



EXECUTIVE SUMMARY OF THE REPORT TO THE PRESIDENT

A Vision for Advancing Nutrition Science in the United States

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

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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,

Good nutrition is a linchpin of overall health and well-being for every American, and federally sponsored research provides the evidence that both the government and private sectors use to determine how to improve health through food. When research identifies a diet-related health problem, the government can develop interventions and implement policies to prevent or manage it, and improve health using one or more strategies. For instance, the Food and Drug Administration's (FDA) guidance to fortify grain products with folic acid starting in 1998 has directly contributed to sparing more than 1,000 babies born each year from devastating birth defects.¹ Using a different approach, changes in food labelling and education campaigns have enabled consumers to make more informed choices and altered which nutrients and ingredients producers include in their products, such as vitamins and minerals, and/or exclude, such as sodium. For example, the consumption of "trans fat" was reduced after it was shown to increase the risk of developing heart disease; FDA has since taken regulatory actions and artificial trans fats have effectively been removed from the U.S. food supply.² About half of the decline in U.S. deaths from coronary heart disease from 1980 to 2000 may be attributed to reductions in risk factors such as lowering cholesterol and high blood pressure, both of which are affected by diet.³ To address today's most significant diet-related health problems and reduce our staggering health care expenditures, new emphasis must be placed on nutrition research that can equitably and effectively help all Americans achieve better health.

We need to build on these prior successes and take action today to create a broad range of nutrition interventions that strategically improve the health of our entire nation, with an equity focus that particularly considers those who are disproportionately affected—racially, ethnically, and socially minoritized groups—due to long-standing and structural inequities which make it hard for many people to eat healthy and be physically active. The challenges are significant. Increasing numbers of Americans are suffering from diet-related diseases including cancer, obesity, diabetes, and hypertension, which are greatly decreasing our quality of life and shortening our overall lifespan,

¹ Williams, J., et al. (2015 January 16). [Updated Estimates of Neural Tube Defects Prevented by Mandatory Folic Acid Fortification—United States, 1995–2011. Centers for Disease Control and Prevention, Vol. 64, Issue 1,1-5](#)

² U.S. Food & Drug Administration. (2023 August 30). [Trans Fat](#).

³ Ford, E.S., et al. (2007 June 7). [Explaining the decrease in U.S. deaths from coronary disease, 1980 – 2000. The New England Journal of Medicine. Vol. 356, Issue 23, 2388-2398.](#)

limiting our national security, as well as costing us billions.^{4, 5, 6} Even more alarming is the dramatic and unanticipated rise in rates of childhood obesity and other conditions not typically seen in adolescence.

For such a highly developed nation, the U.S. has distressingly high rates of food insecurity, imbalanced nutrition, and inequities in food access, all further exacerbated by the pandemic.^{7, 8} With diet-related disease rates increasing, we have responded by focusing resources on costly medical treatments, further widening disparities and directing efforts away from prevention or addressing social determinants of health and a food environment that for too many Americans does not provide or promote good nutrition. The only way to reverse these trends and achieve robust health for our nation is to focus on prevention, which will require significant modifications of our overall food environment and must be informed by improved nutrition research.

Your Administration has acted boldly to mobilize federal agencies as well as issue calls to action for non-federal entities through the [White House Strategy on Hunger, Nutrition, and Health](#), with the goal of ending hunger in America and increasing healthy eating and physical activity by 2030. In support of those efforts, you specifically called on your PCAST to identify opportunities to advance nutrition science and to enable equitable access to the benefits of nutrition research.

PCAST is confident that with commitment and collaboration we can, as we have in the past, address the major diet-related challenges facing the nation. Our recommendations are to:

- Fortify the scientific evidence base for future public and private sector actions to combat diet-related diseases, focusing especially on expanded research on how best to implement interventions and make sure they are effective and equitably accessible.
- Prioritize equity in nutrition science. In developing a coordinated federal vision, current and future research should focus on understanding the unique nutritional needs of population subgroups as well as individuals. This will create a foundation for continued improvements to public health through government and private sector actions.

