

THE U.S. PLAYBOOK TO ADDRESS SOCIAL DETERMINANTS OF HEALTH

DOMESTIC POLICY COUNCIL
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

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Executive Summary

Improving health and well-being across America requires addressing the social circumstances and related environmental hazards and exposures that impact health outcomes, often referred to as social determinants of health (SDOH). The U.S. Department of Health and Human Services defines SDOH as “the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.”¹ These community-level factors influence a variety of individual health-related social needs such as financial strain, housing instability and poor quality, food insecurity, lack of access to health care, and inadequate educational opportunities. An inability to meet these social needs puts individuals at higher risk for exacerbating health conditions such as heart disease, stroke, depression, cancer, and diabetes. For example, food insecurity has been associated with a 15% increased risk of having a chronic illness, twice the odds of having mental health issues in mothers and behavioral issues in children, and 58% increased risk of death from any cause.^{2,3,4} Numerous studies have established that lower levels of education are also associated with shorter life expectancy.⁵ Research demonstrates that disproportionate exposure to pollutants or hazardous waste and other environmental injustices is linked to adverse health problems such as lead poisoning, asthma, anxiety, and cancer.^{6,7,8} Compounding the problem, unmet social needs can cause major disparities in health outcomes stratified by geography, race, ethnicity, age, income, disability status, and a number of other factors. Evidence also suggests that interventions addressing social needs can improve health outcomes. For example, research has found that housing individuals with HIV who are experiencing homelessness increases survival with intact immunity by 21% after one year.⁹ While the United States has made significant improvements in addressing these SDOH in recent years, there is more work to be done.

The Biden-Harris Administration is committed to improving the health and well-being of all Americans. **Our vision is to enable every American to lead a full and healthy life within their community.** The frequent organizational separation of health care from services such as housing or nutrition programs complicates efforts to address interconnected health needs. This Playbook lays out an initial set of structural actions federal agencies are undertaking to break down these silos and to support equitable health outcomes by improving the social circumstances of individuals and communities. The Playbook sets the stage for agencies and organizations to re-imagine new policies and actions around SDOH, both inside and outside of government. While the Playbook is a point of departure, it does not represent a final, comprehensive strategy for addressing SDOH. The vision and coordinating actions create a scaffolding upon which entities from all segments of society can build. These initial efforts are focused on individual and community-centered interventions with actions grouped into three pillars.

Pillar 1: Expand Data Gathering and Sharing

Supporting high quality data management is a pre-requisite for both effectively addressing social needs at the community and individual level and conducting high quality research. Oftentimes, when an individual interacts with a health care or social service system, screening for health-related social needs is not routine. When it does occur, the data are frequently not collected in a



standardized and interoperable format. Basic information on social circumstances and environmental exposures that impact health—whether someone has adequate housing, if they have enough nutritious food to eat, identifying those most at risk for harms associated with environmental exposures, etc.—is either not captured or not able to be shared. Advancing data use, capture, and exchange while protecting patient privacy is complex and a priority for the Administration.

To that end, the Administration is working to improve data gathering and interoperability to address SDOH. Across the federal government, agencies are investing in their data collection and sharing infrastructure to accelerate interagency collaboration while preserving data security and privacy. Recognizing the foundational role of data to support future innovation, the Administration will expand the collection of SDOH data for health research. For veterans, the Administration will standardize social data collection and use it to connect veterans to needed social services such as housing support and mental health services.

Pillar 2: Support Flexible Funding to address Social Needs

Marshalling health care resources to address SDOH can be challenging. Many health and social service delivery organizations are funded by a mix of non-governmental, local, tribal, territorial, state, or federal sources to support their operations. These funds are often regulated to ensure they are used for appropriate purposes, but they may not target the drivers of health outcomes that need to be addressed. Further, many local organizations working to address SDOH may be unaware of or face barriers to applying for some federal programs. Funds associated with “health” are too often walled off from investments in improving SDOH. Increasing funding flexibility and offering technical assistance that empowers organizations to utilize funding from a variety of sources will better equip them to address unmet social needs.

As part of our broader efforts to care for all Americans, including the communities at highest risk of poor health outcomes, the federal government is taking several actions to facilitate funding flexibility to support efforts addressing SDOH. The Biden-Harris Administration has issued guidance to state Medicaid directors on opportunities to use funding to meet health-related social needs through managed care contracting and section 1115 demonstrations. The Administration has also finalized new payments for accountable care organizations in the Medicare Shared Savings Program that can be used to address the social needs of Medicare beneficiaries. The Administration has clarified tax forms for hospitals to specify that SDOH related activities can help qualify them for tax exempt status. To improve equity and our focus on SDOH in grants administration, the Administration is updating guidance for grant funding notices. The Administration is also exploring dynamic solutions to the veteran housing crisis by funding new initiatives to help transition veterans into permanent housing. In addition, the Administration continues to work across the federal government to identify new avenues for using federal dollars to improve the social circumstances and health outcomes for all Americans.

Pillar 3: Support Backbone Organizations

Effectively addressing identified unmet social needs requires a well-coordinated system of health and social care. Community-based organizations; health care providers and related support services; state, local territorial, and tribal governments; public health authorities; and health plans



all have a role to play in building and sustaining the infrastructure needed to support such a system.

