care contracting services, empowering them to unlock new revenue streams and better serve their patients via value-based care. We believe that by eliminating daunting investment and operating burdens, FQHCs will be able to focus on what they do best: providing quality care to communities in need.

Technology is extremely important for proactive clinical decision-making, eliminating administrative obstacles, improving access, and strengthening the patient-provider relationship. However, we cannot rely on technology alone. We must also use policy levers and emerging reimbursement strategies to create an environment where FQHCs have the skills, resources, and bandwidth to successfully adopt and leverage health IT tools for the greater good.

2. Barriers to technology adoption for FQHCs and their patients
Many safety net providers simply do not have the funding or expertise to purchase technologies and implement data-driven care pathways for their patients. And many disenfranchised patients in both urban and rural areas lack access to reliable broadband internet to support engagement with virtual health technologies[1].

Even when tools are available, these technologies are often not designed to meet the needs of FQHCs or their patients. For example, many digital health solutions were not built with historically disenfranchised communities in mind, particularly those with lower rates of health literacy or limited English proficiency. Studies have shown that English as a second language

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[1]

https://www.healthsystemtracker.org/chart-collection/how-might-internet-connectivity-affect-health-care-access/

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(ESL) speakers use telehealth at only one-third the rate of native English speakers[2], despite significant levels of interest in utilizing remote care technologies[3]. This suggests that many digital solutions may not be marketed or designed with non-English speakers in mind.

We must make sure that emerging technologies reduce disparities instead of widening them. To improve equity and access, FQHCs and other community-based organizations should be more involved in promoting digital technologies and educating patients about the value of these tools[4].

Without sustainable reimbursement streams to support purchasing and implementation, such as those available through value-based care, FQHCs may lack the ability to fully engage their traditionally disadvantaged patients in the same way as other providers can work with their populations.

3. Lessons learned from the pandemic

During the COVID-19 pandemic, telehealth emerged as a powerful vehicle for increasing access to care when in-person visits were not an option, particularly for individuals in medically underserved areas (MUAs). Remote care also provided an additional, critical revenue source for providers who experienced drastic drops in traditional service volume[5].

Expanding telehealth parity in response to the public health emergency (PHE) catalyzed the use of remote care across the nation and fueled widespread recognition of the value in continuing telehealth use for primary care, specialty consults, behavioral healthcare, and other services even after the pandemic is over[6], especially among disenfranchised groups.

We believe that FQHCs and regulators can both build upon these lessons to expand access to care in MUAs and develop stronger, long-lasting relationships with less health literate and more transient populations, as FQHC patients often are.

If payers and regulators can make telehealth a more permanent and financially viable part of the healthcare toolkit, FQHCs will have additional high-value options for meeting the needs of their varied patient populations.

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[2] https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00823
[3] https://academic.oup.com/jamia/article/28/2/349/5961441?login=true
[4] https://www.aeaweb.org/articles?id=10.1257/aer.20181446
[5] https://www.commonwealthfund.org/publications/2020/apr/impact-covid-19-outpatient-visits
[6] https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality

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6. Proposed government actions to fortify FQCHs and improve digital health equity

Federal regulators have a promising opportunity to foster the adoption of technology within FQHCs.

In our experience working directly with FQHCs, the need for reliable, sustainable reimbursement is always top of mind. FQHCs need more than grant opportunities or pilot program participation. They need innovative reimbursement options that are tied directly to patient engagement and/or increased utilization of digital health strategies.

These value-based care models should employ a mixture of "carrots and sticks" to ensure participants meet applicable quality measures so that digital health strategies are able to advance in a measured, strategic manner.

More specifically, we would be pleased to see an update to the Medicaid Telehealth Toolkit[7] for a post-COVID-19 world and/or a State Medicaid Director Letter or State Health Official Letter that outlines state reimbursement methodologies for telehealth.

We would also like to see telehealth incorporated more deeply into managed care rates (rate adjustments, in-lieu of services, value added services, etc.) to financially support FQHCs and other community health entities serving these populations.

