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REPORT TO THE PRESIDENT  
Harnessing Social and Behavioral  
Science Insights to Enhance  
Policymaking and Improve the Lives of  
the American People

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Executive Office of the President  
President's Council of Advisors on  
Science and Technology

JANUARY 2025



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EXECUTIVE OFFICE OF THE PRESIDENT  
PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY  
WASHINGTON, D.C. 20502

President Joseph R. Biden, Jr.  
The White House  
Washington, D.C.

Dear Mr. President,

You have always put the well-being of the American people at the center of your policy priorities. Your administration has asked and answered complex questions at the heart of policymaking, for example, questions about how Americans from all backgrounds can benefit from advances in [nutrition science](#), [artificial intelligence](#), and [cancer research](#). Your administration has also been at the forefront of efforts to identify and address new potential harms facing Americans, such as the effects of social media on the mental health of our children and young adults. The social sciences have provided the deep research and understanding for these and many other policy questions. And today, the social sciences are poised to address even more difficult and critical questions, such as how to reduce feelings of loneliness and societal disaffection that have increased in recent decades and that contribute to depression, substance abuse, and violence.

Social sciences offer insights into the cultural, societal, political, economic, and psychological processes that shape human behavior and decision-making. That understanding, when applied through policies and practices, dramatically influences Americans' health, wealth, and overall well-being. By understanding how social, cultural, and civic institutions affect well-being, government policies can leverage the opportunities known to be impactful and increase the quality of life enjoyed by a greater number of Americans, their families, and their communities. For instance, social science research showed us that the neighborhood a child grows up in significantly affects adult outcomes like income and educational attainment. With this information, municipalities are introducing new flexibilities in housing vouchers to allow families to choose neighborhoods that will provide their families with more opportunities.

Social science research helps us understand the roles of societal structures and the roles of individual behaviors in promoting the health, wealth, and security of Americans. Long-standing federal investments in social science research now allow us to obtain accurate assessments of the current state of Americans' health, educational attainment, and occupational status, among other important outcomes. It is because of the social and behavioral sciences that we have insights about which living conditions and opportunities make it easy or hard for Americans to engage in healthy behaviors, to succeed in school, to open small businesses, to change occupations, to comply with the law, to vote, and to be engaged civically. Importantly, research in the social and behavioral sciences helps to reveal often unexpected factors that promote well-being, such as experiences that engender feelings of awe and wonder. For example, we now know that time in nature promotes a sense of well-being, bolstering cities' investments to improve parks and add trails for walking, jogging, and biking.

Social science research told us that community health worker and patient navigator programs improve access to and quality of care while also reducing emergency room visits and hospital admissions for patients and families navigating the complexities of treatments for cancer and other chronic conditions. Based on this information, your administration's Cancer Moonshot worked with Medicare and private insurers to facilitate coverage of patient navigation services which improve health outcomes and the patient experience by reducing times between diagnosis and treatment and increasing treatment completion.

In this report, we highlight and build upon the incredible progress that your administration has made to harness the insights of social and behavioral science research to benefit the American public. In addition, we identify barriers that currently limit the full implementation of the aims of the [Evidence Act](#), and we offer recommendations to reduce these barriers. We also offer recommendations to better position the federal government to be responsive to a rapidly changing social and behavioral science research ecosystem. Most importantly, we identify some of the key elements needed to significantly inform policies and advance our ability to implement effective actions to improve the lives of Americans.

PCAST is confident that harnessing the potential of the contemporary social and behavioral sciences will better enable the United States to respond to our current and future societal challenges by producing policies and delivering services in ways that are more impactful, equitable, and cost-effective.

Sincerely,

Your President's Council of Advisors on Science and Technology

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# Executive Summary

Social and behavioral scientists work to understand the cultural, societal, political, economic, and psychological processes that shape human behavior and decision-making, leading to insights on the factors that most influence Americans' health, wealth, and educational attainment, among many other outcomes. For instance, social and behavioral science (SBS) research assesses how factors such as our neighborhoods, beliefs, concerns, and values shape how we treat one another, spend our time, engage in parenting, and use technology. The aim of SBS research, however, is not solely to deepen understanding of these complex dynamics influencing human behavior, but to translate these insights into policies and actionable strategies that improve the lives of Americans.

Research in the social and behavioral sciences often reveals unexpected factors that promote individual, community, and societal well-being and, thus, have a vital role to play in policy decisions and program development. The examples are numerous and varied. SBS research informs programs to address chronic conditions such as hypertension and diabetes that are key to Americans' health outcomes. The research on adolescent brain and cognitive development that showed the high degree of impulsivity in crimes committed by teens informed important Supreme Court decisions about criminal sentencing. Research to predict how people will respond to critical safety messages; understand the propagation of misinformation and disinformation; and engage affected communities to create safe, equitable, and effective responses has boosted emergency preparedness and responses to extreme weather events. Equally important, the tools of SBS research can rigorously test our beliefs and expectations regarding the likely effects of different programs and interventions. Ultimately, SBS research can help us develop evidence-based programs and policies that reflect individuals' different experiences to promote greater overall well-being for families, communities, and society at large.

This Report highlights the use of social science for the benefit of the American public and makes recommendations to continue to improve social science research and its use in policymaking. It builds on the work of the Biden-Harris Administration to harness the insights of SBS research through the [Foundations for Evidence-Based Policymaking Act of 2018](#) and the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#). The Report identifies specific barriers to the effective integration of SBS research in policymaking and offers recommendations to reduce them. Last, we offer recommendations to position the federal government to be more responsive to, and increase its ability to leverage, the rapidly changing SBS research ecosystem, including the emergence of private technology companies that collect and own large swaths of data regarding human behavior that simultaneously wields significant impact on the quality of life for Americans.

To address the complex problems facing our nation, we must ensure that we have a robust, reproducible, and unbiased evidence base, and that we use it to develop effective policies. Experts in the social and behavioral sciences are ready to contribute to this work. Accordingly, this Report identifies steps that are essential to accomplishing these aims.

## Summary of Recommendations:

**Recommendation 1.** Optimize the presence and integration of social and behavioral scientists at federal agencies to better harness social scientific expertise, insights and methods that support evidence-based policymaking, implementation, and evaluation

**Recommendation 2.** Expand secure access to federal data sets across agencies and with social scientists for approved research and policy evaluation needs, with appropriate protections and safeguards.

**Recommendation 3.** Agencies should review their funding priorities, models, budgets, and instruments to better support the contemporary social and behavioral science research ecosystem.

**Recommendation 4.** Facilitate engagement and partnerships between private industry, federal agencies, academic institutions, and not-for-profit foundations to harness social and behavioral science insights for greater policy impact on societal challenges.

# Introduction

Because the social sciences provide the scientific evidence base for understanding all aspects of individual and societal well-being, we can improve our well-being by using the insights and methodologies of social science to inform policy making and evaluate policy impacts.

The insights of the social and behavioral sciences have helped millions of Americans maintain healthy blood pressure.<sup>1</sup> Nutrition research identified a diet that lowers blood pressure for most patients with hypertension (high blood pressure) and developed the DASH diet (Dietary Approaches to Stop Hypertension). Social science research informed the development and distribution of information about DASH, behavioral programs, and system changes that are specially tailored to hospitals, doctors, and/or patients. Now more work is being done to develop diets and accompanying dietary guidance to meet the health needs of Black, Latino, Asian American, and other populations across the full spectrum of our nation's diversity.<sup>2</sup>

And consider the ways in which criminal sentencing, including at the Supreme Court, has been informed by research on adolescent cognitive and brain development. Psychological science, in part through functional brain imaging studies, has revealed that teenagers recognize risk, but have difficulty inhibiting or suppressing their impulsive behavior due to their underdeveloped executive control resources, with self-regulation not stabilizing until ages 23-26.<sup>3</sup> This avenue of research can also help inform how we help adolescents avoid some of the most risky and destructive of behaviors. Consider early childhood education, now widely available with the federal [Head Start program](#) supported more than 800,000 children from birth to age 5 as of 2022<sup>4</sup> and 44 state-supported programs enrolled 1.6 million children during the 2022-23 school year.<sup>5</sup> These government-supported programs were developed after several longitudinal studies in the 1960s demonstrated the impact of early childhood education on long term outcomes for adults who received focused education from ages 3-5.<sup>6</sup> This foundational social science research indicated that early childhood education leads to higher educational attainment, lower crime rates, less risky health behaviors, and more stability in employment, housing, and family life for adults. There is debate on the long-term return on investment from Head Start, largely due to limited program randomization in the early years and small sample sizes of longitudinal surveys of participants; however, recent analysis of large-scale data further support that Head Start has increased educational attainment and economic self-sufficiency for children from disadvantaged households.<sup>7</sup> A goal of the recommendations in this

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<sup>1</sup> Onwuzo, C., et al. (2023 September). [DASH Diet: A Review of Its Scientifically Proven Hypertension Reduction and Health Benefits](#). *Cureus*.

<sup>2</sup> PCAST Report to the President. (2024 September). [A Vision for Advancing Nutrition Science in the United States](#)

<sup>3</sup> Steinberg, L., et al. (2018 March). [Around The World, Adolescence Is a Time of Heightened Sensation Seeking and Immature Self-Regulation](#). *Developmental Sci*.

<sup>4</sup> Head Start Early Childhood Learning & Knowledge Center. (Accessed 2024 December 24). [Head Start Program Facts: Fiscal Year 2022](#).

<sup>5</sup> National Institute for Early Education. (2024). [The State of Preschool 2023: State Preschool Yearbook](#).

<sup>6</sup> Center for the Economics of Human Development. (Accessed 2024 December 24). [Perry Preschool Project](#).

<sup>7</sup> Bailey, M., et al. (2021 December) [Prep School for Poor Kids: The Long-Run Impacts of Head Start on Human Capital and Economic Self-Sufficiency](#). *Am Econ Rev*.

report is to facilitate better evaluation of policy impacts so that we can know more conclusively that policies have the desired impacts.

Another example comes from social science research documenting the benefits of community health worker (CHW) programs for improving health outcomes in communities that are socially and economically disadvantaged. Having access to community health workers results in improved access to care, reductions in emergency room visits and hospital admissions, and remarkable returns on investment.<sup>8, 9</sup> In addition, patients with multiple chronic diseases in high poverty areas, who had Medicaid or no insurance, were 80% more likely to report they had the highest quality of care if they received assistance from a CHW,<sup>10</sup> demonstrating broader impacts on quality of life. CHW programs have also been shown to improve quality of care and health outcomes for adults diagnosed with cancer,<sup>11</sup> hypertension,<sup>12</sup> and diabetes.<sup>13</sup>

The remarkable research and development that produced effective and safe vaccines to stop the spread of the novel Coronavirus in late 2020 and early 2021 was significantly less effective than hoped since many Americans were hesitant to receive the vaccines. Indeed, it was the resistance of so many Americans to free, safe, and efficacious Covid-19 vaccines that led former director of the National Institutes of Health, Francis Collins, to lament the agency's underinvestment in research on human behavior.<sup>14</sup> Greater understanding of the propagation of misinformation and disinformation, as well as the role of individuals' values, concerns, and fears about both the pandemic and the vaccines, could have improved the efficacy of the both initial and subsequent vaccination efforts. A staggering number of lives were saved by Covid-19 vaccination,<sup>15</sup> but research is beginning to suggest that more lives could have been saved if we had greater investment in research to identify and address vaccine hesitancy.<sup>16</sup>

Assessments of exposures to various social conditions (economic stability, healthcare access, neighborhood and built environment characteristics, education access and quality, and social and community networks) reveal disparities across demographic groups in our nation, leading to

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<sup>8</sup> Berini, C.R., et al. (2022 June). [Impact of Community Health Workers on Access to Care for Rural Populations in the United States: A Systematic Review](#). *J Community Health*.

<sup>9</sup> Jack, H.E., et al. (2016 December 5). [Impact of Community Health Workers on Use of Healthcare Services in the United States: A Systematic Review](#). *J Gen Intern Med*.

<sup>10</sup> Kangovi, S., et al. (2018 December). [Effect of Community Health Worker Support on Clinical Outcomes of Low-Income Patients Across Primary Care Facilities: A Randomized Clinical Trial](#). *JAMA Intern Med*.

<sup>11</sup> Roland K.B., et al. (2017 May). [Use of Community Health Workers and Patient Navigators to Improve Cancer Outcomes Among Patients Served by Federally Qualified Health Centers: A Systematic Literature Review](#). *Health Equity*.

<sup>12</sup> Mills K.T., et al. (2018 January). [Comparative Effectiveness of Implementation Strategies for Blood Pressure Control in Hypertensive Patients: A Systematic Review and Meta-analysis](#). *Ann Intern Med*.

<sup>13</sup> Trump, L.J., et al. (2017). [Community health workers in diabetes care: A systematic review of randomized controlled trials](#). *Families, Systems, & Health*.

<sup>14</sup> PBS News Hour. (2021 December 20). [Dr. Collins Reflects on Career at NIH, COVID Response Effort, Work on Genome Sequencing](#).

<sup>15</sup> Mellis, C. (2022 September 20). [Lives Saved by COVID-19 Vaccines](#). *J Paediatr Child Health*.

<sup>16</sup> Health and Human Services National Vaccine Advisory Committee. (2022 September 22). [Sustaining and Increasing Confidence in Vaccination Across the Lifespan: Recommendations from the National Vaccine Advisory Committee](#).

inequities in important outcomes.<sup>17</sup> The effects of COVID-19 on the health of Americans is just one of many cases in which the social sciences, also often called the social and behavioral sciences (SBS), have been essential to closing the gap between technological discovery and improvements in individual health and well-being.<sup>18</sup> Other examples include interventions and policies that promote healthy behaviors, from engaging in regular physical activity and wearing sunscreen, to successfully evacuating people from impending storms and wearing seatbelts.<sup>19, 20, 21, 22, 23</sup>

It is through the social and behavioral sciences that we can accurately assess the status of – and understand the factors that most influence – Americans’ health, wealth, and educational attainment, among many other outcomes. Excitingly, SBS research helps to reveal often unexpected factors that promote individual and societal well-being. For instance, studies have shown that experiences that engender awe and wonder, such as spending time in nature, listening to music, meditating or praying, and witnessing deeply kind or selfless acts lead to improved physical and mental health and greater well-being.<sup>24</sup> The ultimate aim of this research is not solely to deepen understanding of the complex forces influencing social and behavioral dynamics, but to translate research insights into actionable strategies that improve the lives of Americans. By understanding the mechanisms by which social, cultural, and civic institutions affect our sense of well-being, we can develop policies that make those organizations and activities more available and impactful, potentially dramatically improving outcomes for individuals, families, communities, and society at large.