Preventing diet-related chronic diseases is among the most urgent public health challenges facing the nation. Your support for the recommendations that follow will help empower and prioritize nutrition research, creating the pathway to better health for every American.

Sincerely,
Your President's Council of Advisors on Science and Technology

⁴ Centers for Disease Control and Prevention. (2022 July). [Unfit to Serve: Obesity and Physical Inactivity Are Impacting National Security](#).

⁵ National Center for Chronic Disease Prevention and Health Promotion. (2023 March 23). [Health and Economic Costs of Chronic Diseases](#). *Centers for Disease Control and Prevention*.

⁶ White House. (2022 September). [Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health](#).

⁷ Rabitt, M.P., et al. (2023 October). [Household Food Security in the United Nations in 2022](#). *USDA Economic Research Service*

⁸ White House. (2022 September). [Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health](#).

Executive Summary

Diet-related chronic diseases have reached an alarming prevalence among Americans. A majority of U.S. adults are not healthy—more than 37 million Americans have diabetes and another 96 million adults have a condition called pre-diabetes, 122 million suffer from high blood pressure, and 42% suffer from obesity.^{9, 10, 11, 12} Additionally, children are now experiencing diseases that previously were almost unheard of before middle age. About 20% of U.S. children have obesity—almost 15 million children whose lives will be shorter and of lower quality—and fatty liver disease afflicts 5-10% of all U.S. children, about the same number of children who have asthma, one of the most common chronic conditions in childhood.^{13, 14} The cost of treating diet-related diseases is enormous. Heart disease, type 2 diabetes, and obesity together are estimated to cost Americans over \$700 billion per year just in health care costs.^{15, 16} If we also consider lost productivity, costs for diet-related diseases exceed \$1 trillion per year, and numbers like these cannot measure the impacts due to lost quality of life.

Recognizing the significant burden of diet-related conditions on our nation’s health and quality of life, the Biden-Harris Administration has catalyzed action to help the millions of Americans struggling with food insecurity and diseases like cardiovascular disorders, diabetes, obesity and cancer. During the [September 2022 White House Conference on Hunger, Nutrition and Health](#), President Biden set an audacious goal to end hunger and reduce diet-related disease by 2030—all while closing disparities among the communities that are most affected. The Administration’s Strategy released during the conference is mobilizing federal government, state, and private sector initiatives toward this end.¹⁷ Efforts are underway across communities, the private sector, and the government, especially as noted in the [February 2024 Fact Sheet New Commitments Cultivated Through the White House Challenge to End Hunger and Build Healthy Communities](#).

⁹ National Center for Chronic Disease Prevention and Health Promotion. (2022 December 13). [Chronic Diseases in America](#). *Centers for Disease Control and Prevention*.

¹⁰ National Center for Chronic Disease Prevention and Health Promotion. (2023 March 23). [Health and Economic Costs of Chronic Diseases](#). *Centers for Disease Control and Prevention*.

¹¹ Tsao, C.W., et al. (2023 January 23). [Heart Disease and Stroke Statistics—2023 Update: A report From the American Heart Association](#). *Circulation*, Vol. 147, Issue 8, e93 – e621.

¹² National Center for Chronic Disease Prevention and Health Promotion. (2022 May 17). [Adult Obesity Facts](#). *Centers for Disease Control and Prevention*.

¹³ Yu, E.L. and Schwimmer, J.B. (2021 April 13). [Epidemiology of Pediatric Nonalcoholic Fatty Liver Disease](#). *PubMed Central*, Vol. 7, Issue 3, 196 – 199.

¹⁴ National Center for Environmental Health. (2023 March 29). [Data, Statistics, and Surveillance](#). *Centers for Disease Control and Prevention*.