“Backbone organizations” can play a key role in this infrastructure. They manage community-based partnerships formed across sectors such as health care, housing, social services care, nutrition assistance, employment training, and economic development to care for populations holistically. Backbone organizations face varied challenges: funding instability, limited technical capacity, privacy concerns, and data availability, to name a few. Increasing the number of backbone organizations and enhancing their operational capabilities will directly impact the lives of community members who are most in need of their services.

The Biden-Harris Administration is advancing several initiatives to bolster backbone organizations. To strengthen their infrastructure, the Administration will provide community care hubs (a type of backbone organization) with educational assistance, technical resources, data security training, and support in payment operations, including through a National Learning Community. The Administration will distribute new grants to support emerging and existing backbone organizations that serve communities facing infrastructure challenges. Improving data collection is critical, so the Administration will support backbone organizations in identifying best practices for equitable data collection, protection, and sharing. Additionally, the Administration will continue ongoing programs that bolster organizations providing housing assistance, food access, free or low-cost legal resources, and more.

President Biden believes that every American should have an equal opportunity to lead a full and healthy life. Reaching that goal will require engagement from all segments of society: governments, philanthropies, businesses, academic organizations, community-based organizations, non-profits, faith communities, and more. The challenges facing American communities are complex, and developing targeted solutions will require innovative coordination between governmental and non-governmental entities. These solutions must include upstream interventions that address root causes of disparities in SDOH, including economic and environmental factors, and mitigate their inequitable health impacts. The Biden-Harris Administration calls upon organizations to work with us and support the development of the community-based infrastructure needed to address SDOH.



Introduction

Social circumstances and related environmental hazards and exposures impact health in a variety of ways. When these circumstances have implications for health, they are often referred to as social determinants of health (SDOH), which the U.S. Department of Health and Human Services (HHS) defines as “the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks” (Figure 1). SDOH account for as much as 50% of county-level health outcomes, and within SDOH, socioeconomic factors such as poverty, prevalence of jobs paying a living wage, and education availability have the largest impact.¹⁰ Health metrics including life expectancy, risk of developing a chronic disease (such as diabetes, heart disease, or depression), likelihood of contracting an infectious disease, and more are influenced by SDOH. For example, a landmark study following a cohort over 25 years found that occupation is associated with risk of death from heart disease, regardless of any other demographic factors.¹¹ Food insecurity has been associated with a 15% increased risk of having a chronic illness.² Although having access to high-quality, affordable health care is essential to addressing medical conditions when they arise, access to health care alone is not sufficient to achieve optimal health outcomes. From economic security to neighborhood infrastructure to nutritious food availability, SDOH encompass the entire environment within which people live and must be addressed to improve the health and well-being of individuals and communities.



Social Determinants of Health



Figure 1. Healthy People 2030 SDOH Graphic.

Source: HHS Office of Disease Prevention and Health Promotion

These SDOH vary across communities and populations, and health disparities are often exacerbated by unequal experiences of SDOH. Systematic and structural inequities such as limited employment and educational opportunities, lack of affordable and safe housing, low availability of nutritious foods, high rates of exposure to environmental health hazards, and inadequate access to health care services, can jeopardize health and well-being. Disparities resulting from these structural inequities often disproportionately impact historically underserved individuals such as Blacks, Latinos, members of Tribal Nations, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; persons who live in communities with environmental justice concerns; older persons; women and girls; and persons otherwise experiencing persistent poverty. For instance, the life expectancy for Black Americans is four years shorter than White Americans. People of color have higher rates of diabetes, hypertension, obesity, asthma, and premature death compared to non-Hispanic Whites, due in part to social and economic factors.¹² Americans living in rural areas are more likely than their urban counterparts to die from heart disease, cancer,



unintentional injury, chronic lower respiratory disease, and stroke.¹³ Many of these disparities stem from differences in social and economic circumstances between these demographics. An important contributor to health disparities is the inequitable distribution of social resources in localities across the country. For example, a lengthy history of racialized practices and policies—housing discrimination, unequal educational opportunities, disproportionate incarceration rates, inequitable employment practices—has created an uneven playing field for many communities. Inadequate access to social and health care services in many areas of the country has led to widening gaps in outcomes. As our society becomes increasingly complex and interconnected, we all benefit from policies designed to improve the health of our communities with the highest needs.¹⁴ Achieving health equity in the United States will require concerted efforts to directly address the influence of all forms of health inequities.

Notably, the cumulative impacts of environmental and climate factors have significant influence on health outcomes. Inequitable access to clean water, clean air, and natural greenspaces with tree cover lead to disproportionate environmental burdens for many communities.^{15, 16, 17} These environmental injustices create new and exacerbate longstanding disparities in health outcomes. People who live in communities with environmental concerns may suffer from poorer health and have shorter life expectancies than those in other communities. Addressing SDOH must prioritize environmental justice as a key building block in creating healthy communities.

While SDOH refer to community-level circumstances like the availability of affordable and high-quality housing, clean air and drinking water, and nutritious foods, the immediate social needs that affect the health outcomes for individuals and households within a community vary. A specific need that impacts individuals directly is often referred to as a health-related social need (HRSN). These needs include challenges such as income instability, housing instability, and household food insecurity.^{18, 19} While SDOH and HRSNs often coincide and overlap, the relationship between them can be complex. For example, a household with income below the federal poverty line (which could constitute an individual-level HRSN) that is living in an area with poor economic conditions (a community-level SDOH) is more likely to be exposed to housing that exacerbates health problems like asthma. That household may be unable to afford living in areas with safer housing and may therefore benefit from various forms of housing assistance. In this example, both the HRSN of having low income and the SDOH of living in an area with poor housing quality need to be addressed to holistically improve the household's situation. Addressing SDOH and HRSNs requires implementing sets of policies and interventions involving numerous community partners. Figure 2 depicts how the ecosystem of social circumstances impacts health: community-level SDOH contribute to individual HRSNs which can affect health status. Promoting both individual and community health requires interventions that address both SDOH and HRSNs. This Playbook addresses community-based strategies and actions being taken across federal government agencies aimed at addressing both.