### *What are the Social and Behavioral Sciences (SBS)?*

The social and behavioral sciences include fields such as psychology, political science, economics, sociology, demography, anthropology, and others. SBS researchers investigate the cultural, societal, political, economic, and psychological processes that shape human behavior and decision-making. It is through the tools of social science that we assess what Americans think about the roles of government and other institutions in their lives and communities. Figure 1 provides a visual representation of these diverse disciplines producing fundamental knowledge, methods, and tools to help us understand people and how they live.

They also reveal cultural, regional, religious, and ethnic differences in individuals' perceptions, priorities, and beliefs. We also learn more about the values we share despite our differences. The social and behavioral sciences can provide illuminating theories and forward-looking approaches to

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<sup>17</sup> Maani, N., et al. (2020 April 24). [COVID-19 and Underinvestment in the Health of the U.S. Population](#). *Milbank Q*

<sup>18</sup> Umberson, D., et al. [Social Relationships and Health: A Flashpoint for Health Policy](#). *J Health Soc Behav*.

<sup>19</sup> Raymond-Lezman, J.R., et al. (2023 February 13). [Attitudes, Behaviors, and Risks of Sun Protection to Prevent Skin Cancer Amongst Children, Adolescents, and Adults](#). *Cureus*.

<sup>20</sup> Xenidis, Y., et al. (2022 August) [Prediction of Human’s Behavior During a Disaster: The Behavioral Pattern during Disaster Indicator \(BPDI\)](#). *Safety Science*.

<sup>21</sup> National Highway Traffic Safety Administration. (Accessed 2024 December) [Seat Belts Save Lives](#).

<sup>22</sup> National Research Council (US) Committee for Monitoring the Nation's Changing Needs for Biomedical, Behavioral, and Clinical Personnel. (2005). [Advancing the Nation's Health Needs: NIH Research Training Programs](#). National Academies Press. *Behavioral and Social Sciences Research*.

<sup>23</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>24</sup> Monroy, M., et al. (2022 August 22). [Awe as a Pathway to Mental and Physical Health](#). *Perspect Psychol Sci*.

ensure the American people enjoy the freedoms, liberties, and opportunities that are the promise of the United States. They provide the evidence-base to guide us in our quest to form a more perfect union.



## SBS Research Insights Inform Policy that Benefits Society

The social and behavioral sciences provide essential tools for policy creation, implementation, and evaluation. Figure 2 represents the iterative steps through which the social and behavioral sciences can improve lives.<sup>25</sup> The social and behavioral sciences are widely used in government. Appendix B provides some excellent examples of the ways in which SBS insights inform processes and create more impactful outcomes.

Some examples of successful interventions and policies that promote healthy behaviors include:<sup>26, 27</sup>



Engaging in regular physical activity is important for overall health and well-being.<sup>28</sup> Decades of research in behavioral and social sciences have led to improvements in city planning policy and practice to improve the built environment for sustainably, healthy cities<sup>29</sup>. Municipal leaders now design cities with more parks, jogging/walking paths, and bicycle commuting lanes based on research that these resources improve health, quality of life and makes a place more desirable to live<sup>30</sup>. In addition to increases in healthy activity promoted by the intentional design of modern outdoor spaces, the reduction in traffic injuries, air pollution, and noise pollution promote overall well-being.



Research on the safety and efficacy of seat belt use led the U.S. Congress to include the requirement for seatbelts to be installed in all vehicles as part of the Federal Motor Vehicle Safety Standards legislation starting in 1968.<sup>31</sup> However, seatbelts were not widely and preventable traffic fatalities continued to be high. Starting in 1985 the National Highway Traffic Safety Administration (NHTSA) worked with the Ad Council to develop an advertising campaign to increase seatbelt use. In the first six months of the ad

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<sup>25</sup> The figure is derived from the Foundations for Evidence-Based Policymaking Act of 2018 ([Evidence Act](#)) and the 2019 Office of Management and Budget Memo on implementation ([Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, personnel, and Planning Guidance](#)) which describe four interdependent components of *evidence*. This figure and the report expand beyond evidence alone. The ideas in this figure and the sense of iteration are also represented in Figure 1 of the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>26</sup> National Research Council (US) Committee for Monitoring the Nation's Changing Needs for Biomedical, Behavioral, and Clinical Personnel. (2005). [Advancing the Nation's Health Needs: NIH Research Training Programs](#). National Academies Press (US). *Behavioral and Social Sciences Research*.

<sup>27</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>28</sup> Zhang, X., (2023 February). [Linking Urban Planning, Community Environment, and Physical Activity: A Socio-Ecological Approach](#). *Int J Environ Res Public Health*.

<sup>29</sup> Sallis, J. F., et al. (2016 December). [Use of Science to Guide City Planning Policy and Practice: How to Achieve Healthy and Sustainable Future Cities](#). *The Lancet*.

<sup>30</sup> Zhang, Y., et al. (2022 December). [The Impact of Interventions in the Built Environment on Physical Activity Levels: A Systematic Umbrella Review](#). *Int J Behav Nutr Phys Act*.

<sup>31</sup> U.S. Department of Transportation. (2005 January 11). [Federal Motor Vehicle Safety Standards and Regulations](#).



campaign, seat belt use increased from 23% to 39%.<sup>32</sup> Seatbelt laws in almost every state, supported by information campaigns, have resulted in millions of lives saved and injuries averted. The NHTSA estimates that seat belts saved 329,715 lives between 1960 and 2012, more than all other vehicle technologies combined.<sup>33</sup> The National Safety Council (NSC) data suggests that seat belt usage in 2023 reached 91.9% and seatbelts can reduce the risk of front passenger moderate to critical injuries by 50%.<sup>34</sup>



Human behavior is one of the largest factors in determining the success of evacuations and disaster response.<sup>35</sup> Social and behavioral science research allows emergency planners and responders to incorporate human behavior into evacuation modeling, making models more effective and accurate.<sup>36</sup> Similarly, understanding the drivers behind human behavior during an evacuation is a critical first step in behavioral-change management campaigns, which help to reduce the burdens placed on emergency responders.<sup>37</sup> Lastly, social and behavioral science research allows policy makers and emergency planners to identify vulnerable populations, such as people with disabilities and older adults, and to understand and respond to their needs in the event of a storm evacuation.<sup>38</sup>

The social and behavioral sciences (SBS) have been essential to closing the gap between technological discoveries and improvements in individual health and well-being.<sup>39</sup>

Additional examples can be found in Appendix A.

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<sup>32</sup> ANA Educational Foundation. (Accessed 2025 January 5). [Seat Belt Education \(1985-Present\)](#).

<sup>33</sup> U.S. Department of Transportation, National Highway Traffic Safety Administration. (Accessed 2025 January 5). [Seat Belts Save Lives](#).

<sup>34</sup> National Safety Council. Injury Facts. (Accessed 2025 January 5). [Occupant Protection: Seat Belts](#).

<sup>35</sup> Xenidis, Y., et al. (2022). [Prediction of Human's Behavior During a Disaster: The Behavioral Pattern during Disaster Indicator \(BPDI\)](#). *Safety Science*.

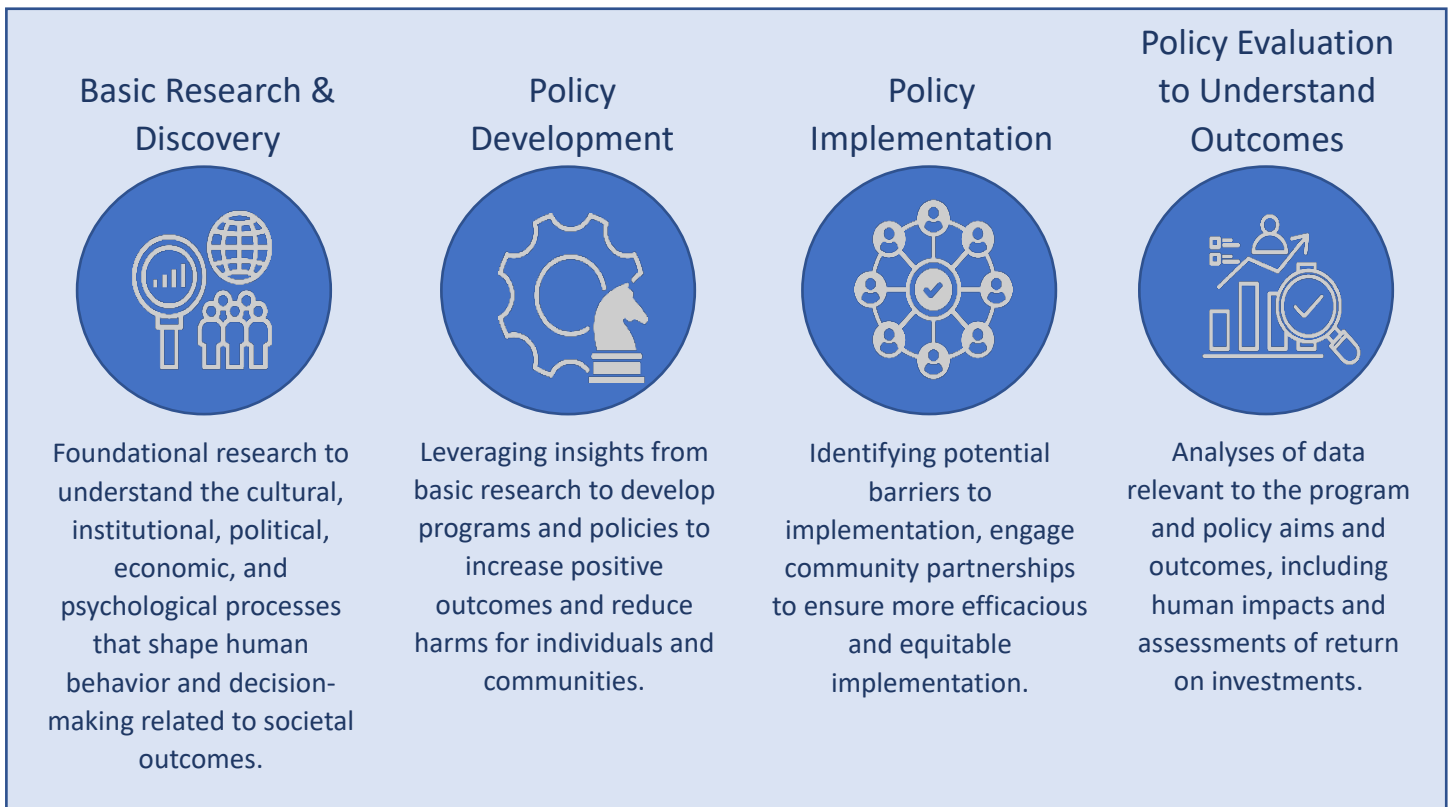
<sup>36</sup> Wang, Y., et al. (2021). [Incorporating Human Factors in Emergency Evacuation-An Overview of Behavioral Factors and Models](#). *International Journal of Disaster Risk Reduction*.

<sup>37</sup> Ersing, R. L., et al. (2020). [Geophysical and Social Influences on Evacuation Decision-Making: The Case of Hurricane Irma](#). *Atmosphere*.

<sup>38</sup> Phraknoi, N., et. al. (2023). [Older People's Needs in Urban Disaster Response: A Systemic Literature Review](#). *International Journal of Disaster Risk Reduction*.

<sup>39</sup> Umberson, D., et al. (2010). [Social Relationships and Health: A Flashpoint for Health Policy](#). *J Health Soc Behav*.

**Figure 2. A Framework for the Iterative Process of Using the Social and Behavioral Sciences to Improve Lives of the American People.**



**Figure 2** represents the steps that are ideally involved in using the social and behavioral sciences to understand and improve the lives of the American people. This process is intended to be iterative. This report expands on those phases to emphasize the importance of social and behavioral science tools to each phase of the policymaking process. This includes using SBS research to understanding the problems that effect society, then using SBS tools to inform the development, implementation, and evaluation of policies. Learning from the process will improve future iterations.

Source: Based on [Evidence at the U.S. Department of Labor](#) and figure 1 of the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

### *Intention of this Report*

This report is an effort to highlight and build upon the incredible progress that has been made during the Biden-Harris Administration to harness the insights of social and behavioral science research to benefit the American public. The recommendations we offer here align with the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#) produced by the Subcommittee on Social and Behavioral Sciences of the National Science and Technology Council (NSTC), as well as the aims of [the Foundations for Evidence-Based Policymaking Act of 2018](#) (i.e., the “Evidence Act”).

In this report, we identify barriers that currently limit the full integration of the social and behavioral sciences in policymaking and offer recommendations to reduce them. We also offer recommendations to better position the federal government to be responsive to the rapidly changing social and behavioral science research ecosystem, including the emergence of private technology

companies that own enormous amounts of data regarding human behavior, data and applications that simultaneously wield significant impact on the quality of life for Americans.

By harnessing the potential of the contemporary social and behavioral sciences, especially exciting new methods using large data sets, the United States will be able to respond more effectively to current and future societal challenges, as well as to produce policies and deliver services in ways that are more impactful, equitable, and cost-effective.

***Social science research is essential to enhancing the prosperity, security, health, and overall well-being of individual Americans, as well as the vitality of American families, neighborhoods, organizations, and businesses.***

## Findings and Recommendations

The Recommendations provided in this report are designed to facilitate the production of social scientific insights for the benefit of the American public, especially through the development, implementation, and evaluation of federal policy.

### **Recommendation 1. Optimize the presence and integration of social and behavioral scientists at federal agencies to better harness social scientific expertise, insights and methods that support evidence-based policymaking, implementation, and evaluation.**

The social and behavioral sciences are integral to the missions of departments and agencies across the federal government. They are already being used to advance some of the Nation's highest priorities, including "promoting safe, equitable, and engaged communities; protecting the environment and promoting climate innovation; advancing economic prosperity and the future of the workforce; enhancing the health outcomes of all Americans; rebuilding our infrastructure and building for tomorrow; and promoting national defense and international security."<sup>40</sup> Indeed, social and behavioral science research, insights, and scientists are used to inform, design, and evaluate programs in many federal agencies, including the Department of Labor, the Federal Emergency Management Association (FEMA), the Department of State, the Internal Revenue Service (IRS), and the National Oceanic and Atmospheric Administration (NOAA), and are central to the work of others, such as the U.S. Census Bureau. Yet, all too often, critical social and behavioral science insights or methodological contributions get ignored or sidelined in the work of departments and agencies due to insufficient presence or integration of relevant expertise. The absence and/or late inclusion of social and behavioral science insights and methods into policymaking can undermine both the efficiency and effectiveness with which the policies can be implemented and evaluated. Hence, we echo the concerns and amplify the recommendations offered by the National Science and Technology Policy Council in the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#). Prioritizing the integration of social and behavioral science insights and

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<sup>40</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

methods into the core work of federal agencies and departments is essential to evidence-based policymaking and implementing policies that are most likely to produce desired outcomes for the American public.