¹⁵ National Center for Chronic Disease Prevention and Health Promotion. (2024 July 12) [Fast Facts: Health and Economic Costs of Chronic Conditions](#). *Centers for Disease Control and Prevention*.

¹⁶ National Center for Chronic Disease Prevention and Health Promotion. (2024 May 15) [Health and Economic Benefits of Diabetes Interventions](#). *Centers for Disease Control and Prevention*.

¹⁷ White House. (2022 September). [Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health](#).

The Administration’s Strategy on Hunger, Nutrition, and Health specifically called on PCAST to create a coordinated federal vision for advancing nutrition science and to ensure equitable access to the benefits of that research.

Equity in nutrition science and the research programs administered through federal agencies is important because the epidemic of diet-related diseases disproportionately affects racially, ethnically, and socially minoritized groups. The probability of having a chronic condition increases with increasing food insecurity (see Figure 1) and the rate of food insecurity for racially and economically minoritized households is more than double that for White households.^{18, 19, 20, 21} PCAST praises efforts that are already underway to improve equity in nutrition research and program delivery, for instance the [USDA Equity Commission](#), which is informing change across the U.S. Department of Agriculture, and the [NIH-Wide Strategic Plan for Diversity, Equity, Inclusion, and Accessibility](#).

The emergence of pharmacological treatments for obesity is a promising development to help people achieve a healthier weight and decrease their risk for developing chronic diseases at an early age. However, the high cost of these drugs actually exacerbates the inequity of obesity and related chronic diseases. Because these decades-long disparities will continue to affect every American’s health, it is now more important than ever to revitalize major national prevention efforts.

What Americans eat influences our health in many ways. Creating a more health-promoting food environment and encouraging Americans to adopt health-promoting dietary patterns will have long-term benefits by reducing the occurrence of diet-related diseases and the costs of treating them, and in reducing health disparities. Good nutrition is vital for the individual health of infants, children, and adults, and the U.S. food environment could provide the energy and nutrients needed for good health across the life span through a combination of voluntary changes made by the private sector and science-based government policies to incentivize them. However, people’s food selections are complex, influenced by various factors in a multifaceted U.S. (and global) food ecosystem, with many of these factors beyond an individual’s control, e.g., increased production and availability of ultra-processed foods which are associated with overconsumption and obesity.^{22, 23} In addition to widespread availability of inexpensive ultra-processed foods, the U.S. food environment has undergone huge changes in recent decades, including easy access to low-cost fast food and eating away-from-home becoming much more common. Over an individual’s lifetime, multiple biological,

¹⁸ Gregory, C.A. and Coleman-Jensen, A. (2017 July). [Food Insecurity, Chronic Disease, and Health Among Working-Age Adults. U.S. Department of Agriculture, Economic Research Service Report Number 235.](#)

¹⁹ Economic Research Service. (2024 January 8). [Predicted prevalence of five chronic diseases increased as household food security worsened. U.S. Department of Agriculture.](#)

²⁰ Hall, L. (2023 October 26). [Food Insecurity Increased in 2022. With Severe Impact on Households With Children and Ongoing Racial Inequities. Center on Budget and Policy Priorities.](#)

²¹ Rabbitt, M.P., (2023 October). [Household Food Security in the United States in 2022. U.S. Department of Agriculture, Economic Research Service Report Number 325.](#)

²² Filgueiras, A.R., et al. (2018 November 12). [Exploring the consumption of ultra-processed foods and its association with food addiction in overweight children. PubMed, Vol. 1, Issue 135, 137 – 145. s](#)

²³ Harb, A.A., et al. (2022 October 24). [Ultra-processed foods and the development of obesity in adults. European Journal of Clinical Nutrition, Issue 77, 619 – 627.](#)

behavioral, environmental and cultural factors interact with and are shaped by other interpersonal, community, and societal influences that together determine one’s health and disease experience. Finally, in the era of widespread internet and digital technology access and use, people’s food habits increasingly are influenced by advertising and social media, which are sources of both facts and misinformation. Acknowledging and understanding these factors and their intersections is critical to addressing nutrition-related health disparities.