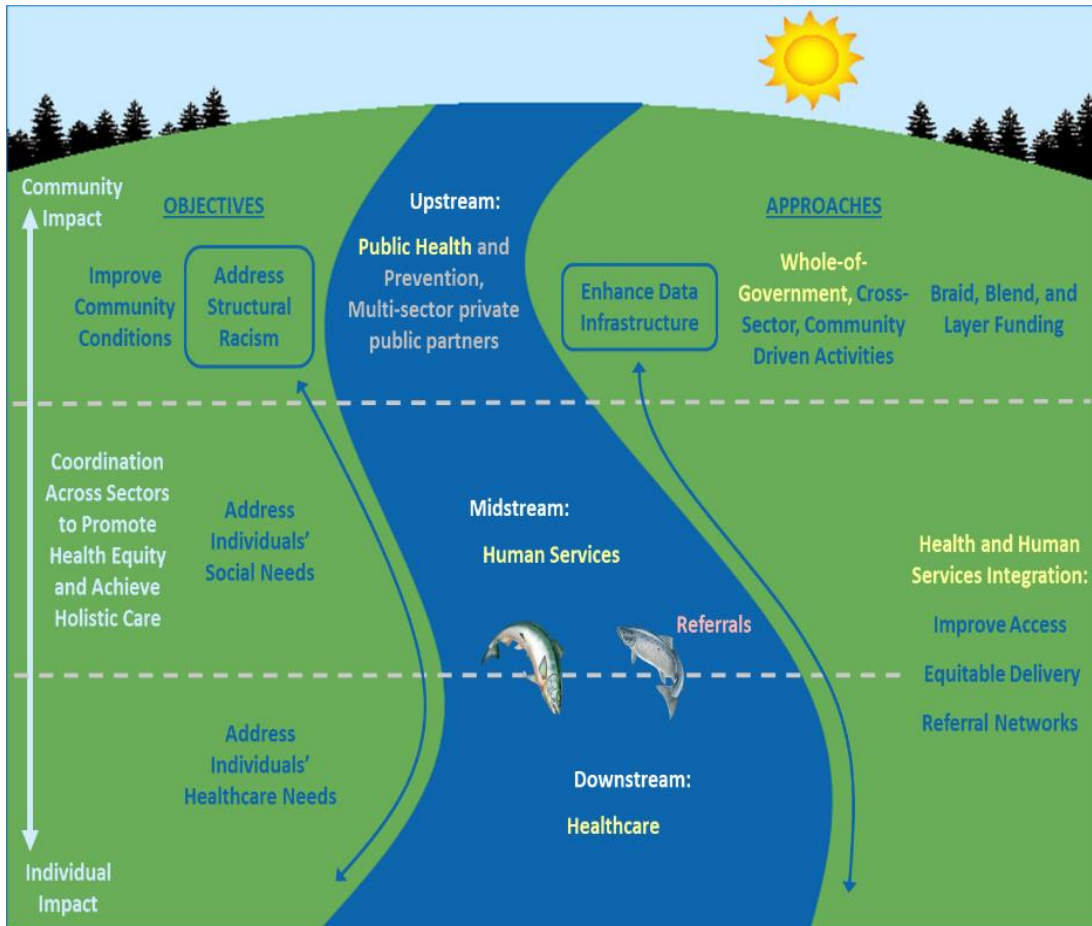


Figure 2. The Social Determinants of Health (SDOH) Ecosystem

Source: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.

Links Between SDOH and Health Outcomes

The evidence connecting health outcomes to income, education, nutrition, housing, environmental exposures, and other social circumstances is broad and continues to grow.²⁰ Similarly, studies have shown that interventions addressing SDOH can improve health outcomes and reduce health care costs.²¹ While not an exhaustive list, we highlight four such issues to bring attention to the links between social circumstances and health.

Housing Security

Housing security and quality has an important impact on health and well-being, so the lack of adequate, affordable, and safe housing in communities across the country is a major challenge. According to the U.S. Department of Housing and Urban Development (HUD), in 2021, over 8.53 million households not yet receiving government housing assistance were either living in severely inadequate rental conditions, paying more than one-half of their income toward rent, or both.²² Inadequate housing can increase the risk of exposure to unsanitary conditions, lead



poisoning, poor indoor air quality, climate-related hazards such as extreme temperatures and severe weather events, and a variety of other issues which can adversely impact health. In addition, the affordable housing deficit increases the risk of experiencing homelessness. In January 2022, national Point-in-Time count data estimated that 582,462 people were experiencing homelessness in America on a single night.²³ Moreover, the [2022 Annual Assessment of Homelessness Report](#) states that three in ten people staying in sheltered programs on a single night were families with children, and nearly 17,000 were unaccompanied youth. Sociodemographic disparities are present among people experiencing homelessness as well. Nearly four in ten people experiencing homelessness are Black. While national rates of homelessness were similar to recent years, rural areas saw an increase in homelessness of 5.7% in 2022.²⁴ Combatting homelessness and improving housing overall requires tackling these disparities.