**1.A. Agency leadership should ensure they have sufficient expertise in social scientific perspectives and methods among their staff members and external partners and incorporate that expertise into each phase of their work.**

Consistent with guidance in the [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#), agency heads first need to assess where social and behavioral science insights and methods could improve agency decision making and the extent of social scientific expertise they can readily call upon (either on staff or through established partnerships with external researchers). Agency leaders can then use this information to identify gaps in expertise to inform recruitment and hiring of new personnel or the establishment of partnerships with external expertise. Because leaders set expectations and guide the strategic plans, priorities, and evaluation processes, agency heads should also ensure that there is social and behavioral science expertise among agency leadership, as well as assigned to appropriate roles across the agency.

To increase agencies' capacity for harnessing social and behavioral science insights, agency leaders should recognize and articulate the relevance of social and behavioral science insights to current agency priorities and initiatives, as well as the relevance of these insights for developing and implementing policy and guiding policy evaluation efforts. The U.S. Department of Housing and Urban Development (HUD) provides an example of doing each of these effectively through their [HUD Research Roadmap](#), partnering with experts in industry, policy, practice, and advocacy at the local, state, and federal levels. Through their Research Roadmap, HUD provides priority research questions to build the evidence base of insights to support effective policymaking and evaluation. For instance, the HUD Research Roadmap details priorities for:

- Data collection
- Best practices for housing programs and policies (e.g., maximizing the utility of low-income housing tax credits; managing home health hazards; enhancing disaster preparedness, adaptation, and recovery management)
- Potential challenges (e.g., restrictions to data access, market factors, housing quality, limited capacity for disaster management, addressing the needs of populations with complex needs)
- Plans for implementation

The Department of Labor similarly provides a clear model for the inclusion of behavioral science research and insights to promote evidence-based policy interventions to increase and expand participation in the workforce and to promote workplace safety.<sup>41</sup> These are excellent examples of efforts that other agencies should undertake.

If gaps are identified in the social science expertise needed to support an agency's mission, recruitment and hiring of new personnel should be prioritized. We recommend, as previous PCAST

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<sup>41</sup> U.S. Department of Labor. [Behavioral Interventions](#).

reports on the Federal STEM workforce<sup>42</sup> and the public health workforce<sup>43</sup> have done, that agencies consider hiring campaigns that include the flexible use of hiring authorities and mechanisms to bring social and behavioral scientists with specific areas of expertise (e.g., sociology, political science, economics, psychological science, learning sciences, criminology, demography, behavioral science) into government service. This may include permanent or short-term positions to benefit and support the aims of chief evaluation officers and offices of evaluation sciences. In addition to content expertise, specific skills that are often needed include data science, open science practice, and causal reasoning techniques to facilitate rigorous policy evaluation. Individuals with relevant social scientific expertise should be integrated throughout agencies, especially in offices focused on promoting within-agency learning and facilitating synergies that will enhance the policymaking process. Special consideration should be given to increasing the number of social and behavioral scientists from communities and groups that are disproportionately affected by the issues being addressed by agency policies and programs (i.e., racially and economically minoritized groups). In some cases, agency leadership could support partnerships with social scientists outside of government in order to strengthen the social scientific capacity within their agencies.

Agency heads should also work to support and retain their existing social science personnel—a group with a wide-ranging skillset, content expertise, relevant networks, and vital experience. Professional and technical skill development opportunities and recognition of these individuals’ contributions to agency goals can incentivize retention. Thus, agency leadership should support professional development opportunities that focus on gaining additional expertise and technical skills in social and behavioral science research content areas and methodological techniques. This training could be valuable for personnel with social science backgrounds as well as personnel with other disciplinary backgrounds. It would be especially valuable to identify or create learning opportunities within agency programs and offices to allow personnel to learn new social science insights with and from one another. Well-informed and supportive managers are critical to retaining personnel. Agency leaders can use training and learning opportunities to improve the skills and understanding of internal staff, many of whom are not social scientists, about the value of social and behavioral science data and approaches. An example is participation in the Office of Management and Budget and the Federal Executive Institute’s Evidence-Based Decision-Making Leadership Academy. [The Evidence Academy](#) currently provides senior executives with the knowledge and skills to make evidence-based decisions. This program can be expanded, leveraged, and tailored to enhance opportunities for professional development in social science methods for social scientists and other personnel regardless of prior training in the social sciences.

**1.B. Agencies should incorporate established and emerging social and behavioral science insights when developing policies, and use the methods and tools of social science research to enable and facilitate rigorous program and policy implementation and evaluation.**

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<sup>42</sup> PCAST Report to the President. (2024 October). [Expanding STEM Talent in the Federal Workforce](#)

<sup>43</sup> PCAST Report to the President. (2023 May). [Supporting the U.S. Public Health Workforce](#)

## *Incorporation of Social Science Evidence*

Agencies have an opportunity to draw upon relevant social scientific evidence when developing policies and leverage its insights and methods when implementing and evaluating programs and policies. Social and behavioral science theories, perspectives, and concepts can offer agencies a powerful analytical lens through which to engage in policymaking. The goal is to develop a framework that defines the body of evidence needed to inform policymaking, from basic studies to understand the principles that inform individuals' behavioral tendencies (e.g., adhering to a doctor's recommendations) to efforts to evaluate whether a specific program or policy is effective in producing its stated goals (e.g., reducing high-blood pressure rates). Not only can these frameworks inform what data should be collected or used to best inform policy decisions, but they can also offer guidance in how those data should be analyzed. Leveraging social and behavioral science insights, approaches, and methods in the policymaking process will deepen a culture of using evidence within agencies. In order to support a culture of evidence, agency heads should also introduce a common lexicon for social science data terminology, such as the [Department of Labor's Glossary of Evidence Terms](#).

One key, often overlooked component of evidence-based policymaking is rigorous policy evaluation. Learning from past program and legislative accomplishments and failures is crucial to inform future policies and initiatives that are more impactful and cost-effective. Further, social and behavioral science tools can and should be used, whenever possible, to guide policy implementation so that the causal impacts of the policy can be evaluated. A current challenge across many agencies is allocation of adequate funding for program and policy implementation and evaluation, including resources to support social and behavioral scientists to advise if not conduct the work. Some agencies and departments already support internal policy-relevant research units (e.g., Office of Policy Development and Research (OPDR) at HUD; Institute of Education Sciences (IES) in the Department of Education). Other agencies are better served by contracting this work to external researchers in academia or other policy-relevant research institutions. The creation and maintenance of the [Program Evaluation Services Subgroup](#) by the General Services Administration is a valuable effort to streamline the approval process for external scientists to assist in policy-evaluation. In addition, government agencies could partner with private foundations to fund and facilitate rigorous policy-evaluation and promote evidence-based policymaking.<sup>44</sup>

The National Academies report, [Using Science as Evidence in Public Policy](#), suggested that social science findings tend to have the biggest impact when they are relevant and aligned with issues and priorities on which agencies are already focused. Table 1 describes agency activities that can incorporate the tools of the social and behavioral sciences: (1) evaluation and evidence-building plans or learning agendas, (2) strategic plans, (3) budget requests and Congressional budget justifications, (4) regulatory agendas, and (5) requests for information. Agencies and departments should include social and behavioral scientists within their organizations as well as those working outside of government in each of these processes and reports to ensure that the skills and tools of social science are used effectively to solve agency or program challenges.

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<sup>44</sup> The Social Science Research Council, Arnold Ventures, and William T. Grant Foundation have all created initiatives to advance rigorous policy evaluation.

The [Diabetes Prevention Program \(DPP\)](#) is one example of how social and behavioral science insights and methods can be harnessed to inform treatment and policy in our society through evidence-based practice.<sup>45</sup> In 1996, when the program originally began, Type 2 Diabetes was estimated to impact at least 16 million people in the United States, with 800,000 new cases a year, [representing 12% of total healthcare costs](#). Today Type 2 Diabetes represents 25% of healthcare spending, is the 8th leading cause of death, and is the cause of significantly higher individual healthcare spending than for those without the disease.<sup>46</sup> DPP was designed to prevent or slow down the progression of Type 2 diabetes. The clinical trial enrolled approximately 3,234 participants that were diverse in terms of age, race, ethnicity, and geographic background, over a [5-year period](#). Participants were assigned at random to one of three study conditions: 1) a basic lifestyle program that included physical activity and nutrition education (control), 2) a more extensive lifestyle intervention program led by case managers, or 3) a medication group that received either metformin, a drug used to treat diabetes, or a placebo pill once or twice a day along with the basic lifestyle program. Three years after the program ended, participants in the extensive lifestyle intervention group (2) and those in the metformin group (3) revealed decreased incidence of Type 2 diabetes as compared with participants who did not receive either treatment. (condition 1). The former by 58%, and the latter by 31%. Ten years after the study period ended, participants in the lifestyle program intervention maintained a reduced incidence of diabetes at 34% and the metformin participants maintained a decreased incidence by 18%, as compared to the basic lifestyle control group.<sup>47</sup> Further, the lifestyle intervention reduced the absolute risk of Type 2 Diabetes by 20%, and the metformin intervention by 8%, over the life course.<sup>48</sup>

The program was implemented as a randomized control design that enabled causal inferences about the effectiveness of different types of interventions—lifestyle and drug treatment—on diabetes rates. Based on the evidence provided in this trial that the lifestyle intervention can successfully prevent and delay diabetes in those at risk, in 2012 the CDC adapted features of the DPP and made their National Diabetes Prevention Program widely accessible throughout the country, including to eligible participants on Medicare and to people on Medicaid in a number of states.<sup>49</sup> As of 2022, at least 600,000 Americans had participated in this program. The DPP is an example of the promise of evidence-based policymaking, implementation, and evaluation to improve the health and wellbeing of millions of Americans, as well as to reduce healthcare spending. This existing evidence base, if more widely applied, could help improve quality of life over the full lifespan for the more than 38 million Americans of all ages living with Diabetes today.

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<sup>45</sup> National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Disease. (2021 August). [Diabetes Prevention Program](#).

<sup>46</sup> U.S. Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. [Health and Economic Benefits of Diabetes Interventions](#).

<sup>47</sup> Diabetes Prevention Program Research Group. (2009 October). [10-Year Follow-up of Diabetes Incidence and Weight Loss in the Diabetes Prevention Program Outcomes Study](#). *Lancet*.

<sup>48</sup> Herman, W. (2015 September 2). [The Cost-Effectiveness of Diabetes Prevention: Results from the Diabetes Prevention Program and the Diabetes Prevention Program Outcomes Study](#). *Clin. Diabetes and Endocrinology*.

<sup>49</sup> [Medicaid Coverage Landscape: Map and Visualizations - National DPP Coverage Toolkit](#).

**Table 1. Applications of the Social & Behavioral Sciences with Current Agency Frameworks**

	<b>Elements</b>	<b>Frequency Updated</b>	<b>Potential Opportunities for Incorporating more Social Science Evidence</b>
<b>Learning Agendas</b>	Identify and address priority short- and long-term questions relevant to the programs, policies, and regulations of an agency. These include strategic and operational questions about how an agency uses its processes and procedures to meet its mission.	Annually	Use social science methodology to evaluate program scope to better meet agency goals, to inform areas for strategic growth, to address operational questions, and to evaluate the effectiveness of agency processes and procedures. The evolving area of community-based participatory research can be used to define the scope of challenges experienced by stakeholders as learning agendas are developed
<b>Strategic Plan</b>	Define the mission, goals, and the means by which an agency or organization will measure its progress in addressing specific national problems.	Every four years	Prioritize utilization and growth of social science theoretical frameworks, insights, and approaches in mission and values, and embed social science methodologies in agency evaluation needs.
<b>Congressional Budget Justification</b>	Includes a description of each program activity and its purpose, breakdown of appropriated fund use, explanation of proposed changes, and recent accomplishments of the agency.	Annually	Provide information sessions regarding the federal budget process and elicit input from internal social scientists and the external social science community (e.g. professional organizations and National Academies panels) to obtain broader insights on the impacts of programs.
<b>Regulatory Development</b>	Process of creating and implementing regulations, such as through publishing new rules, and amending or repealing existing rules.  Throughout the process, agencies are required by law to publish notices of proposed and final rules in the Federal Register, and provide opportunities for public comment.	Regulatory Plan once a year  Agenda of Regulatory and Deregulatory Actions twice a year	Proactively solicit input from the social and behavioral science community through ‘notices of proposed rulemaking’ and other mechanisms, specifically seeking research that can provide evidence to inform likely impacts of regulations. Implementation science can be used to understand and incorporate behavior to promote sustainable adoption of evidence-based interventions  Include social and behavioral scientists in public engagement efforts to ensure equitable inclusion of relevant communities.



<b>Requests for Information (RFI)</b>	A point in the process of developing policies and regulations. This happens primarily through written comments.	Frequent, although not all policy or program changes require public input	Encourage the social and behavioral science community to share their relevant research and data. Use RFIs to inform researchers of topics the agency is currently considering or may be considering in the future so that they can identify research that could be informative.
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*Use of Social Science Methods and Tools*

The social sciences rely upon a wide variety of research methods and tools to facilitate rigorous scientific investigation of highly complex social phenomena. Both basic and applied social and behavioral science research are highly valuable in solving any number of societal problems.

Theoretical, observational, experimental, and other methodological tools can be leveraged to:

- Provide descriptive and predictive information about topics of societal interest and concern
- Draw inferences about their causes
- Identify and test promising solutions

Experimental and quasi-experimental research designs, “natural experiments,” and many types of observational designs can offer compelling evidence regarding the nature, probable causes, and potential solutions to societal problems. Irrespective of the design, it is the unbiased and careful measurement of the phenomenon under examination that is vital to the integrity of social and behavioral science. Without sound measurement of an outcome or behavior, it is impossible to discern its causes or to identify ways to change it. Further practices such as engaging in data, methodological, and analytical transparency, pre-registration, and other open-science practices should be followed to promote the production of robust and reliable evidence. To meet the challenges of assessing the concerns, preferences, and behaviors of an expanding and diversifying population, social and behavioral scientists have recently embraced technological advances and use artificial intelligence tools, such as machine learning and natural language processing. In addition, mixed-method approaches that include both quantitative and qualitative assessments can provide rich context for understanding for whom, how, and why different program and policy elements may have been successful. Social and behavioral science methods can also be used to select appropriate groups to engage in the research process and to participate in implementation of policies once developed. As the body of evidence grows, meta-analyses can be used to examine the robustness of proposed interventions and whether the effects vary under different experimental conditions or for different populations. Federal agencies should use the full breadth of these methodological approaches and tools to better understand and help address the needs of their constituents.