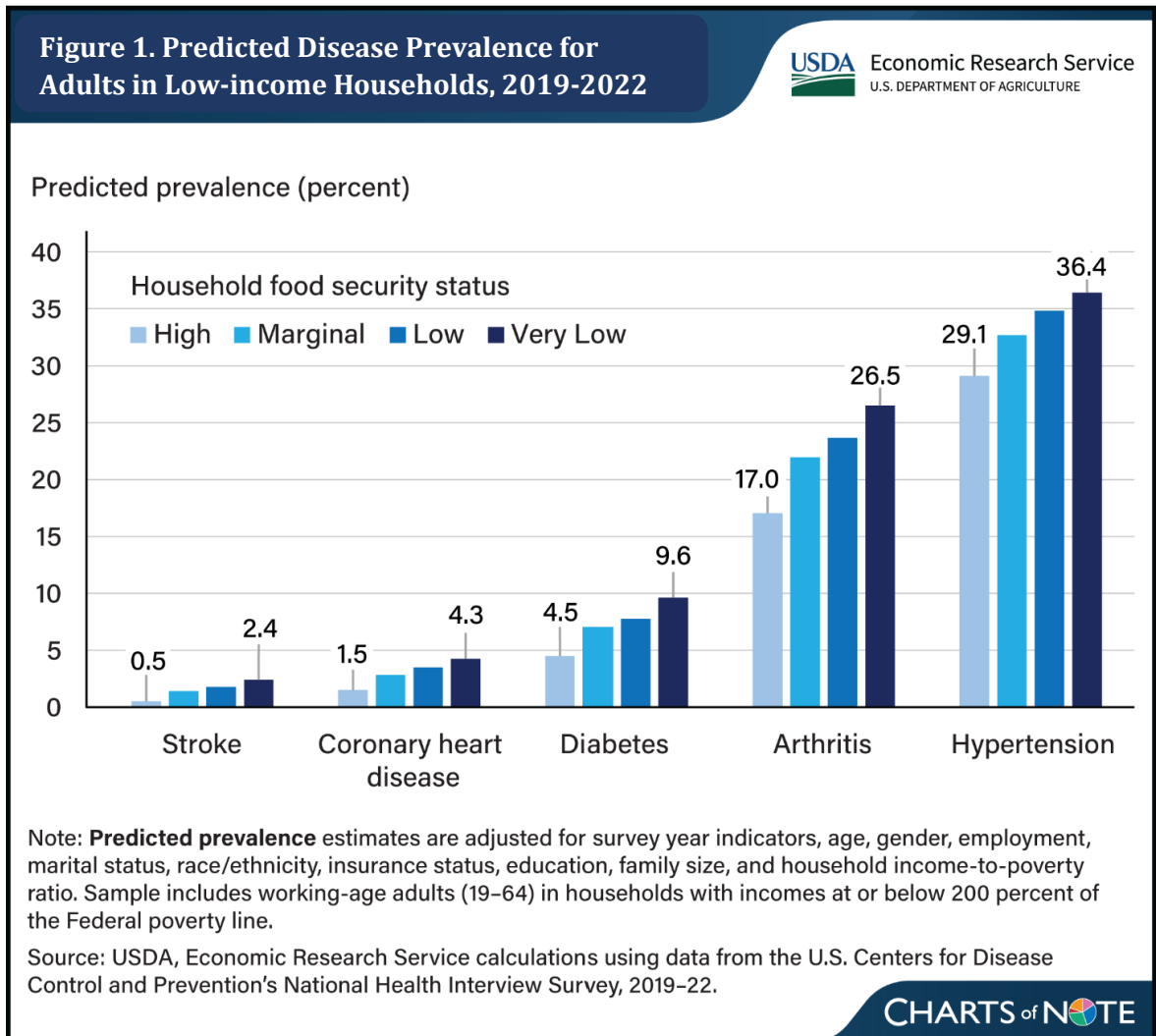


Figure 1: Predicted chronic disease prevalence for adults in low-income households. This graph demonstrates how varying degrees of food insecurity are linked to predictions of chronic diseases, with the lowest degree of food security being associated with the highest prediction prevalence. (USDA Economic Research Service)