The impacts of housing instability may be further complicated by other SDOH. Medical debt, such as debt incurred through hospital bills or treatment costs, is associated with housing instability and may even extend individuals' length of time unhoused.²⁵ In addition, gender-based violence is a leading cause of homelessness for families and children.²⁶ Many women experiencing homelessness have been subject to some form of gender-based violence, either as the cause of or resulting from their homelessness.²⁷ Women experiencing homelessness are also at higher risk of being sexually assaulted.²⁸

All manifestations of inadequate housing can negatively impact health, and a variety of health conditions can negatively impact housing status. Housing insecurity is associated with increased rates of mental health challenges,²⁹ adverse birth outcomes for pregnant mothers,³⁰ and death from any cause.³¹ Homelessness is correlated with high rates of injurious health conditions such as HIV infection, alcohol and other substance use disorders, untreated mental illness, and tuberculosis.³² In a population-based study in San Francisco, people experiencing homelessness at the time of HIV diagnosis had 27 times higher odds of death compared to those who were housed.³³ These conditions can shorten the lifespan and lead to a decreased quality of life. Studies show evidence that interventions providing supportive housing to individuals experiencing homelessness with substance use disorder are associated with decreased emergency room visits and hospitalizations.³⁴ Similarly, a randomized trial in Chicago found that providing stable housing and case management to chronically ill, homeless adults reduced hospitalizations by 29%.³⁵ Ensuring people have adequate housing can reduce their risk of these negative health outcomes.

Federal and state agencies have sought to address the crisis of those experiencing housing instability and homelessness in America. Tackling this problem head on, President Biden released [All In: The Federal Strategic Plan to Prevent and End Homelessness](#), and the White House [Housing Supply Action Plan](#), and [Blueprint for a Renters Bill of Rights](#). Investments and actions made through these ambitious plans will increase housing affordability and stability and improve health outcomes for both individual and communities across the country.

Food Security

Data from 2021 reveal 33.8 million Americans live in food-insecure households.³⁶ In 2021, about 1 in 8 U.S. households with children experienced food insecurity.³⁷ Nutrition security builds on and complements long standing efforts to advance food security. The United States Department



of Agriculture (USDA) defines nutrition security as “consistent and equitable access to healthy, safe, affordable foods essential to optimal health and well-being.”³⁸ A variety of environmental and social factors impact food security: geographic proximity to stores selling nutritious foods, financial constraints, inadequate transportation, and more. Individuals who do not have access to nutritious foods are more likely to experience hunger and are at elevated risk for a variety of health conditions such as obesity, diabetes, and heart disease, among others. While the prevalence of food insecurity in the United States has been declining in recent years (food insecurity among households with children at the end of 2022 was at a two-decade low), certain populations continue to have higher rates of food insecurity than others. In 2021, 19.8% of Black households and 16.2% of Hispanic/Latino households were food insecure compared to 7% of White households. Data from American Indian and Alaska Native households is limited, but available data indicate high rates of food insecurity as well.³⁹ These disparities are driven by a variety of factors including historic injustices as well as present-day inequities, underscoring the importance of continuing to center equity in all government programs.

While having enough food is one of many predictors for health outcomes, a diet low in nutritious foods is also a factor. The majority of Americans do not get enough fruits, vegetables, and whole grains in their diet, and fewer than one in four Americans meets physical activity recommended goals.^{40,41} A diet lacking in nutritious foods contributes to obesity, diabetes, heart disease, and other chronic illnesses which can all lead to premature death. In 2017, diet-related disease caused 22% of deaths worldwide.⁴² Broadening access to nutritious food is vital for helping people lead healthy lives and can also lower health care costs. Government initiatives such as the Supplemental Nutrition Assistance Program (SNAP) and food pharmacies (programs to increase access to healthful foods by making them affordable) have been associated with lower health care costs and reduced hospitalization and emergency department visits.⁴³

Education Access

Increasing levels of educational attainment, from early childhood through college, have been associated with improved health outcomes.⁴⁴ Early childhood education can serve as a protective factor against disease and disability, and can improve health and health behaviors.⁴⁵ Additional levels of education are correlated with higher levels of income, and better paying and more stable jobs tend to provide health insurance.⁴⁶ For example, a recent study showed that a significant mortality gap exists between educational attainment levels; this gap continues to widen over time. For those born after 1950, each additional educational attainment level is associated with at least an 18% lower all-cause mortality rate.⁴⁷

Despite improvements in educational attainment, disparities persist across groups. In 2018–19, the national public school graduation rate was 86%, the highest it has been since the rate was first measured in 2010–11. However, Asian/Pacific Islander students had the highest rate (93%), followed by White (89%), Hispanic (82%), Black (80%), and American Indian/Alaska Native (74%) students.⁴⁸ At the same time, many students experienced challenges to their mental health and well-being.⁴⁹ Furthermore, many institutions of higher education that serve large numbers of students of color and students from low-income backgrounds saw declines in enrollment.⁴⁹



Healthy Environment

A safe and sustainable environment in which to live, work, learn, play, and worship is central to human health and well-being for all communities. Yet communities with environmental justice concerns face disparities in access to a healthy environment that are often the legacy of racial discrimination and segregation, redlining, exclusionary zoning, and other discriminatory land use decisions or patterns.