The [Moving to Opportunity for Fair Housing Demonstration \(MTO\)](#) initiated by the U.S. Department of Housing and Urban Development is one example of the significant incorporation of social and behavioral science insights and methods in policy development and evaluation. MTO was a randomized social science experiment that evaluated the causal impact of housing vouchers on economic and educational outcomes of families. The vouchers allowed families living in public

housing projects in high-poverty neighborhoods of large cities to move to lower-poverty neighborhoods. MTO enrolled 4,600 eligible families (with children) who were randomly assigned to one of three groups: 1) a group offered a housing voucher that could only be used to move to a low-poverty neighborhood, 2) a group offered a traditional Section 8 housing voucher and could move to a different low-income neighborhood, and 3) a control group. MTO participants were interviewed and surveyed on a number of occasions (4-7 years, 10-15 years) after implementation of the study to assess the effects on various outcomes of interest, especially those pertaining to the economic, educational, and health of both the parents and children in the study.

Importantly, implementing MTO as social and behavioral science *experiment*, rather than simply offering the vouchers to eligible participants on a first-come-first serve basis, provided the government with credible information about the effects of the housing voucher program. This information could then shape future policy decisions. While initial outcomes of the vouchers were modest,<sup>50</sup> longer-term evaluation by social scientists has revealed compelling effects on educational attainment and income for the young children who were moved to lower-poverty neighborhoods, but not for older children.<sup>51</sup> This innovative research inspired new housing programs that built on the insights drawn from MTO, including a housing-choice program in Seattle, WA. The Seattle program examined the effects of moving to “high opportunity” rather than just out of high-poverty neighborhoods.<sup>52</sup> The growing body of evidence regarding the efficacy of housing vouchers to increase opportunity has provided a basis for the on-going [Community Choice Demonstration](#) at HUD, the [Family Stability and Opportunity Vouchers Act](#), and the [Choice in Affordable Housing Act](#) that have been introduced by bipartisan groups in the House and Senate in recent Congresses.

In a more recent example of collecting social science data to inform decision-making, in July 2024, the Biden-Harris Administration made a \$10 million investment to establish the [National Oceanic and Atmospheric Administration’s \(NOAA\) Societal Data Insights Initiative](#). This project bolsters efforts to utilize social science methodology to evaluate public behavior and reactions to communications from NOAA during flooding events. NOAA will work with the NSF AI Institute for Research on Trustworthy AI in Weather, Climate and Coastal Oceanography and its partners from the NSF National Center for Atmospheric Research, along with academic partners and the Weather Channel to explore the use of artificial intelligence (AI) to enable and enhance the integration of social and demographic data with meteorological and other environmental data to inform policy and practice related to disaster preparedness.

*Implementation science* and *community-based participatory research* are social science approaches that are increasingly applied to enhance policymaking in government agencies. *Implementation science* examines how to integrate evidence-based practices into program development and policy making. It seeks to understand and incorporate the behavior of individuals and organizations to promote the sustainable uptake, adoption, and implementation of evidence-based interventions. It also aims to investigate and address bottlenecks and other barriers that impede effective

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<sup>50</sup> Gale, R. (2018 June 7). [Housing Mobility Programs And Health Outcomes](#). Health Affairs Health Policy Brief.

<sup>51</sup> Chetty, R., et. al. (2016 April). [The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment](#). *Am Economic Review*.

<sup>52</sup> Bergman, P., et. al. (2024 May). [Creating Moves to Opportunity: Experimental Evidence on Barriers to Neighborhood Choice](#). *Am Economic Review*.

implementation, test new approaches to improve implementation, and to identify causal relationships between policies and relevant outcomes. Broader application of the tools and approaches of implementation science at the beginning of policy development would help agencies to more rigorously evaluate policy outcomes and impacts. Incorporating implementation science is also a way for policymakers to demonstrate that policy interventions are focused on long-term, sustainable goals with clear benefits for their constituents. *Community-engaged participatory research (CPBR)* relies upon similar principles and tools, but it has a distinct focus on creating collaborations between scientific organizations, government agencies, the private sector, and the communities they serve. CPBR also focuses on combining knowledge with action to bring about positive outcomes – especially among populations that have been and continue to be under-resourced and underserved. CBPR equitably involves all partners in the research process and recognizes the unique strengths that each brings to the table. CBPR can transform policymaking from acting upon a community to answer a policy question, to working side by side with community members to define the problems a policy should address, help implement the policy, create the questions and methods used to evaluate it, and disseminate evaluation findings. Research indicates that CBPR, although more time-consuming, results in more effective and sustainable outcomes.<sup>53, 54, 55</sup> Agencies should equip their personnel with skills to effectively engage with individuals, groups, and organizations impacted by the problems the agency is tasked with solving. Scientists in all disciplines need to be aware of best practices in recognizing and responding to the lived experiences of the populations they are studying. [PCAST’s Letter on Advancing Public Engagement with the Sciences](#) suggested that a central resource could help agencies address the diversity of problems experienced by communities<sup>56</sup> so that they can apply principles of ethics, diversity, equity, inclusion, and justice in understanding and developing partnerships with communities. True partnerships ensure community input and ownership and lead to more effective evaluation and policy impacts.

The National Institutes of Health’s Community Engagement Alliance ([CEAL](#)) is a compelling exemplar of community-based participatory research. Since the onset of the COVID-19 pandemic, this research network, including academic researchers, community-based organizations, healthcare organizations, and local and state public health agencies, has worked to identify promising engagement and outreach practices that communicate trustworthy, science-based information to communities experiencing health disparities. CEAL communities appear to experience greater health equity and improved health outcomes.<sup>57</sup>

A second strong example of community-engaged social science research is [NOAA’s “place-based conservation”](#) programs in important coastal and marine areas. This effort builds research efforts focused on collaborating with the populations they serve to understand the specific challenges and

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<sup>53</sup> Wallerstein, N. (2020 July 21). [Commentary on Community-Based Participatory Research and Community Engaged Research in Health for Journal of Participatory Research Methods](#). *Journal of Participatory Research Methods*.

<sup>54</sup> Cornish, F., et al. (2023 April 27). [Participatory Action Research](#). *Nat Rev Methods Primers*.

<sup>55</sup> Fairey, T., et al. (2024). [Images and Indicators: Mixing Participatory Methods to Build Inclusive Rigor](#). *Action Research*.

<sup>56</sup> PCAST Letter to the President. (2023 August). [Advancing Public Engagement with the Sciences](#)

<sup>57</sup> U.S. Department of Health and Human Services, National Institutes of Health. [Community Engagement Alliance \(CEAL\) - Our Impact](#).

needs of the environments in which they live.<sup>58</sup> This NOAA effort enhances conservation, working from the importance of the environment to the lives and livelihoods of communities. It reacts to the needs of communities by thoughtfully reassessing research priorities and practices to reflect their needs. Other agencies should consider similar community-engaged research efforts.

The social and behavioral sciences offer essential tools for considering and addressing the challenges we face as a society. Agencies across government will benefit from more effectively integrating the expertise, insights, and methods of social science to support evidence-based policymaking, implementation, and evaluation.

## **Recommendation 2. Expand secure access to federal data sets across agencies and with social scientists for approved research and policy evaluation needs, with appropriate protections and safeguards.**

The collection of social science data is as old as the nation itself and has been essential to the functioning of the government since its founding. A count of the national population—the U.S. Census—has taken place every 10 years since 1790.<sup>59</sup> The need for accurate information beyond that required for the official Census, led to the collection of information about individuals’ housing, employment, economic outcomes, and other markers of quality of life, by what eventually became the Census Bureau. Similarly, additional information about the employment, health, and other vital information about the American public has been collected by federal and state agencies since the early twentieth century.<sup>60,61</sup> In the late 1960s, perhaps due to the widespread societal changes of the era, the need for reliable data regarding Americans’ thoughts, feelings, and opinions about the country became apparent and resulted in the establishment of the annual General Social Survey,<sup>62</sup> which has persisted for over 50 years. Over the past two decades, we have increasingly digitized administrative records (i.e., records created for administrative purposes, such as keeping a record of the staff, contractors, activities, service recipients, etc. of a particular agency or institution) simply through the regular operation of government programs, which has dramatically increased available data regarding Americans’ well-being. Both administrative and government-sponsored survey data have been used by federal, state, and local governments to understand and predict the likely concerns, needs, and overall well-being of their constituents. In other words, the government understands and appreciates the value of collecting reliable social and behavioral data to capture an accurate picture of the status of American life and livelihood and craft policies to improve it.

A key feature of the American federal statistical system is that data collection and stewardship are distributed across many government agencies. This spread allows different agencies to pursue their priorities and mandates independently and creatively, but also necessitates mechanisms for data-

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<sup>58</sup> Beaty, F., et al. (2024). [Centering Relationships to Place for More Meaningful Research and Engagement](#). Perspective in *PNAS*.

<sup>59</sup> U.S. Census Bureau. (Accessed 2025 January 5). [U.S. Census Bureau History](#).

<sup>60</sup> National Research Council (US) Committee on National Statistics. (2009). [The U.S. Vital Statistics System: A National Perspective](#). *National Academies Press*.

<sup>61</sup> U.S. Bureau of Labor Statistics. (2024 February). [Handbook of Methods - Current Employment Statistics - National: History](#)

<sup>62</sup> National Opinion Research Center at the University of Chicago. [The General Social Survey](#).

sharing – between federal agencies and between federal, state, and local authorities – to answer many questions of societal import. There are many successful examples of such data-sharing mechanisms. Consider, for instance, the establishment of the National Center on Health Statistics (NCHS) to oversee and coordinate the collection of vital statistics (births, deaths) at the national level, incorporating data from the state, territory, and in some cases more local levels of government (e.g., New York City, Washington, D.C., Puerto Rico). Data-sharing mechanisms can also be created to address a relatively specific, often time-sensitive policy-related question, such as recent analyses of the Economic Impact Payments (EIP) in 2020 and 2021 (i.e., the stimulus payments during the Covid-19 pandemic) conducted by a team of researchers from the U.S. Census Bureau, IRS, and the U.S. Treasury.<sup>63</sup> By combining data from IRS and Census, these analyses were able to assess both the overall rates and speed with which different individuals received their EIP checks, and examine how receipt of checks differed among individuals depending on age, income-level, and racial or ethnic group. Sharing data collected and housed in different agencies allowed the government to examine the efficacy and equity with which one of its programs had been administered.

We note three key barriers to sharing data: confidentiality, trust, and bureaucratic stasis. The first two of these are crucial to privacy protection, which is paramount in any use of government data.

The confidentiality issue is difficult. Some mechanisms do exist to share data confidentially. The Federal Statistical Research Data Center (FSRDC) network, provides secure environments for qualified researchers to use restricted-access data while protecting respondent confidentiality. Technological innovations are also under development, including differentially privacy techniques that allow access to data that has been mathematically modified to protect individual's data. Another approach that may help maintain confidentiality is federated access, in which queries are sent to agencies that hold data who answer the query without sharing the data. These efforts show promise and we encourage them, but also note that no method of protecting data is perfect and free of risk. Ultimately, much may come down to the care taken by the research users. There is inherently going to be a balancing act between providing access vs. limiting risk of leaks or misuse. It is imperative to strike a balance in which confidentiality risks of broader access are relatively minor, especially in terms of allowing access by vetted researchers both internal or external to the federal government, while the benefits of understanding policy impacts are extensive.

Nonetheless, additional sharing of data can both increase and diminish trust. Sharing administrative data might be perceived as violating the trust taxpayers have in agencies, but it is also a step toward transparency, and helps identify issues within federal programs. For instance, news sites have run stories that use Medicare data to investigate fraudulent billing or Medicare advantage “upcoding.”<sup>64</sup> We note that government appropriately seeks to be transparent about the cost and impacts of large federal programs (Medicare, tax system, social security, student loans, SNAP, etc.) and broader data access for research satisfies this goal.

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<sup>63</sup> Clark, L., et. al. (2023 May). [The Demographics of the Recipients of the First Economic Impact Payment](#). Center for Economic Studies.

<sup>64</sup> For instance: Weaver, C., et al. (2024 July 8). [Insurers Pocketed \\$50 Billion From Medicare for Diseases No Doctor Treated](#). *The Wall Street Journal*.

Bureaucratic stasis appears to often be the most powerful impediment to merging and sharing data. There are few benefits for career staff or even agency administrators to engage in a potentially labor-intensive effort to pool or share data, and plenty of downside. We seek in this report to point out the many benefits and to celebrate those who are working to advance knowledge, develop understanding of society, and improve federal programs and people's lives.

Getting the greatest value from the data collected by the government also requires sharing these data with researchers outside government and the general public in responsible ways. Data from many government surveys have been available to researchers and decision-makers both in and outside of government since the inception of those surveys. This access allows researchers outside of government, but who are often supported by federal funding, to contribute research for the public good. For instance, key research contributing to our understanding of the importance of mixed-income public housing and neighborhoods for children's development and well-being was only possible because these researchers who are primarily employed outside of the government were able to access federal administrative tax records.<sup>65</sup>

Despite the evidence of potential and actual benefits of sharing data across government agencies and with academic researchers, a number of barriers remain that make access to administrative and other government data incredibly difficult, disruptively sluggish, and unpredictable. For instance, researchers both in and outside of government often require datasets from multiple programs or agencies in order to examine the effects of policies on a broad set of outcomes, such as employment, physical health, and even socio-emotional outcomes such as trust in government. All too often, lack of access to different agency data sets undermines the potential for social science insights to support policy development, successful implementation, and evaluation.

Understandably, agencies operate under specific regulatory authorities that limit their ability to use, provide access to, and publicly disseminate the data they collect.<sup>66</sup> However, researchers in government, academia, and the private sector often face significant barriers *beyond* those required by concerns for privacy and confidentiality, national security, or other legal authority constraints on the permitted uses of data. Despite advances in data systems that could allow for secure access, many agencies severely restrict or prohibit access for research initiated by individuals working in other agencies or outside of government. Because datasets are located across many separate federal agencies, researchers must navigate a labyrinth of agency-specific restrictions on and barriers to data access that can make it difficult if not impossible to conduct research that requires data from different federal sources. Even datasets that are notionally available publicly, for instance on data.gov, are not always accessible or usable in their present form.