Thank you for the opportunity to provide perspective on this important matter. We are encouraged by your office's attention to community health and look forward to working with you further to create a sustainable, resilient, equitable health system for all individuals.

Please feel free to email at ███████████████ for additional information.

Best,

███████████████

Cesar Herrera
CEO and Co-Founder
Yuvo Health

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[7] https://www.medicaid.gov/medicaid/benefits/telemedicine/index.html

February 28, 2022

Jacqueline Ward
Office of Science and Technology Policy
Eisenhower Executive Office Building
725 17th Street NW
Washington, D.C. 20500

Zoom Response to Office of Science and Technology Policy Request for Information on Strengthening Community Health Through Technology

Dear Assistant Director Ward,

Zoom is humbled to be the communications tool many providers and patients turn to for virtual care. Zoom provides a user-friendly way for patients to meet with their providers, and has seen a significant increase in this form of care as the pandemic made in-person appointments impossible for all but critical emergency care. Many Americans have geographic and condition-based challenges made easier through virtual care. As a society, we have quickly adopted virtual communications in numerous areas of life, but few use cases compare to the importance of maintaining access to healthcare. Zoom sees three significant developments going forward: 1) healthcare will become a digital-first and hybrid system of care; 2) decentralization will become a significant theme for health organizations; and 3) video-based care will be a fundamental part of the healthcare experience.

From 2020 to 2021, Zoom facilitated millions of patient visits. Throughout this growth, Zoom has scaled efficiency, which resulted in increased timely critical care and diagnoses, and allowed for greater access to care for previously underserved populations. Zoom has made hundreds of consumer-facing improvements to the Zoom platform, including our technical and security features, connecting millions of healthcare providers and patients with ease and privacy built into the experience.

Below please find additional information and feedback to your prompts, and please continue considering Zoom a partner in the Administration's goal to increase access to care for all Americans.

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Successful models within the U.S

The hyper-digitization of healthcare and increased use of video appointments over the past two years have proven a patient's geography does not need to be a limiting factor when assessing available care. McKinsey reported in July 2021 that telehealth utilization had stabilized at levels [38X higher than before the pandemic](#). After an initial spike to more than 32 percent of office and outpatient visits occurring via telehealth in April 2020, utilization levels have largely stabilized, ranging from 13 to 17 percent across all specialties.

Just as important as this increase in volume of virtual care visits is patients' high satisfaction with video-assisted virtual visits. A [Qualtrics report](#) managed by the Mayo Clinic Health Service research team shed light on patient satisfaction, but also emphasizes the point that patients delay care when it is not readily accessible to them through virtual means. This compelling data shows that a digital-first (not digital-only) model of care provides a promising means to increase access to care through video consults, which results in decreased use of more expensive resources like emergency room visits, primary care office visits, and urgent care visits.

Early treatment and attention to medical ailments decrease the chance of exacerbations which could result in on-site expensive resource utilization and in-patient care. A digital-first model with inclusion and exclusion criteria provides a means to properly treat patients in place while utilizing in-person resources for clinical conditions warranting the on-hand interaction. As the market moves towards value-based care models with captivated rates, virtual care will continue to better align with payment models that better incentivize providers. The interaction type, and level of care needed, can dictate the interaction type provided. This model will allow proper resource allocation based on clinical needs. COVID-19 provided the ultimate testing ground, and video-assisted virtual care became a reality with the promise to provide effective care while reducing cost.

Barriers

In addition to a [provider shortage](#) in this country, there is also a maldistribution of healthcare providers in large urban centers while millions of Americans struggle to receive care in rural areas. There is a correlation between access to care and quality of care, and this is why a digital-first, easy-entrance healthcare system is crucially important. It's key to note that digital-first does not mean digital-only healthcare. A first encounter or ongoing treatment through a hybrid model, which mixes in-person and virtual care, has the promise of becoming the new norm. Offering flexibility and options to patients enhances access, and therefore, quality of healthcare.