Environmental exposures exacerbate health outcomes and are directly correlated with social circumstances. The concentration of pollution, hazardous waste, and toxic exposures in local neighborhoods increase health risks and adverse outcomes, and are of particular concern for communities also facing food insecurity, education challenges, and disinvestment. Disparities in access to affordable housing that is safe and healthy and basic infrastructure and services to support such housing, including safe drinking water and effective sewage management, undermine community health. The cumulative impacts of exposure to these types of burdens and other stressors, including those related to climate change and the environment, further disadvantage communities with environmental justice concerns.⁵⁰ Across the Biden-Harris Administration, agencies are advancing policies to better protect overburdened communities from pollution and environmental harms to ensure all communities have a safe and sustainable environment.

Key Federal Actions To-Date

President Biden is already taking historic steps directing federal action to address SDOH. As disparities in social circumstances can lead to disparities in health outcomes, a core component in addressing SDOH is working toward equity across government. President Biden has made a clear commitment to ensuring equity for all by issuing Executive Order 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, on his first day in office. The Order directs the federal government to implement an ambitious, whole-of-government agenda to “affirmatively advance equity, civil rights, racial justice, and equal opportunity” by engaging with members of underserved communities to evaluate opportunities to increase coordination, communication, and engagement. The Order also seeks strategies for improvements in data collection programs, policies, and infrastructure across agencies. Over 90 federal agencies conducted equity assessments to uncover where systemic barriers to access may exist, and, using those findings, developed Equity Action Plans for addressing and achieving equity in the service of all Americans. President Biden reaffirmed this commitment to equity in February 2023 with Executive Order 14091, *Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, which redoubles federal efforts to embed equity throughout all of government. Additionally, President Biden issued Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, and Executive Order 14096, *Revitalizing Our Nation’s Commitment to Environmental Justice for All*, both of which make clear the Administration’s commitment to advancing environmental justice for all and addressing major upstream drivers of disparities in SDOH and health outcomes.

The Biden-Harris Administration has also worked to address the economic and public health crises brought on by the COVID-19 pandemic and economic volatility. The American Rescue Plan (ARP) made several bold advances: it provided \$5 billion to assist individuals or families



who are homeless or at risk of homelessness; allocated \$1 billion in supplemental funding to assist survivors of domestic violence and sexual assault to access services and support; gave about \$1 trillion toward economic recovery through relief payments, an extension of unemployment insurance, and an increase in SNAP benefits; increased tax credits and childcare assistance; and lowered health insurance premiums for millions of lower- and middle-income families.⁵¹ The Inflation Reduction Act builds on the ARP advances by extending the health insurance premium reductions, capping insulin copays at \$35 per month per covered insulin product for Medicare beneficiaries, allowing Medicare to save beneficiaries money by negotiating drug prices, lowering home energy costs, reducing America’s carbon emissions by 40% by 2030, and more. To make the most of these landmark pieces of legislation, agencies across federal government are coordinating the Thriving Communities Network, an initiative designed to guide place-based technical assistance and capacity building resources to communities where they are needed. Through these and numerous other significant pieces of legislation, President Biden is setting an ambitious course to support all Americans and their communities in order to improve health outcomes.

The Biden-Harris Administration also released the *Blueprint for Addressing the Maternal Health Crisis*, a whole-of-government approach to combatting maternal mortality and morbidity. The Blueprint includes specific actions to strengthen economic and social supports for people before, during, and after pregnancy. This focus on social needs includes actions to increase screening for SDOH risk factors and to make it easier for pregnant and postpartum women and families to enroll in federal programs that provide food, housing, childcare, and income assistance.

In addition, the Biden-Harris Administration released the first-ever *U.S. National Plan to End Gender-Based Violence: Strategies for Action*, which advances a whole-of-government, multi-sectoral approach to ending gender-based violence in the United States. The Plan recognizes that addressing the social and structural factors that contribute to health inequities is critical for preventing and addressing gender-based violence, especially among marginalized and underserved communities. The Plan puts forward strategies for action to prevent and end gender-based violence across the life course, including through a focus on prevention; survivor support, healing, safety, and well-being; economic security and housing stability; and legal and justice systems.

Elevating the importance of access to nutritious foods that support healthy dietary patterns across a person’s lifespan, the Biden-Harris Administration convened the first White House Conference on Hunger, Nutrition, and Health in over 50 years. The Administration also released a *National Strategy on Hunger, Nutrition, and Health* with actions the federal government will take to end hunger and increase healthy eating and physical activity by 2030. The Administration garnered more than \$8 billion in commitments from non-governmental organizations to do their part to end hunger and improve American health as part of the conference’s call to action.

As part of his Unity Agenda for the nation, President Biden identified tackling the nation’s mental health crisis as a key priority. In 2022, the White House released a comprehensive national mental health strategy designed to transform how we understand, perceive, and treat mental health in the United States. A core objective of the strategy focuses on creating healthy



environments that support individuals experiencing mental health challenges. The strategy also reaffirms that mental health is health and mental health care is health care. Not only is poor physical health associated with increased rates of mental health problems, but poor mental health can lead to increased risk of poor physical health. As such, when this Playbook refers to actions needed to ensure improve health outcomes, it is intentionally inclusive of mental health outcomes.

The Biden-Harris Administration is also working to address significant gaps in research on women's health, which have serious consequences for the health of women across the country. President Biden established the first-ever White House Initiative on Women's Health Research to accelerate women's health research and strengthen our ability to prevent, detect, and treat diseases that are specific to women, predominantly affect women, or affect women differently. The Initiative will galvanize the Federal government as well as the private and philanthropic sectors to spur innovation, unleash transformative investment to close research gaps, and improve women's health. As part of the Initiative, President Biden directed agencies to develop targeted recommendations to address health disparities and inequities affecting women, including those related to race, ethnicity, age, socioeconomic status, and disability.