Reducing barriers to access will lead to greater utilization of federal datasets in ways that support evidence-based policymaking and social science discovery. Policymakers within the federal government could better design, implement, and evaluate their programs. External and government-based social scientists could leverage these data to develop, test, and refine our understanding of the causes of both successes and undesired outcomes faced by different segments of the American public

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<sup>65</sup> Chetty, R., et al. (2016 April). [The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment](#). *American Economic Review*.

<sup>66</sup> The White House Archives, Obama Administration. [Principal Statistical Agencies and Recognized Units](#).

(e.g., health, employment, etc.). This type of work by and in partnership with researchers outside of government can, in turn, offer the evidence-base from which to design new policies that will improve well-being for more Americans.

## **2.A. Allocate the funding necessary to establish the National Secure Data Service.**

In response to the need for access to decentralized datasets across federal agencies, the [Commission on Evidence-Based Policymaking](#) recommended a government-wide data linkage and access infrastructure. As part of the CHIPS and Science Act of 2022, Congress authorized the National Science Foundation to establish a National Secure Data Service Demonstration project (NSDS-D) through the National Center for Science and Engineering Statistics (NCSES).<sup>67</sup> The NSDS-D is tasked with informing efforts to develop the systems and infrastructure that will be needed to innovate data sharing and data linking to promote evidence-based policymaking at all levels of government. The NSDS-D currently has allocated funding to support 15 demonstration projects covering a range of issues that are vital for the responsible and secure sharing of federal data, including: using frontier methods for privacy-protection in the linking and use of federal datasets, enhancing interoperability of datasets from different agencies, and developing user-friendly platforms and tools to allow a broad set of researchers, including those from underrepresented and underserved communities, to access federal data.

While the NSDS-D is making important progress towards increased data access, the work can only proceed with adequate funding. We recommend the continued funding of the NSDS-D and, ideally, full funding of the NSDS. This will enable the development, assessment, and refinement of the infrastructure and privacy protection technology to enable secure, reliable, and relatively efficient access to government and perhaps some private industry data.<sup>68</sup>

In addition to funding efforts to demonstrate the feasibility of a NSDS, federal agencies must also be incentivized, if not required, to actively participate in the NSDS-D. To fully develop and implement new data linkages, harmonization, and enhanced privacy protections, all agencies with relevant data must commit their human expertise and technical resources. Reports from the Data Foundation and the National Academies provide additional worthwhile recommendations.<sup>69, 70</sup> Other national resource centers and pilot programs also require greater support to build essential data infrastructure across the federal government. PCAST particularly notes the need for full funding of the NAIRR (National AI Resource Reference). Several efforts underway at the Census Bureau also appear valuable, including data concierge services that help partner agencies identify what data are necessary (and what data are not) for specific policy-relevant questions, and expanding the Federal Statistical Research Data Center infrastructure to broaden accessibility to researchers working at minority-serving institutions.

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<sup>67</sup> 117<sup>th</sup> Congress. (2022 August 9). [Public Law No. 117-167, CHIPS and Science Act](#).

<sup>68</sup> By access we are not suggesting that any researcher and any project should be permitted full access to private data. Models that make tiered or define specific access to researchers based on the project needs, researcher expertise, security clearance should also be designed and developed

<sup>69</sup> Data Foundation. (2022 July 1). [Blueprint for Implementing the National Secure Data Service](#).

<sup>70</sup> National Academies of Sciences, Engineering, and Medicine, Consensus Study Report. (2023). [Toward a 21st Century National Data Infrastructure: Mobilizing Information for the Common Good](#).

## **2.B. The Office of Management and Budget (OMB) should spearhead access to appropriate federal datasets across agencies and by external researchers**

Title III of the Evidence Act seeks to improve the efficiency of sharing of confidential information and records between agencies within the federal government, with the goal of improving the availability of evidence to inform policymaking.<sup>71</sup> This law specifically empowers OMB to coordinate these changes, but the relevant provisions have thus far been implemented in a relatively decentralized manner, limiting progress. In order to ensure this essential component of the Evidence Act is achieved, the Chief Statistician of the United States should create or task a team or steering committee of personnel dedicated to facilitating data access across the federal government. One model for this effort is the Evidence Team on the Management side of OMB. A second model is the Customer Experience Initiative, which draws on personnel from across OMB. This data access team would be responsible for ensuring effective coordination among and between the Interagency Council on Statistical Policy (ICSP), the Chief Data Officer Council, Chief Evaluation Officers, and other interagency councils and units relevant to the technology, security, and infrastructure necessary to implement data sharing provision of the Evidence Act.

Below, we identify three key challenges that undermine efficient data sharing across the federal government, and with external researchers, and offer some specific recommendations for how they could be resolved:

1. ***Support the dissemination of best practices in privacy protection across federal statistical agencies and data holders.*** Strong privacy protections are essential in any data-sharing activity to maintain the integrity of data as well as the rights and trust of the American people. In most cases, existing tools provide sufficient protection, but agencies often lack the dedicated resources or expertise to implement these tools for the datasets they manage. Some use cases go beyond those supported by current tools for privacy protection and will require more research, such as that supported by the NSDS-D. Curating and disseminating best practices that maintain privacy, while also maintaining the utility of the data for analyses by researchers, will help create a system of enhanced privacy protection that supports the goals of federal agencies to understand and address their most pressing challenges.
2. ***Develop and disseminate a consistent interpretation of legal requirements for data-sharing across the federal government.*** Legislation imposes important limitations on data access, but these constraints are often expressed with language that offers considerable latitude for interpretation. Different agency officials, including counsel, both across and even within individual agencies, can come to vastly different conclusions on the proper interpretation of a given clause and, thus, what types of data sharing are and are not permissible. This lack of consistency and clarity is confusing, frustrating, and ultimately impedes the progress of valuable social scientific and policy-relevant research. It can also undermine the ability or desire for members of different agencies to seek to collaborate with one another to address the needs of the American public.

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<sup>71</sup> Office of Management and Budget, The White House. [Fundamental Responsibilities of Recognized Statistical Agencies and Units](#). Federal Register.



A clear interpretation by OMB of the provisions would greatly enhance data-sharing efforts. In some cases, where a given legal requirement applies to many agencies across the federal government, OMB should proactively provide guidance on the appropriate interpretation. For instance, Title II of the Evidence Act provides that federal data may not be disclosed to the public unless the “identity of the respondent to whom the information applies [cannot] be reasonably inferred by either direct or indirect methods;” uncertainty around the proper interpretation of “reasonably inferred” or “direct or indirect means” has led to idiosyncratic and often inconsistent decisions and, quite often, a level of conservatism that limits data-sharing that most would consider both statutorily admissible and important for policy-relevant insights and program evaluation. In other cases, where a given data-sharing request is subject to a more situation-specific legal provision, OMB should coordinate in ways that promotes data-sharing under a reasonable interpretation of the relevant statutes and regulations.

3. ***Require agencies to develop Data Management Plans (similar to the Learning Agendas that respond to Title I of the Evidence Act).*** Data Management plans can serve as a mechanism to set clear guidelines on the types of data requests that will be supported (e.g., policy/program evaluation, investigator-initiated research), from whom (e.g., government vs. external researchers), and the process to initiate such requests. Such plans should provide specific justifications based in legal authority for the types of data requests that will not be granted and explain, in general, how requests will be reviewed. These plans should be responsive to OMB guidance on the conditions under which agencies are expected to share data with each other. Plans should also incorporate well-considered privacy and quality safeguards, for instance as laid out in forthcoming regulations for Section 3581 of the Evidence Act, which provides for the “presumption of accessibility” for datasets held by federal agencies. At its core, the development of data management plans should seek to move agencies toward a default position that supports data requests so long as the necessary privacy protections are in place. OMB efforts under the first two points of this recommendation will help expand the set of such permissible requests. However, this final prong is also critical to create the “presumption of accessibility” and to streamline approval processes when the proper conditions are met. In other words, it should be bureaucratically easier to “say yes” than to “say no” to requests for data across federal agencies.

### **Recommendation 3. Agencies should review their funding priorities, models, budgets, and instruments to better support the contemporary social and behavioral science research ecosystem.**

This report aims to enhance government’s ability to improve policymaking by harnessing social and behavioral science insights to address important societal challenges. This goal depends on a robust social and behavioral science research ecosystem. Not only do each of the prior recommendations of this report require robust funding, but so too does the basic research that produces the discoveries that often inspire and provide the initial evidence-base for new policies.

In our consultations, social and behavioral scientists working in academia, government, and elsewhere unequivocally expressed concerns not simply about the amount of funding available for

social scientific research, but also about the models most often used to fund it. The most common tools through which social and behavioral scientists are funded are relatively small-budget, short-term (3 year), single principal investigator awards. Although this model continues to serve some social and behavioral scientists and some vital research projects well, it no longer reflects the ways in which this broad field of discovery has evolved. Most notably, social and behavioral science research has become an increasingly lab-based effort that is reliant on *teams* of scientists who require formal administrative support. This is a common model for research in the life and physical sciences, which provides models for larger grants that support multiple investigators and administrative coordination.

Social science research teams are growing larger and more diverse. Much of the most compelling policy-relevant research, especially the rigorous evaluation of policy, requires social science expertise in policy as well as implementation and evaluation. Policy-oriented research also often requires community-based partners and longer time-frames to create strong community relationships. Since social science is relevant to all research that involves people, research efforts continue to merge with adjacent fields such as engineering, computer science, data science, life sciences, and medicine. The resulting large and complex teams are, in turn, capable of creating research with significantly greater impact.

Compelling social and behavioral science efforts require higher levels of support to address important societal issues<sup>72</sup> such as health inequity,<sup>73</sup> gun violence,<sup>74</sup> crime,<sup>75</sup> political polarization,<sup>76</sup> <sup>77</sup> academic achievement gaps,<sup>78</sup> and more. In addition to interdisciplinary teams, technology and compute power is now required that is very different from what traditional funding models support. The emergence of AI tools in the production of social and behavioral science research is accelerating demands for data, computational resources, and diverse expertise. And, the data and computing infrastructure needs to collect, store, and analyze large datasets are exploding in the contemporary social and behavioral sciences. To support this changing research model, academic institutions are expanding investments in data-intensive quantitative social science.<sup>79, 80</sup> Scholars collect and analyze data from surveys, administrative records, and lab and field experiments, including policy-relevant randomized control trials. Increasingly, researchers are also complementing current data with analysis of archival data using computational social science techniques. An additional factor adding to the complexity and cost is that social and behavioral science research increasingly requires large numbers of participants or other high-quality samples that are expensive to design, enroll, and maintain in research studies.

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<sup>72</sup> Center for Neighborhood Engaged Research and Science at Northwestern University. [Neighborhood Science for Neighborhood Solutions](#).

<sup>73</sup> Johns Hopkins Center for Health Equity. [Center for Health Equity - Who We Are](#).

<sup>74</sup> The Crime Lab at the University of Chicago. [Reducing Gun Violence, Advancing Justice](#).

<sup>75</sup> The Justice Collaboratory at Yale Law School. [Where Serious Science Has a Serious Impact](#).

<sup>76</sup> The Duke Polarization Lab. [What is the Polarization Lab?](#)

<sup>77</sup> The Polarization Research Lab. [Resources and Data to Understand and Halt the Growth of Partisan Animosity](#).

<sup>78</sup> Metropolitan Center for Research on Equity and the Transformation of Schools at NYU. [Metropolitan Center for Research on Equity and the Transformation of Schools Who We Are](#).

<sup>79</sup> Institute for Quantitative Social Science at Harvard. [IQSS Homepage](#).

<sup>80</sup> Data Intensive Social Science Center at Yale. [DISSC Homepage](#).

New funding models and instruments are needed to reap the benefits of contemporary social science research. We recommend that federal agencies that support social and behavioral science research and discovery should allocate robust funding to units focused on the social and behavioral sciences (e.g., NSF’s SBE Directorate, NIH’s OBSSR, ED’s IES). Most urgently, funding agencies need to enable grants of sufficient size to support large, interdisciplinary research teams, complex data collection and analysis, high levels of computing and technological infrastructure, as well as administrative support.

Agencies should also review their current funding priorities for projects and portfolios that would benefit from greater integration of social and behavioral sciences. To that end, agencies should explicitly include relevant social and behavioral science research questions in their calls for proposals on agency priorities and initiatives. Multiple research funding agencies and initiatives within agencies (NIH, NSF, ARPA-E) have developed good models and instruments to support the research infrastructure and broad personnel needed for team science in life sciences and engineering projects. It is time to develop similar funding approaches for the social and behavioral sciences.

As highlighted earlier in this report, agencies should also allocate funding for program and policy implementation. Some agencies and departments already support internal policy-relevant research units (e.g., Office of Policy Development and Research at HUD; Institute of Education Sciences in the Department of Education), whereas others may be better served by partnering with external researchers in academia or policy-relevant research institutions. In addition, government could partner with private foundations to fund and facilitate rigorous policy-evaluation and promote evidence-based policymaking.<sup>81</sup>

**Recommendation 4. Facilitate engagement and partnerships between private industry, federal agencies, academic institutions, and not-for-profit foundations to harness social and behavioral science insights for greater policy impact on societal challenges.**

Just as private industry currently dominates the research advances propelling development of contemporary artificial intelligence (AI) tools and products, the private sector has a powerful role in contemporary research and data relevant to the social and behavioral sciences. Indeed, many private companies have the resources and user-base to outpace both academia and the federal government in the collection of social and behavioral science data. Consider the swaths of data that companies such as Google and Microsoft collect regarding user search behavior, or the data Meta collects on the behavior of the hundreds of millions of users of Facebook and Instagram in the United States.<sup>82</sup> The penetration of these companies into the social, economic, and political lives of so many Americans, provide opportunity, and perhaps arguably an obligation, to study their effects.

Beyond simply collecting data about their users, private companies are increasingly hiring social and behavioral scientists to design and conduct experiments to consider basic social scientific questions. This includes research questions of fundamental interest to society that also have economic value for

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<sup>81</sup> The Social Science Research Council, Arnold Ventures, and William T. Grant Foundation have all created initiatives to advance rigorous policy evaluation.

<sup>82</sup> Dixon, S.J. (2024 December). [Number of Facebook Users in the United States from 2019 to 2028](#). Statista

the companies, for instance on the role of information, incentives, and social networks on human (customer) decision-making. Rather than construing these efforts as being in competition with the research conducted in academia and government, we see them as opportunities for expansion of the social and behavioral science research ecosystem. However, to harness and potentially maximize the social and behavioral science insights, discoveries, and methodological innovations possible in private industry, their research efforts and activities should not remain sequestered from the broader community of social and behavioral scientists. We recommend exploring creative ways of increasing engagement and partnerships among social and behavioral scientists working in government agencies, academia, not-for-profit organizations, private foundations, and private industry.