PCAST envisions a healthier nation made possible through nutrition science-based multi-sector innovation that provides the American public with a health-promoting food environment and more effective government programs, policies, and public-private initiatives. The biggest opportunity in nutrition science is to focus on the most significant nutrition problem facing Americans: the immense health, economic, and social impact of diet-related chronic diseases. Accomplishing this critical work requires filling gaps in foundational nutrition science knowledge, capitalizing on advances in data science, and incorporating the behavioral and social sciences into the planning and conduct of nutrition research. It will require strengthening the coverage of subpopulations within national nutrition monitoring efforts to provide important data missing in the formulation and evaluation of nutrition programs and introducing more effective risk reduction strategies into these programs. It will require prioritizing equity in the design and conduct of research and an increased level of coordination and cooperation across federal departments and agencies that have not previously been engaged. Finally, success heavily depends on private sector actions to improve the nutritional profile of foods available to the public as occurred with food fortification and the resulting reduction in deficiency diseases and neural tube defects. Accordingly, we discussed with experts from research, federal government and private sectors ways to deliver consistent, uninterrupted progress toward the President's goal of reducing the burden of diet-related chronic diseases in America.

To continue the momentum the Administration has catalyzed through its Strategy for Hunger, Nutrition, and Health, we offer the recommendations below, which are focused on efforts the federal government can undertake now to improve the health of every American. Agencies may need to re-align budgets or identify and request additional resources to fully achieve the goals described below. In addition to the recommendations, this report also discusses some of the key gaps and opportunities in nutrition science that need to be addressed over the long term to provide the foundational research that informs many elements of our food environment.

Recommendation 1. The Administration should implement a coordinated and sustained federal interagency effort, co-led by HHS and USDA, to strengthen the nutrition science base for current and future public and private sector actions to reduce the burden of diet-related chronic disease and maintain momentum toward the President's 2030 goal.

1.1 An interagency committee, co-led by HHS and USDA, should re-evaluate and develop every 5 years, beginning with 2025-2030, a nutrition research roadmap focused on diet-related chronic disease risk reduction and equity, building on the framework provided in the previous roadmap ([2016-03-30- ICHNR NNRR.pdf \(usda.gov\)](#)).

1.2 Federal agencies should strengthen national nutrition monitoring programs to provide necessary data on dietary intake and the nutritional and health status of sociodemographic subgroups used in regulatory and program planning, evaluation, and the formulation of reference standards.

Recommendation 2. To ensure equitable access to the benefits of nutrition research, federal agencies should prioritize equity in nutrition research, focus research on improving program delivery, continue efforts to diversify the nutrition science and dietetics workforce and engage the academic and private sectors in multisector research and intervention initiatives.

2.1 Federal agencies should evaluate nutrition research programs for equity considerations, building on existing health equity frameworks, and identify, share and adopt leading practices.

2.2 Federal agencies should give priority to strategies for effective implementation within the research roadmap and develop an explicit program of research responsive to the needs of programmatic agencies.

2.3 Federal agencies should continue to seek ways to diversify the nutrition workforce, including, for instance, building upon their Agency DEIA Strategic Plans and the Administration's 2021 [Strategic Plan to Advance Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce](#).

2.4 Federal agencies should consult with academic and private sector entities, including non-profits and community organizations, to identify and propose innovative ways to collaborate and remove barriers to public-private research and intervention efforts.

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