As a result of President Biden's leadership on these issues, agencies across government have begun or strengthened initiatives addressing SDOH in a variety of venues.

The U.S. Department of Health and Human Services (HHS) has built on its mission to enhance the health and well-being of all Americans by focusing on SDOH. The agency's [Strategic Approach to Addressing the Social Determinants of Health to Advance Health Equity](#) aims to make health outcomes more equitable by better coordinating health and human services, and by addressing the underlying systemic and environmental factors that affect health status. The HHS Plan's main goals align closely with the White House SDOH Playbook.

As part of its work implementing Executive Order 14008, HHS established the Office of Climate Change and Health Equity to address the impact of climate change on the health of Americans. The Office uses the regulatory and statutory powers available to address matters impacting disadvantaged communities and people on the frontlines of the climate crisis. The Office works alongside community-based organizations, non-governmental entities, academia, businesses, industry leaders, along with, state, tribal, local, and territorial governments, to implement strategies, conduct outreach and communications, and train and empower community residents to address climate-related challenges.

The Centers for Medicare & Medicaid Services (CMS) within HHS provides health coverage to more than 150 million people through Medicare, Medicaid, the Children's Health Insurance Program (CHIP), and the Health Insurance Marketplace. In its recently released [CMS Framework for Health Equity 2022-2032](#), CMS lays out its commitment to advancing health equity, expanding health coverage, and improving health outcomes. CMS is also building on results from their ground-breaking Accountable Health Communities Model, which tested the impact of funding backbone organizations to systematically identify and address HRSNs. Beneficiaries that interacted with these funded backbone organizations or their partners had lower emergency department use. CMS will use these lessons to design and implement programs to improve health for beneficiaries at high risk for negative health outcomes.



To support connections between health care providers and local community organizations that address HRSNs, in 2022, CMS' Hospital Inpatient Quality Reporting program finalized rules that will include two new SDOH measures: Social Drivers of Health Screening Rate and Social Drivers of Health Screen Positive Rate. Additionally, CMS selected the SDOH Screening Rate measure for inclusion in the Merit-based Incentive Payment System, and CMS is seeking input on inclusion of these measures in a number of additional quality payment and reporting programs. CMS is also focused on addressing SDOH as part of its drive towards value-based care. CMS has created advance payments for certain new accountable care organizations in the Medicare Shared Savings Program, which can be used to address the social needs of Medicare beneficiaries in collaboration with community-based organizations (CBOs). Finally, CMS finalized a requirement that Medicare Advantage Special Needs Plans ask enrollees about food insecurity, housing instability, and transportation problems as part of annual health risk assessments beginning in 2024.

In November 2023, CMS issued the [Medicaid and CHIP HRSN Framework](#) accompanied by a [CMCS Informational Bulletin \(CIB\)](#). These documents provide guidance for more states, beyond the current seven, to structure programs that address housing and nutritional insecurity for enrollees in high-need population. An example is a program providing medically tailored meals or helping homeless youth find and obtain housing. This builds on previous [guidance](#) CMS has provided states on integrating SDOH into their state Medicaid and CHIP programs using existing Medicaid flexibilities. CMS has approved thus far seven Medicaid section 1115 demonstrations to foster interventions that address SDOH in California, Oregon, Massachusetts, Arizona, Arkansas, New Jersey, and Washington. These ongoing innovative projects include:

- California is creating pathways to support care for people outside of traditional health care settings and address enrollees' HRSNs and strengthen access to care.
- Oregon and Massachusetts are covering additional nutritional supports services, like medically tailored meals, and clinically tailored housing supports. Oregon's demonstration also allows coverage for air conditioners and air filtration equipment as needed for medical treatment to residents living in high-risk areas for asthma triggers
- Arizona is providing services to help more people become and remain stably housed, focusing on youth leaving the child welfare system and individuals experiencing homelessness and have unique medical needs.

Additionally, millions of people have gained health insurance coverage under the Biden-Harris Administration, ensuring health care coverage for underserved communities thanks to new state Medicaid expansions to low-income adults and the enhanced premium tax cuts established by the American Rescue Plan and extended by the Inflation Reduction Act.

The Department of Veterans Affairs (VA) cares for our nation's veterans, transitioning service members, and their families, caregivers, and survivors. Through its focus on adopting a Whole Health approach to care, VA emphasizes identifying individual and community-level unmet social needs and providing evidence-based health and social care services. This whole-person focus begins by asking the individual "What matters to them" across all aspects of their life (e.g., housing, employment, education) versus the traditional medical model that sometimes limits conversations to "What's the matter (medically) with you"?⁵² The VA's Whole Health System of Care recognizes the vital nature of fostering local community partnerships (e.g., food banks,



Veterans Service Organizations) in support of health and well-being. To operationalize this Whole Health approach, the VA's National Social Work Program employs over 18,500 Master's prepared social workers to provide SDOH focused assessments, services, and clinical interventions for veterans across the nation. Veterans receiving primary care at a VA medical center are screened annually for food and nutrition access, and individuals with food insecurity may be referred to nutrition specialists and social workers to meet their specific needs. VA has also committed to participate in the Sync for Social Needs coalition to standardize how patient HRSN data is shared to better facilitate a Whole Health approach.