#### **4.A. Promote collaboration between private sector, public sector, not-for-profit, and academic organizations to advance and set standards for social and behavioral scientific discovery and evidence-based policymaking.**

The end goal of this recommendation is to promote social and behavioral scientific discovery that benefits the American public by drawing on and sharing insights, data, methodological and analytical developments, and training opportunities, across the private, academic, and public sectors. Collaboration could be facilitated by a senior-level task force or commission composed of stakeholders from all sectors.

Applications developed by the private sector, based on enormous amounts of behavioral data, are impacting individuals and society in ways that we do not clearly comprehend. Companies can identify benefits and harms to the public - and build trust - by collaborating with external researchers to consider the impacts of their tools. Companies could also benefit from partnering with external social and behavioral scientists who may have expertise in structural, cultural, as well as individual predictors of behavior relevant to their products and platforms.

One key outcome of this envisioned commission on cross-sector collaboration should be the **establishment of standards of practice and principles** for private companies to offer secure access to consumer data for use by social and behavioral scientists in and outside of government. These standards and principles would include:

- Protocols to ensure appropriate anonymization and privacy protections for data that would be shared
- Language for End User Licensing Agreements
- Recommended standards of transparency in industry communications with consumers regarding data sharing practices
- Suggested incentives to promote private-academic-government partnerships

The creation of standard practices and guidelines would help isolated collaborations scale to greater impacts. The collaboration task force or commission should also offer guidance on the purposes for, and circumstances in which, private industry data should *not* be shared, especially with government agencies. To facilitate secure, responsible, and ethical access to private industry data, government agencies should be encouraged to collaborate on developing and implementing mutually valuable

technologies and tools to provide secure access to data (such as through the NSDS-D and being developed the U.S. Census Bureau).

Industry sharing their vast sets of social and behavioral science data with academic researchers and researchers working within the federal government has, thus far, been *ad-hoc*. The decision to share data has been made on a on a case-by-case, project-by-project basis. In some cases, academic researchers are part of the original collaboration contract, with an agreement that the data will not be further shared. Although there have been some third-party brokered efforts to provide access to private industry data to academic researchers, more often than not, these collaborations emerge from existing relationships of people who happen to currently work in different sectors.<sup>83, 84</sup> In other cases, company officials' decisions to make data available to external researchers are idiosyncratic, inconsistent, and unreliable. Key decisions regarding data access change as the decision-makers change. Although much has been learned from these one-off collaborative efforts (see, e.g., Box 1), they are unlikely to scale in ways that would yield the magnitude of discovery and level of impact that would be enabled by a broader and more diverse set of partnerships across academia, government, private research organization, and industry.

The task force or commission should also recommend guidelines and mechanisms to encourage workshops, trainings, and professional development opportunities for social and behavioral scientists across government, academia, and private industry. These cross-sector learning opportunities would benefit individual scientists, but would also support the development and sharing of methodological, technical, and analytical insights across sectors.

Even when private industry officials may want to share their data and perhaps also analytical techniques, there exist significant barriers to doing so. First, as outlined in a previous section of this report, there is a tension between providing access to data, even to scholars, and keeping data private and secure. Unlike government-funded and administrative data, the incentives for industry to make their data more accessible are not as clear. Private sector data are often profitable and, thus, making them more available, even for the purposes of research, may conflict with interests of the company.

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<sup>83</sup> Harvard University Social Science One. [Our Facebook Partnership](#).

<sup>84</sup> Center for Open Science. (2024 January). [Meta Partners with Center for Open Science to Share Data to Study Well-being Topics](#).

**Box 1: An example of collaborations between academic and private industry researchers.<sup>85</sup>**

Microsoft shared results of analyses of web search engine logs to examine users' intentions to get the COVID-19 vaccine. In their peer-reviewed published paper, they describe how machine learning methods were used to identify individuals who were COVID-19 vaccine "early adopters" compared with "vaccine skeptics." The analyses also produced a mapping of concerns that differentiated early adopters and skeptics, which appear likely to be useful to public health and other government officials during future public health emergencies. The study also showed how anonymized search logs could provide high-quality and timely estimates of vaccination rates across the United States in a manner that could complement CDC data.

Importantly, an anonymized version of the private data and analysis code has been made freely available for other researchers. This work was the direct result of a collaboration between researchers at Stanford and Microsoft Research.

Private industry leaders must also consider how their consumers and other users of their services may respond to increased access to data on their behavior, especially, the sharing of data with federal, state, and even local government agencies. Protecting consumer privacy is paramount, especially when private-industry data are linked with government-collected administrative datasets that can increase the likelihood that individual behavior is identifiable. Providing more regularized access to data also requires making datasets FAIR (Findable, Accessible, Interoperable, and Reusable), which is both costly, time-consuming, and often not perceived as relevant to company priorities. There are also technical challenges associated with efforts to make the rich and vast data collected by some companies accessible to external parties.

We are not recommending specific regulation of at least certain types of private industry data, akin to the Digital Services Act in the European Union. Instead, we expect that this proposed task force might consider incentives for industry to promote access to data essential for examining issues of concern for the well-being of the American public.<sup>86</sup> Companies such as Amazon, Google, Meta, and others have accumulated large quantities of social and behavioral science data relevant to the health, security, and overall well-being of the public across all sectors of society. Consider the data collected by mobile phone companies regarding the location of people who have been affected by extreme weather events and may be in need of services,<sup>87</sup> or data collected by Uber that was utilized by the City of Boston to provide insight on traffic congestion and inform infrastructure planning.<sup>88</sup> These data, including the methodologies used in collecting and processing the data, can also be used to evaluate and facilitate the democratization of services by government and to improve research practices across sectors.

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<sup>85</sup> Chang, S., et al. (2004). [Measuring Vaccination Coverage and Concerns of Vaccine Holdouts from Web Search Logs](#). *Nat. Commun.*

<sup>86</sup> The European Commission. [The Digital Services Act Package](#).

<sup>87</sup> U.S. Department of Homeland Security, Federal Emergency Management Agency. (2022 February). [FEMA Updates Shelter Locator Texting Feature](#)

<sup>88</sup> Data Collaboratives. [Uber-City of Boston Partnership](#).

Concerns about effective data sharing are in no way unique to privately-held social and behavioral science data. A model to promote partnerships between government, academia, and industry for the purpose of AI research is outlined in The National Science Foundation NAIRR (National AI Research Resource) Pilot Program. The NAIRR pilot includes contributors from federal agencies, academia, and non-governmental organizations. It addresses the challenges of Open Data, Secure Data, and FAIR data across software platforms, tools, and services.<sup>89</sup> The NAIRR pilot program is also poised to address the concerns raised in an earlier PCAST report asking the federal government to create a “Strategic Council on the Responsible Use of Artificial Intelligence in Science” to coordinate across federal agencies, industry, and academia to determine best practices in data sharing.<sup>90</sup>

Like the AI Strategic Council, the task force or commission we are recommending would be charged with providing guidance and resolving key challenges regarding the responsible use and sharing of social and behavioral science data, insights, and analytical tools between industry, government, academia, and private research organizations. Although we are not identifying where this task force should sit, the Office of Information and Regulatory Affairs (OIRA) in OMB is central to work using social science data to inform policies that improve lives. The Chief Statistician of the U.S. and key individuals from the statistical agencies (including individuals from NSDS-D and Census) will certainly also play important roles. Regardless of location, we recommend that the task force or council include representatives from a range of stakeholder organizations, including the private sector.

Support from academic and government-based social and behavioral scientists would also benefit private companies by offering a broader social scientific theoretical lens through which to analyze and interpret the data they have collected. Engagement beyond the private sector also helps to assure the public that companies’ products and services are not causing unintended harm. Given that significant resources are expended in gathering and analyzing social and behavioral data to determine user preferences for improved business outcomes, partnerships to get broader value from these data could indeed be mutually beneficial.

#### **4.B. Relevant agencies should promote the integration of social scientists into multi-disciplinary public-private-academic partnerships, technical hubs, and centers they fund that are designed to address key societal, economic, and technical challenges.**

The 2022 CHIPS and Science Act included creation of and investment in Technical Hubs by the U.S. Department of Commerce’s Economic Development Administration (EDA). As part of the Biden-Harris “Investing in America agenda,” the [Tech Hubs program](#) seeks to spur regional innovation and job creation through manufacturing, commercialization, and deployment of technology that will advance American competitiveness. The initial Tech Hubs announced in October, 2023 focus on industries such as safe and trustworthy autonomous systems, precision medicine, and clean energy transformation, among other important areas of technical innovation. However, a core element of the success of technical innovation is its use and adoption by people and incorporation into institutions and social frameworks.

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<sup>89</sup> National Science Foundation. [National Artificial Intelligence Research Resource Pilot.](#)

<sup>90</sup> Blau, W., et al. (2024). [Protecting Scientific Integrity in an Age of Generative AI.](#) *PNAS.*

These Hubs are but one example of multi-disciplinary science, technology, and innovation centers and consortia funded by the federal government (e.g., Commerce, DoD, DoE, NSF, NIH) that focus on the development and discovery of new scientific approaches and technologies with the intent of addressing significant societal challenges. These efforts are exciting in terms of the scope of challenges and partners engaged. However, although human and behavioral elements are likely to significantly impact the deployment and success of such technologies, these centers and hubs appear to have only minimally incorporated social and behavioral scientists as a part of the core effort. This is an opportunity lost. Engaging social and behavioral scientists in projects – at their inception – that are primarily technical will help to ensure that important questions regarding use of and engagement with the technology are examined early in the process. Deliberately engaging social science in the *development* and *deployment* of programs that will have social impacts – not just in evaluation after the fact – will help achieve the desired outcomes.

Much like our recommendation to integrate social and behavioral science insights, expertise, methods, and approaches into the core work and agendas of federal departments and agencies (Rec 1), we believe there are similar gains to be found in including social and behavioral scientists and science insights in hubs and centers from their conception. Critical questions can then be addressed for every large technical endeavor, for instance, how or whether a new technology will be readily adopted by the public; what design factors must be considered to ensure implementation across the diverse range of socioeconomic, cultural, and educational backgrounds that make up the U.S. citizenry; how will feedback be measured in determining the short- and long-term impact of the technology? Social scientists can help to establish how different members of the public will engage with the scientific and technological products and recommendations. Further, engaging with social scientists early and regularly during the process of technical and scientific innovation can also identify skepticism and concerns that may undermine the adoption of valuable technology. Social and behavioral scientists can assist in the design and evaluation of both the aims of hub-type efforts as well as the broad implications of their products—thinking beyond technical performance to how technologies are used.

***Including social and behavioral scientists as core members of large federally-funded hubs and centers will ensure that fundamental principles of human behavior and decision-making are included in product and technological design and development, facilitating successful implementation of the technology. Social science expertise will also contribute to other important goals, such as considering ethical implications, broadening equity, and expanding community engagement.***

Social science insights are most valuable when deployed early in program and technology development. This expertise can identify, before deployment, when technical solutions may not be trusted by members of specific communities or the public at large. Social scientists can also help ensure that technologies broadly serve the needs of the American public and do not exacerbate social disparities. As noted in the [PCAST letter to the President on Advancing Public Engagement with the](#)



[Sciences](#), the need for rigorous and regular engagement with relevant publics in the research and development process cannot be underestimated. Social and behavioral scientists have the analytical frames, theoretical perspectives, and methodological tools to assist technical teams in many important aspects of their work.

Consider a hub developing medical technologies with academic and industry partners. It is easy to envision how this type of effort could be improved with the expertise of public health policy experts and implementation scientists. In addition, economists and behavioral scientists could assess the potential for disparate impacts on different socioeconomic groups and suggest ways to avoid such risks. We are optimistic that where these types of expertise are already incorporated into technical hub-type efforts, they are helping to create technology that will be more accessible and acceptable to the public from the start.

The inclusion of social and behavioral scientists on technical teams can also help to develop and inform policy regarding the use and deployment of products developed by hubs, which can also speed their ability to contribute to solving societal problems and improving quality of life. Given that several large technical hubs and centers have already been established, agencies should establish mechanisms through which hubs can obtain funding to support adding social and behavioral scientist to their teams.

Agencies should also consider developing explicit calls for hubs with social and behavioral sciences at the center. Example technologies might include social media platforms and the development of products that rely on AI tools for decision-making especially in domains critical to American well-being (e.g., health, employment, education, etc.).

***Social and behavioral scientists can enable rigorous assessment of the goals and broader impacts of technical hubs and centers and facilitate effective program implementation.***

Rigorous program evaluation is a vital part of all center efforts and we encourage those efforts to consider even more explicitly the outcomes and impacts that can best be measured with social science methods. We particularly highlight the value of designing the plans, procedures, and metrics for evaluation efforts at the outset of a project. For instance, many hub-style programs have workforce development among their goals. Social scientists can help determine whether initiatives are effective in increasing the training and job opportunities available to communities and how training initiatives might be scaled across other programs and regions to increase participation, skill acquisition, and workplace success.

Social science is essential to understanding the myriad potential “broader impacts” of hubs and centers in the form of positive contributions to communities and society.<sup>91</sup> Teams of social and

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<sup>91</sup> NSF defines [broader impacts](#) as “the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.” See also [Perspective on Broader Impacts](#).

behavioral scientists, especially those with expertise in program implementation and evaluation, would be extremely helpful to efforts to examine these broader sets of possible outcomes.

## Conclusion

PCAST is pleased to conclude their service to the Nation under the Biden-Harris Administration with this report. This administration and PCAST are driven by the goal of advancing science and technology to serve the needs of the people. In order to do this with confidence, PCAST urges utilization of the tools and insights of the social and behavioral sciences to understand our nation's people, their needs, and the challenges they face.

The problems facing the U.S. are complex. Social and behavioral science research is essential to help define both the challenges and the paths that can most effectively address them. This crucial research is conducted both inside and outside the government and requires many sources and types of data. Using social science insights, policies are considered and developed with the goal of improving lives. Social science methods ideally also inform the implementation of policies. Once implemented, social and behavioral science tools are used to evaluate the policies to be certain the anticipated outcomes emerge. The recommendations in this report provide steps to enhance the use of the expertise, tools, and contemporary methods of the social and behavioral sciences to more effectively address our nation's most pressing societal challenges.