Mental Health: When it comes to mental health, which has received greater attention as the pandemic introduced new stressors, the widespread implementation of virtual care has been a powerful tool empowering individuals to receive needed care without fear of

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stigma. Mental health appointments are a perfect use case for virtual care, as they empower an individual to easily take part in conversations from the safety and comfort of their own home.

Reimbursement Policies: COVID-19 relief legislation and federal actions brought significant enhancements to telehealth regulatory and reimbursement policies. These policies allowed Americans, regardless of their payor, device, or location to receive much-needed care. Zoom is pleased to support the CONNECT for Health Act of 2021, bipartisan legislation that would allow certain American citizens to maintain many of the current regulatory and reimbursement policies that allow them to access care today via telehealth. Zoom also supports giving CMS the authority to make appropriate changes for telehealth reimbursement, also a key element in the legislation.

State Licensing and Travel Time for in-person Appointments: Patients and providers have long dealt with state-by-state licensing, requiring doctors to only treat patients in their licensed state. At the onset of the pandemic, temporary waivers were granted, which allowed patients to receive care from providers or specialists outside of the state they reside in. This resulted in increases in both access and quality of care. It's saddening to hear so many stories to this effect, such as one highlighted by Dr. Mehrotra in the Wall Street Journal in July of 2021 sharing the story of a lung cancer patient driving five and a half hours from her home in upstate New York to Boston to receive the care she needed. Due to temporary waivers, the patient was able to receive care from her home, giving her time back to focus, coincidentally, on researching messenger RNA at Ithaca College.

Trends from the pandemic

Healthcare will become a digital-first system: There will be continued innovation of digital applications in everything from care delivery to medical training. As highlighted during Zoomtopia 2021, amazing capabilities like deviceless screening can measure things like pulse and respiration without monitors or medical instruments — by using audio, video, and other technologies available on a person's mobile phone. Innovations like this could lead us toward a digital-first healthcare system where patients are empowered with more ways to connect with their care team and manage their health from home, without compromising on quality of care.

Decentralization will become a major theme for health and life sciences organizations: Decentralized clinical trials are growing in popularity, enabling pharmaceutical companies and contract research organizations (CROs) to untether their research from specific trial sites, reach a more diverse pool of patients, and provide a more accessible patient experience. Additionally, decentralized business models allow healthcare and life sciences organizations to collaborate on a global scale and work with the best and brightest minds, not just those who are closest.

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Video will be integrated and available for every healthcare experience: Communication is the backbone of all of this innovation. Across the continuum of care, Zoom expects video and collaboration technologies to be part of how the market will continue to improve care delivery, develop life-saving drugs and devices, and enhance patient experiences moving forward.

User experience

One of the keys to success for hybrid virtual care models is to enable clinicians to mimic their day-to-day work flow regardless of where the patient is located. The approach of embedding communication tools such as Zoom into existing EMR/HIT systems reduces redundancy of technology and processes while providing quality care. Zoom is proud to work with partners such as EPIC and Cerner to provide a solution that allows all parties to bring their core competencies to the solution which results in the best experience for both providers and patients.

Proposed government actions

The single most important government action is a telehealth-friendly reimbursement and policy model that supports the use of virtual care.

Health equity

For many Americans, healthcare equity begins with the difficulty of accessing care. This is why an easy-entrance healthcare system is crucial. It's key to note that digital care does not mean digital-only healthcare. It does mean that a first encounter or ongoing treatment through a hybrid model mixing in-person and virtual care has the promise of becoming the new norm. Digital solutions mean health equity for Americans unable to afford and/or travel to larger centers of excellence in urban centers.

Thank you for the opportunity to share Zoom's perspective on the future of healthcare and how technology will continue to play a fundamental role in patient access to quality care. Please do not hesitate to reach out to Zoom with any questions or opportunities to support the Administration's work in this space.

Yours sincerely,

Ron Emerson
Global Healthcare Lead