In its efforts to end homelessness among veterans, VA recognizes that the transition from being unhoused to housed can be a particularly challenging time. To smooth that transition, VA is piloting a transitional housing model utilizing 60-70 small housing units on the Los Angeles VA Medical Center campus. Before moving to permanent housing, veterans experiencing homelessness are assigned one of these small units and acclimate to their new housing paradigm. In addition, various service providers—social workers, primary care clinicians, mental health workers, housing service providers, to name a few—go to their unit directly to deliver services where the veteran lives. When these veterans eventually transition into permanent housing, they have much lower rates of becoming unhoused again and report greater satisfaction with their new housing. VA plans to expand this pilot to other VA campuses in the coming years.

VA is also committed to providing information regarding homelessness prevention and food insecurity information to transitioning service members through the VA Transition Assistance Program (TAP). TAP is an interagency effort designed to equip service members with the tools they need for a successful transition to civilian life. TAP connects them with VA benefits and services including those that can reduce the risk of homelessness and food insecurity. As part of TAP, the one-day VA Benefits and Services (BAS) course helps service members understand how to navigate the resources within the VA, including how to access the benefits and services they have earned through their military careers. More specifically, BAS provides information and resources for transitioning service members who are facing housing insecurity as well as information on food and nutrition assistance, state and local resources, and other social services.

The U.S. Department of Agriculture (USDA) provides leadership on food, agriculture, natural resources, rural development, nutrition, and related issues. With its many nutrition assistance programs, including the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Program for Women, Infants, and Children (WIC), and the School Meals Programs, USDA is committed to advancing food and nutrition security. USDA is building on these foundational programs through several initiatives such as updating the WIC food package to provide more nutritious and culturally appropriate foods, updating nutrition standards in schools to give students healthier food options, and expanding access to free meals to more students.⁵³ USDA has also reevaluated the [Thrifty Food Plan](#) to reflect the price of a cost-conscious, healthy diet, which resulted in a 21% increase in maximum SNAP benefit amounts for a family of four.⁵⁴

In addition, as a result of the Consolidated Appropriations Act of 2023, Congress authorized a permanent summer electronic benefit transfer program to help ensure that children have consistent access to nutritious foods to grow and thrive. USDA is also collaborating with federal partners, such as CMS, to 1) improve data services for benefits delivery and 2) support states in streamlining access to benefits. In practical terms, this means identifying opportunities to reduce



individuals' and families' burdens by simplifying enrollment and recertification for nutrition assistance programs. This effort will also identify strategies to facilitate enrollment in Medicaid and WIC by helping states share data. Coordinating efforts on Medicaid and USDA programs will improve health coverage and access to affordable, nutritious food options. Future initiatives related to this collaboration will explore additional data matching strategies to promote cross-enrollment between programs, best practices for streamlining enrollment and reducing participant burden, and coordination between SNAP and Medicaid on guidance and regulatory actions. Highlighting the importance of USDA's mission, the department is a key player in the Biden-Harris Administration's [National Strategy on Hunger, Nutrition, and Health](#).⁵⁵

The U.S. Department of Education (ED) advances educational equity and excellence through supporting high-quality public instruction from pre-kindergarten through post-secondary learning and beyond. A recent study found that the average student will require over four months of additional schooling in reading and math to catch up to pre-pandemic trends, with students of color, students from low-income backgrounds, and students who are presently and historically underserved even further behind.⁵⁶ Through its Raise the Bar initiative which partners with states, districts, and schools, the Department of Education seeks to accelerate learning for students, invest in every student's mental health and well-being, and ensure that every student has a pathway to college and career.

The Biden-Harris Administration is taking several steps to address learning loss. The Department of Education is leveraging the historic investments from the ARP and the Bipartisan Safer Communities Act (BSCA) by investing in high-quality tutoring, afterschool, and summer learning. The Engage Every Student Initiative, a collaborative effort across more than 20 organizations, is helping communities use ARP funds, alongside other state and local dollars, to ensure that every child who wants a spot in a high-quality out-of-school time program has one. Additionally, the Department of Education is using its Comprehensive Centers, Regional Education Laboratory program, and the Individuals with Disabilities Education Act technical assistance centers to provide technical assistance to districts to implement evidence-based strategies that promote academic recovery.



Purpose of the Playbook

This Playbook is a launchpad, not a final, comprehensive strategy for addressing SDOH. We recognize that enabling Americans to live healthy lives, regardless of their social circumstances, requires a coordinated approach beyond the work of federal government alone. This Playbook outlines an initial set of framework actions that federal agencies are undertaking to support health by improving the social circumstances of individual and communities. These actions can serve as guideposts for other agencies and organizations from every segment of society to engage in efforts to address SDOH and HRSN. The Playbook also includes extensive appendices highlighting federal programs, toolkits, and guidance that front-line workers and organizations can use to improve their delivery of health and social services.

Our aim is to accelerate innovation across sectors to develop practical solutions that equitably improve social circumstances and achieve better health outcomes. Through the intersectional and interagency efforts highlighted in this Playbook, the Biden-Harris Administration will continue to champion advancements that foster individual and community engagement, enhance public health, improve well-being, and serve communities. We call upon all Americans to partner with us in these efforts and commit to investing in communities to strengthen the health of our society.