# Appendix A: Additional Examples of Effective Utilization of SBS in Government Policy & Practice

## *Providing Early Childhood Education to Improve Educational Attainment, Economic Stability and Health over the Life Course*

Early childhood education programs have been proven to improve long term outcomes as a cost-effective evidence-based practice, leading to widespread adoption and study of pre-kindergarten programs throughout the United States. Such research includes work on adolescent brain development and study by social scientists investigating connections between the social determinants of health, such as education, housing, and the environment, on long term outcomes. The existing body of evidence created by neuroscientists has demonstrated the importance of the first few years of life on cognitive, emotional, behavioral, and linguistic development. Research suggests that the physical and social environment during adolescence can impact the development of important neural pathways. Children from families with higher SES and with parents with higher educational attainment are often at an advantage over children with lower SES backgrounds, as access to resources influences the physical and social environment. Furthermore, research suggests that a high level of stressors (i.e. toxic stress) during childhood that come from poverty, violence, neglect, and abuse are associated with altered adolescent brain chemistry, effecting functions like memory and learning capacity, and can have long term impacts on behavior and health.<sup>92,93</sup> By 3 years old, children from higher SES backgrounds, for example, have been documented to have a vocabulary approximately 3 times the size of children with lower SES backgrounds. Disparities in learning and knowledge begin as early as 1.5 years old, and such disparities only grow wider with age without early intervention.<sup>94</sup>

Several longitudinal studies have demonstrated the power of early childhood education on long term outcomes. The Perry Preschool Project was a 2-year intervention for 3–4-year-olds beginning in 1962, where participants were mainly African American and from low-income households in Ypsilanti, Michigan. At 10 years old, those students that had been randomized to the intervention were documented to have more “motivation” to learn, as compared to those in the control condition. 37-years post-intervention, researchers found that as compared to the control group, those students that received this early childhood education program reached a higher education level, were more likely to have health insurance, experienced lower crime rates, demonstrated fewer risky healthy behaviors, and had more stability in employment, housing, and family life. The Perry Preschool Project has been documented to have a rate of return from anywhere between 7-10% or as high as

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<sup>92</sup> Center on the Developing Child, Harvard University. (2007 August). [A Science-Based Framework for Early Childhood Policy](#).

<sup>93</sup> Sripada, K. (2012 January). [Neuroscience in the Capital: Linking Brain Research and Federal Early Childhood Programs and Policies](#). *Early Education and Development*.

<sup>94</sup> Center on the Developing Child, Harvard University. (2007 August). [A Science-Based Framework for Early Childhood Policy](#).

16% or 17%.<sup>95, 96, 97</sup> Similarly, the Abecedarian Project, a full-day early childhood intervention from infancy to kindergarten is a program funded by the National Institutes of Health. When longitudinal data was analyzed, researcher found significant differences in test scores, college attendance, and job stability by age 21, as well as better health outcomes when assessed in participant's 30's.<sup>98, 99</sup> This program documented a return of \$3 for every \$1 invested in the program.<sup>100</sup> Despite some dispute on the specific numerical return on investment, researchers have concluded that early childhood intervention provides significant economic gains to society due to reductions in crime and increased economic security.

Given the consequential short- and long-term findings of the studies described here and several other successful interventions, there has been widespread uptake of early childhood education programs across the country, with a dramatic increase in programs since the 1980s.<sup>101</sup> The federal government has been involved in early childhood educational interventions since 1965, with the federal Head Start program, actively providing preschool education to low-income 3-5 year-olds across the United States and childcare to 0-3 year-olds.<sup>102</sup> As of 2020, there are 44 state funded programs, along with DC and Guam.<sup>103</sup> In 2022, approximately 1.7 million children attended a state sponsored program, while approximately 800,000 were part of a Head Start program.<sup>104,105</sup> Findings from federal and state funded programs have generally shown improvements across academic and socio-emotional outcomes over time, as well as a steady return on investment.<sup>106, 107</sup> Variation in impact has been linked to differences in program infrastructure, design, quality, and investment as well as differences

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<sup>95</sup> Heckman, J., et. al. (2010 February). [The Rate of Return to the High/Scope Perry Preschool Program](#). *J Public Econ*.

<sup>96</sup> Williams, D., et. al. (2019 February). [Reducing Racial Inequities in Health: Using What We Already Know to Take Action](#). *Int. J. Environ Res Public Health*.

<sup>97</sup> Muening, P., et. al. (2009 August). [Effects of a Prekindergarten Educational Intervention on Adult Health: 37-Year Follow-Up Results of a Randomized Controlled Trial](#). *Am J Public Health*.

<sup>98</sup> Campbell, F.A., et. al. (2008). [Young Adult Outcomes of the Abecedarian and CARE Early Childhood Educational Interventions](#). *Early Child. Res*.

<sup>99</sup> McLaughlin, A.E., et. al. (2007). [Depressive Symptoms in Young Adults: The Influences of the Early Home Environment and Early Educational Child Care](#). *Child Dev*.

<sup>100</sup> Center on the Developing Child, Harvard University. (2007 August). [A Science-Based Framework for Early Childhood Policy](#).

<sup>101</sup> Durkin, K., et. al. (2022 January). [Effects of a Statewide Prekindergarten Program on Children's Achievement and Behavior through Sixth Grade](#). *Dev Psychol*.

<sup>102</sup> U.S. Department of Health and Human Services, Head Start Program. (2024 December). [Head Start Program Facts: Fiscal Year 2022](#).

<sup>103</sup> National Institute for Early Education Research. [The State of Preschool Yearbook](#).

<sup>104</sup> National Institute for Early Education Research. [State of Preschool 2023 Yearbook Executive Summary](#).

<sup>105</sup> U.S. Department of Health and Human Services, Head Start Program. (2024 December). [Head Start Program Facts: Fiscal Year 2022](#).

<sup>106</sup> Barnett, W. S., et. al. (2018 March). [State Prekindergarten Effects on Early Learning at Kindergarten Entry: An Analysis of Eight State Programs](#). *AERA Open*.

<sup>107</sup> Ludwig, J., et. al. (2008 July). [Long-Term Effects of Head Start on Low-Income Children](#). *Annals of the New York Academy of Sciences*.

in process and methodology.<sup>108, 109</sup> Continued investment, evaluation, and expansion of early childhood education is necessary in the United States to serve the millions of U.S. children that still lack access to early childhood education.

### ***Using Adolescent Brain Development and Behavior Research to Inform Criminal Sentencing***

Psychological science and functional brain imaging studies have revealed that teenagers' heightened vulnerability to reward drives risky behavior. They recognize risk, but find it difficult to inhibit or suppress their impulsive behavior due to their underdeveloped executive control ability. Thus, research in developmental neuroscience and cognitive psychology has been utilized in criminal court cases as an important factor in sentencing decisions and established precedent for future court cases to follow. In one study, researchers used surveys and tests to assess general intelligence, sensation seeking, and self-regulation in 5,000 individuals between ages 10 and 30 years from 11 countries in Africa, Asia, Europe, and the Americas. They found that sensation seeking peaks in late adolescence (age 19), and self-regulation increases steadily, stabilizing in young adulthood (between ages 23-26). The patterns were similar across all countries studied, where most developmental trajectories look similar, but the most variation occurred in the magnitude of age differences.<sup>110</sup> In another study, researchers enrolled 1,400 adolescents in a neuro-imaging study and placed participants in a task paradigm that produced different working memory load. Their imaging, along with general behavior throughout the task were assessed. The study showed that while basic memory develops at a younger age, complex working memory performance improves with adolescent development and continues into young adulthood.<sup>111</sup> As a result of these findings, a series of Supreme Court decisions which became known as the Roper-Graham-Miller-Montgomery line, limited the punishments available for children who commit the most serious crimes. The decisions of these cases rely on the findings of developmental neuroscience and behavioral science to offer models that elicit policy reform.

### ***Social Media and Adolescent Mental Health***

The use of social media by adolescents has dramatically increased in the last decade, raising concerns about the effect it may have on adolescent mental wellbeing. There have been numerous studies investigating the impact that social media sites – the time spent on such sites, and the type of interactions involved – may have on adolescents. Studies early in developing the breadth of literature have begun to investigate the impact of age, gender, and sexual orientation – especially focused on the experiences of marginalized communities. While some studies generally found a negative relationship between social media and adolescent mental health, results are mixed. Most researchers agree that results may be influenced by various confounders and methodological limitations such as small sample size, utilizing a cross-sectional design, or obtaining data via self-report. Moreover, research suggests that social media may not be all negative for adolescent use – findings suggest positive associations between mental health and social media use as it relates to loneliness and

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<sup>108</sup> Barnett, W. S., et. al. (2018 March). [State Prekindergarten Effects on Early Learning at Kindergarten Entry: An Analysis of Eight State Programs](#). *AERA Open*.

<sup>109</sup> Durkin, K., et. al. (2022 January). [Effects of a Statewide Prekindergarten Program on Children's Achievement and Behavior through Sixth Grade](#). *Dev Psychol*.

<sup>110</sup> Steinberg, L., et al. (2018 March). [Around The World, Adolescence Is a Time of Heightened Sensation Seeking and Immature Self-Regulation](#). *Developmental Sci*.

<sup>111</sup> Satterthwaite, T.D., et al. (2013 October). [Functional Maturation of the Executive System during Adolescence](#). *J Neurosci*.

creating online communities.<sup>112, 113, 114, 115, 116, 117</sup> Furthermore, research suggests that adolescents increasingly seek out mental health information on social media and seem open to mental health online applications despite low uptake.<sup>118</sup> Thus, given the significant time adolescents spend on social media platforms daily, as well as the rise in mental health issues such as anxiety and depression in the United States and around the world, investment in social media-based research, policy, and intervention may help to both improve outcomes and fill in knowledge gaps. Further understanding of this relationship can inform the care pediatricians, adolescent psychologists, schools, etc., provide to students, and the recommendations and interventions available to adolescents and families.<sup>119</sup>

Adolescent use of social media is therefore a pivotal avenue for private public partnerships. Many of walls that delay progress within this body of literature may be aided by access to larger, more involved, data sets; given the increasing number of adolescents who use social media every day, social media companies have an incentive to learn about the health and wellbeing of their users, and the positive or negative short- and long-term effects their services may have.<sup>120</sup> In this increasingly digital world, more research and conclusive findings will only help to inform evidence-based practice, designed to ensure the health and wellbeing of our nation's children.

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<sup>112</sup> Piteo, E., et al. (2020 March). [Review: Social Networking Sites and Associations with Depressive and Anxiety Symptoms in Children and Adolescents – A Systematic Review](#). *Child and Adolescent Mental Health*.

<sup>113</sup> Keles, B., et al. (2019 January). [A Systematic Review: The Influence of Social Media on Depression, Anxiety and Psychological Distress in Adolescents](#). *International Journal of Adolescence and Youth*.

<sup>114</sup> Odgers, C., et al. (2020). [Screen Time, Social Media Use, and Adolescent Development](#). *Annual Review of Departmental Psychology*.

<sup>115</sup> Piteo, E., et al. (2020 March). [Review: Social Networking Sites and Associations with Depressive and Anxiety Symptoms in Children and Adolescents – A Systematic Review](#). *Child and Adolescent Mental Health*.

<sup>116</sup> Keles, B., et al. (2019 January). [A Systematic Review: The Influence of Social Media on Depression, Anxiety and Psychological Distress in Adolescents](#). *International Journal of Adolescence and Youth*.

<sup>117</sup> Smith, D. (2021). [Belonging and Loneliness in Cyberspace: Impacts of Social Media on Adolescents' Well-being](#). *Australian Journal of Psychology*.

<sup>118</sup> Odgers, C., et al. (2020). [Screen Time, Social Media Use, and Adolescent Development](#). *Annual Review of Departmental Psychology*.

<sup>119</sup> Abi-Jaoude, E., et al. (2020 February). [Smartphones, Social Media Use and Youth Mental Health](#). *CMAJ*.

<sup>120</sup> Odgers, C. et al. (2020). [Screen Time, Social Media Use, and Adolescent Development](#). *Annual Review of Departmental Psychology*

## Appendix B: Benchmarking the Use of Social Sciences in U.S. Federal Policies and Initiatives

Example	Affiliation	Description
<b>Defense</b>		
The Minerva Initiative <sup>121, 122</sup>	DoD	<p>Established in 2008, the Minerva Research Initiative is a DoD sponsored unclassified social sciences research program which focuses on topics of strategic importance to U.S. national security policy. The Institute’s 2023 research priorities include: Societal cohesion in crisis; societal resilience at multiple scales; sociotechnical adaption to food, climate, and water stress; social impact of technological change; para-social relationships, social media, and radicalization; temporal orientation and strategic considerations; evolving contexts of deterrence, and war termination processes and prospects.</p> <p>The Initiative primarily provides grants to university researchers. Additionally, the Initiative operates the Defense Education and Civilian University Research (DECUR) Partnership which aims to develop collaborative social sciences research partnerships between Defense Professional Military Education (PME) Institutions and Civilian Research Universities in order to expand capacities for defense-related basic social science used to inform DoD policy makers and leadership. Through the BARI Social Science Program, the Initiative also facilitates U.S.-U.K. coordinated research focused on the intersections of behavioral science and armed conflict.</p>
Decadal Survey of the Social and Behavioral Sciences: A Research Agenda for Advancing Intelligence Analysis <sup>123</sup>	ODNI	<p>In 2019, ODNI engaged the National Academies of Science, Engineering, and Medicine to conduct a decadal survey on social and behavioral sciences to support the IC with developing a 10-year research agenda for applied social and behavioral sciences research in intelligence. The report consisted of an analysis of past and future application areas for the social sciences in national intelligence and provided high level recommendations for future applied social sciences research in the</p>

<sup>121</sup> The Minerva Research Initiative. (2024 August 7). [About the Minerva Research Initiative](#).

<sup>122</sup> Board on Behavioral, Cognitive and Sensory Science. (2019 October). [Evaluation of the Minerva Research Initiative](#). *The National Academies*.

<sup>123</sup> National Academies of Sciences, Engineering, and Medicine. (2019). [A Decadal Survey of the Social and Behavioral Sciences: A Research Agenda for Advancing Intelligence Analysis](#). *The National Academies Press*.



		intelligence community including methods development, workforce development, and the integration of social sciences research into cyberspace security and the design of human-machine ecosystems.
Intelligence Advanced Research Projects Activity (IARPA) <sup>124</sup>	ODNI	IARPA invests in high-risk high-reward research across multiple disciplines including the social sciences. Currently IARPA is funding ReSCIND (Reimagining Security with Cyberpsychology-Informed Network Defenses), which focuses on leveraging the intersection between human behavior and cyber security decision-making to develop a new set of cyber-psychology informed defenses. Past IARPA funded social sciences projects included: The Good Judgement Project, CREAT (Crowdsourcing Evidence, Argumentation, Thinking, and Evaluation), FOCUS (Forecasting Counterfactuals in Uncontrolled Settings), ForeST (Forecasting Science & Technology), HFC (Hybrid Forecasting Competition), ICARUS (Integrated Cognitive-Neuroscience Architectures for Understanding Sensemaking), Mercury, Metaphor, OSI (Open-Source Indicators), Reynard, SCIL (Socio-Cultural Content in Language), and Sirius.
<b>Education</b>		
Head Start Program <sup>125</sup>	HHS (ACF)	Established in 1965, the Head Start program was a collaboration between health scientists and developmental psychologists to address children’s emotional, social, health, nutritional, and educational needs holistically. The program was driven by social and behavioral sciences methods including case-studies, surveys, and qualitative evaluations. In a recent OSTP blog post supporting the Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking, white house officials concluded, “Social and behavioral sciences revealed the most effective strategies for improving enrollment and retention for eligible families.”
Improving Student Achievement Data Agenda for 2024 <sup>126</sup>	EOP	Many of the recommendations in this agenda, such as the implementation of high dosage tutoring, are strongly based in social and behavioral sciences research. The agenda also proposes increased data collection, monitoring, and analysis including pooling evidence-based strategies in a Best Practices Clearinghouse.

<sup>124</sup> Office of the Director of National Intelligence. [Intelligence Advanced Research Projects Activity](#). Accessed 8/7/2024.

<sup>125</sup> Newell, S. (2024 May 15). [Applying Social and Behavioral Science to Federal Policies and Programs to Deliver Better Outcomes](#). *OSTP Blog*

<sup>126</sup> Executive Office of the President. (2024 January 17). [Fact Sheet: Biden-Harris Administration Announces Improving Student Achievement Agenda in 2024](#). [Executive Office of the President](#).





## Health

National Strategy to Address Our National Mental Health Crisis <sup>127</sup>	EOP	This strategy is strongly based in social and behavioral sciences research surrounding the landscape and socio-cultural impacts of mental illness. Of particular note is research supporting the conclusion that social media can be harmful to youth mental health. The strategy includes a proposal to invest in research on new practice models and the mental harms of social media.
Kids Online Safety and Privacy Act <sup>128</sup>	Congress	This bi-partisan bill which was introduced in the house in April of 2024, proposes contracting the National Academy of Sciences to conduct five separate studies on the risk of harms to minors by the use of social media followed by policy recommendations. The bill also establishes the Kids Online Safety Council which among other duties was tasked with identifying and analyzing risks, recommending measures and methods for assessment and mitigation, and recommending a research agenda.
White House Blueprint for Addressing the Maternal Health Crisis <sup>129</sup>	EOP	Goal 3: Advance Data Collection, Standardization, Transparency, Research and Analysis analyzes where data collection and research on the social determinants of maternal health have been successful, and where there are still gaps. The Blueprint allocates funding to revises the PRAMS questionnaire to more accurately capture the complex contexts of maternal mortality. The Blueprint highlights The Implementing a Maternal Health and Pregnancy Outcomes Vision for Everyone (IMPROVE) initiative which funds research on the psychosocial causes of maternal mortality. The Blueprint also outlines a recently completed USDA study on the intersections of WIC participation and maternal health which was turned into a 2023 USDA-FNS research and evaluation plan.

<sup>127</sup> Executive Office of the President. (2022 March 1). [Fact Sheet: President Biden to Announce Strategy to Address Our National Mental Health Crisis, As Part of Unity Agenda in his First State of the Union. Executive Office of the President.](#)

<sup>128</sup> 118<sup>th</sup> Congress. (2024). [H.R. 7891, Kids Online Safety and Privacy Act.](#)

<sup>129</sup> Executive Office of the President. (2022 June). [White House Blueprint for Addressing the Maternal Health Crisis.](#)



U.S. National Plan to End Gender-Based Violence: Strategies for Action <sup>130</sup>	EOP	This plan includes a robust series of goals for research and data which are focused on cultural sensitivities including support for qualitative research which collects data among historically marginalized communities. One of the plan’s guiding principles is addressing GBV through a public health, public safety, and life course lens focused on the social and structural factors that contribute to health inequities. Furthermore, the plan is supported by a rich bibliography of social and behavioral sciences research.
Study to Identify Barriers to Vaccination <sup>131</sup>	FEMA	In 2021 FEMA ran an anthropological study in Southern Colorado on vaccine hesitancy with recommendations for ways to take action including culturally sensitive, tailored responses to different reasons and forms of vaccine hesitancy.
The U.S. Playbook to Address Social Determinants of Health <sup>132</sup>	EOP	The Playbook discusses how agencies and organizations can re-imagine new and existing policies and actions around social determinants of health, both inside and outside of government. It is focused on individual and community-centered interventions with actions grouped into three pillars around data gathering and sharing, flexible funding to address social needs, and support of backbone organizations.
<b>Nutrition</b>		
Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health <sup>133</sup>	EOP	This strategy includes multiple provisions to conduct research into and develop culturally sensitive nutritional guidelines and educational programs. The entire strategy was strongly supported by social and behavioral science research.

<sup>130</sup> Executive Office of the President. (2023 May). [U.S. National Plan to End Gender-Based Violence: Strategies for Action](#).

<sup>131</sup> Brown, K. E., et al. (2021 August). [Vaccine Hesitancy and Approach to Action](#). FEMA.

<sup>132</sup> Executive Office of the President (2023 November). [The U.S. Playbook to Address Social Determinants of Health](#).

<sup>133</sup> Executive Office of the President (2022 September). [Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health](#).



National Strategy for Reducing Food Loss and Waste and Recycling Organics <sup>134</sup>	EOP	The report highlights research in both the technical and social sciences as a strategic priority. Furthermore, the strategy calls for a large-scale behavioral science research into the effectiveness of education campaigns and other strategies to change household behavior related to food waste. As part of the strategy, USDA’s NIFA launched a new \$1.5 million cross-cutting AFRI program area titled “Center for Research, Behavioral Economics, and Extension on Food, Loss and Waste.” The center, announced to be at Purdue University in 2024) will conduct behavioral economics research on food system inefficiencies and “aims to create meaningful momentum on food loss and waste prevention and recovery among Land grant Universities, their partners, and external stakeholders.”
<b>Welfare</b>		
White House convening on transforming child welfare <sup>135</sup>	EOP	This policy, which prevents family separation due to poverty, was based on social and behavioral science research that showed that children tend to have better outcomes when they live with their parents (when possible) or a relative. The policy also called for an expansion on HHS research concerning voluntary child surrender, the intersections of Medicaid and child welfare data, and new approaches to prevent homelessness as youth age out of the system.
Advancing Contextual Analysis and Methods of Participant Engagement Project <sup>136</sup>	HHS (ACF)	“The Administration for Children and Families (ACF) launched the Advancing Contextual Analysis and Methods of Participant Engagement project to support better understanding, incorporating, and advancing equitable research practices in projects overseen by ACF. The project focuses on strategies for incorporating participatory methods and analysis of contextual factors into ACF research and evaluations.” The project, in particular, employs contextual analysis to integrate the socio-cultural, historical, and political environments which impact how people experience HHS programming into policy decision-making.

<sup>134</sup> Executive Office of the President (2024 June 11). [National Strategy for Reducing Food Loss and Waste and Recycling Organics.](#)

<sup>135</sup> Executive Office of the President. (2024 July 30). [Fact Sheet: Biden-Harris Administration Actions to Keep Children and Families Safely Together and Supported.](#)

<sup>136</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking.](#)



### Inequalities

National Strategy on Gender Equity and Equality <sup>137</sup>	EOP	This national strategy outlines several areas of investment for social sciences research including in gender-based violence prevention, the social determinants of health, and human trafficking GIS based forecasting and analysis.
Summer Data Challenge <sup>138</sup>	DOL	This program awards competitive research grants of up to \$30,000 to use existing data to analyze how federal labor policies, protections and programs reach traditionally underserved communities due to race, gender identity, sexual orientation, ethnicity, income, geography, immigrant status, veteran status and disability status, among others.
NEA Equity Engagement Team <sup>139</sup>	NEA	“The NEA has established a social and behavioral team to assist with the design, implementation, and evaluation of a capacity-building grant pilot program that will support organizations demonstrating a commitment to equity and engagement for the benefit of historically underserved groups and communities. The team will adopt culturally responsive approaches and provide a social and behavioral-informed lens for program design and delivery”

### Poverty

All In: The Federal Strategic Plan to Prevent and End Homelessness <sup>140</sup>	EOP	This strategic plan is heavily based on social and behavioral sciences research surrounding homelessness and related topics such as racial inequality and disability. Of particular note is the strategy’s adoption of a “targeted universalism” framework which promotes tailored solutions based on the unique socio-cultural and environmental characteristics of certain groups. Such a framework heavily relies on the perspectives of anthropology, sociology, psychology and similar disciplines. The strategy also highlights plans to create and provide tools on cultural responsiveness in the context of service delivery.
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<sup>137</sup> Executive Office of the President. (October 2021). [National Strategy on Gender Equity and Equality](#).

<sup>138</sup> U.S. Department of Labor. (2024 August 8). [Summer Data Challenge](#).

<sup>139</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>140</sup> U.S. Interagency Council on Homelessness. (2022). [All In: The Federal Strategic Plan to Prevent and End Homelessness](#).



## Environment and Sustainability

Mobilizing Federal Action on Plastic Pollution: Progress, Principles, and Priorities <sup>141, 142</sup>	EOP	This policy and progress report has a significant focus on how the social sciences can facilitate the behavioral changes necessary to reduce plastic pollution. As an example of the successful implementation of social and behavioral change research in this sector, the document cites a pilot study conducted by USAID in the Maldives which led to the reduction of plastic consumption in participating households by one metric ton. USAID has also been piloting a new an island-based circular economy model in the Philippines, and published a case study on the topic contextualized by social and behavioral change research. Likewise, the document highlight’s NOAA’s 2023 launch of a study on how to develop a framework for helping governments estimate the social costs of plastic pollution.
Net-Zero Game Changers Working Group <sup>143</sup>	EOP	The working group is Coordinating with the Decarbonization and Justice Interagency Working Group of the NSTC Subcommittee on Social and Behavioral Sciences to clarify and amplify the role of social and behavioral science insights which are necessary to ensure equity and justice across federal R&D investment.

## Immigration

Review of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 <sup>144</sup>	NIJ	This 2022 NIJ sponsored project studied whether or not the deportation of illegal immigrants under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 reduced crime. The study found that there was little to no evidence that the practice of deportation reduced crime.
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<sup>141</sup> Interagency Policy Committee on Plastic Pollution and a Circular Economy. (2024 July). [Mobilizing Federal Action on Plastic Pollution: Progress, Principles, and Priorities](#).

<sup>142</sup> Romak, C., et al. (2022). [Stopping Ocean Plastic Pollution from Cities: A USAID Case Study of Paranaque City, Philippines](#). USAID.

<sup>143</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>144</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).



Infrastructure		
ACCESS BROADBAND Dashboard <sup>145</sup>	NTIA; Census Bureau	displays granular indicators of broadband availability and adoption with economic indicators that research suggests broadband expansion could influence.
Economic Development		
Economic Recovery Learning Agenda <sup>146</sup>	USDT	The USDT's Office of Capital Access published a learning agenda which identified several priority areas where the social and behavioral sciences could improve the USDT's operations. The American Rescue Plan included evaluations responding to the USDT recommendations.
Job Quality Measurement Initiative <sup>147</sup>	DOL	This initiative aimed to re-evaluate the criteria for measuring job-quality. The initiative published their report in November, 2022.
Science and Technology		
National Standards Strategy for Critical and Emerging Technology (USG NSSCET)	EOP	Section 3.2.1 of the implementation roadmap focuses on the impacts of Critical Emerging Technologies (CET) on society and socio-technical aspects of CET development (citing NIST's AU Risk Management Framework) and calls for the greater allocation of resources to these areas for research and standards considerations.

<sup>145</sup> U.S. Census Bureau. (2025 January 13). [Access Broadband Act of 2021](#).

<sup>146</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>147</sup> Families & Workers Fund. (2024 August 8). [Reimagining Job Quality Measurement](#).



Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking <sup>148</sup>	EOP	This Blueprint contains over 100 examples of how social and behavioral sciences are already being used to inform U.S. policymaking (some of which are listed above.) The Blueprint also outlines a framework for integrating more social and behavioral sciences into policy-making and identified areas of opportunity and actionable steps.
Culturally tailored dietary recommendations <sup>149, 150, 151, 152, 153, 154, 155</sup>	Multiple (HHS, USDA, other)	Variation in nutrition and food access can contribute significantly to health disparities. Cultural food preferences play a role in food choice but was not generally considered in dietary research or recommendations until fairly recently. Several Federal, state, and local programs have evolved over the past 20 years to better address how food preference influences diet and health, including the CDC Native Diabetes Wellness Program (2008-2014) and inclusion in the food pattern modelling used by USDA to develop dietary guidelines.
Health Equity in Healthy People 2030 <sup>156</sup>	Multiple	Healthy people 2030 includes the goal of “Eliminate health disparities, achieve health equity, and attain health literacy to improve the well-being of all.” Included in those goals are a focus on health literacy and social determinants of health.

<sup>148</sup> Report by the Subcommittee on Social and Behavioral Sciences of the Committee on Science on the National Science and Technology Council. (2024 May). [Blueprint for the Use of Social and Behavioral Science to Advance Evidence-Based Policymaking](#).

<sup>149</sup> Food Insight. (2021 September 29). [Diversifying MyPlate Series: Q&A on Culturally Sensitive Approaches in Nutrition](#). *Food Insight*.

<sup>150</sup> Nemeč, K. (2020). [Cultural Awareness of Eating Patterns in the Health Care Setting](#). *Clinical Liver Disease*.

<sup>151</sup> Career Navigator. (2024 June 25). [The Importance of Cultural Competency in Nutrition](#). *American Profession Guide*.

<sup>152</sup> U.S. Department of Agriculture. [Cultural and Traditional Foods](#). *National Agricultural Library*.

<sup>153</sup> Winham, D. M. (2009). [Culturally Tailored Foods and CVD Prevention](#). *American Journal of Lifestyle Medicine*.

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## Appendix C: External Experts Consulted

PCAST sought input from a diverse group of additional experts and stakeholders. PCAST expresses its gratitude to those listed here who shared their expertise. They did not review drafts of the report, and their willingness to engage with PCAST on specific points does not imply endorsement of the views expressed herein. Responsibility for the opinions, findings, and recommendations in this report and for any errors of fact or interpretation rests solely with PCAST.

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