This playbook focuses on the following three pillars:

1. **Expand Data Gathering and Sharing:** Advance data collection and interoperability among health care, public health, social care services, and other data systems to better address SDOH with federal, state, local, tribal, and territorial support.
2. **Support Flexible Funding to Address Social Needs:** Identify how flexible use of funds could align investments across sectors to finance community infrastructure, offer grants to empower communities to address HRSNs, and encourage coordinated use of resources to improve health outcomes.
3. **Support Backbone Organizations:** Support the development of community backbone organizations and other infrastructure to link health care systems to community-based organizations.



Playbook Actions

Pillar 1: Expand Data Gathering and Sharing

Advance data collection and interoperability among health care, public health, social care services, and other data systems to better address SDOH with federal, state, local, tribal, and territorial support.

Context and Challenges: Enhancing data infrastructure and interoperability (the ability to capture, share and exchange the data safely and effectively) can facilitate progress on Pillars 2 and 3 and provide data to help measure the impact of an initiative. Community-level data on SDOH and individual-level data on HRSNs are not routinely collected in a standardized way across both health and social care services organizations. Further, due to interoperability hurdles and in order to preserve patient privacy, data sharing among organizations can be a complex field to navigate. This limited data gathering and sharing capacity makes coordinating comprehensive care, answering key policy and programmatic questions, and supporting quality improvement efforts challenging. There is growing interest in capturing and sharing HRSN and SDOH data in a standardized format so that it can be integrated into a care record or exchanged to help ensure social needs are addressed. Maintaining individual privacy remains paramount, particularly as social information such as being housed or unhoused, may be especially sensitive. Federal support of open industry standards is driving alignment across government, industry and communities, including through the use of the United States Core Data for Interoperability (USCDI) which is both a national data standard and policy construct that includes SDOH. Infrastructure investments and national data standards adoption will help to enable and improve the quality of referrals between social care services and health care delivery organizations. Improved data quality will enhance service delivery, advance research, and better inform policy development and implementation.⁵⁷ Identifying opportunities to address HRSNs through data management remains especially important for organizations serving communities underrepresented in research data. In order to work towards a more interoperable health and social care ecosystem that supports data sharing and analysis, the Administration is taking the following actions:

- 1.1 Establish a centralized federal data working group.** A coalition of agencies headed by the Office of the Federal Chief Information Officer within OMB will establish the SDOH Data Working Group within the Executive Office of the President. The Working Group will be a subcommittee under the Chief Data Officers Council with the goal of providing a whole-of-government approach to SDOH data collection and management. It will leverage recognized best practices and resources to address how current federal programs can incorporate interoperable SDOH data into their policy development and implementation. This alignment will work to maximize the impact of federal regulatory and purchasing power and spur public and private investment in health information technology based on open industry standards.
- 1.2 Improve responsible and protected exchange of individual sensitive health information across federal agencies.** HHS will expand on its privacy guidance



materials and other resources to assist the health care sector in understanding its obligations under laws administered by HHS. Through rulemaking and guidance, the HHS Office for Civil Rights will continue to lead on increasing alignment between the HIPAA Rules and 42 CFR Part 2 which regulates the confidentiality of substance use disorder patient records. The HHS Office of the National Coordinator for Health Information Technology (ONC) will continue to support coordination through its rulemaking and guidance on information blocking, as authorized by Section 4004 of the 21st Century Cures Act, and will continue to support interoperability through the Trusted Exchange Framework and Common Agreement. A consistent understanding of these policies is foundational to improving interagency collaboration. HHS will support data standards that can enable privacy practices using health IT such as for electronic consent or data tagging.

- 1.3 Align federally administered programs to support SDOH information exchange and closed-loop referrals.** The nation’s core data set for interoperability, USCDI, includes SDOH data elements. The USCDI incorporates information gathered, in part, by the national, collaborative effort known as the Gravity Project which develops consensus-based data standards to improve sharing SDOH data. Agencies may either adopt or align with the USCDI overseen by the ONC for use in their programs (or other applicable health IT data standards). HHS will continue to encourage agencies to adopt standards, which may involve aligning with the USCDI, as is applicable and appropriate to their programs. Further, to facilitate accessibility and collection of individual SDOH information, ONC will continue to promote the adoption of non-proprietary, open application programming interfaces (this includes HL7 Fast Healthcare Interoperability Resource (FHIR)) to drive innovation for capturing and exchanging SDOH data to support person-centered, accessible health interventions. Finally, ONC will disseminate information from exemplar grantees (e.g., Leading Edge Acceleration Projects) on projects that focus on addressing SDOH data exchange and health equity.

Innovation in Action

North Carolina’s NCCARE 360 is a statewide backbone organization that electronically connects North Carolinians who have unmet social needs to community resources. It allows for feedback and follow-up through a shared technology network provided by Unite Us so that those seeking help are served. The program includes a team of dedicated navigators to support referrals, as well as a community engagement team that works with community-based organizations, social service agencies, health systems, independent providers, and community members to create a statewide, coordinated care network.



- 1.4 Improve capacity of backbone organizations to make effective referrals.** The Administration for Community Living (ACL) and ONC provide technical assistance, including training and sharing best practices, to backbone organizations to make referrals across health care settings and social care organizations. Community organizations can face challenges in successfully exchanging referrals and individual beneficiary information with health care systems. These agencies will identify and disseminate scalable approaches to secure social needs data and share person-centered care plans. They will additionally share foundational elements for SDOH health information exchange, including successful models of shared governance, how to build consistent data sets, and methods to streamline workflow processes for closed-loop referrals between community care hubs and health care systems.
- 1.5 Reduce data gaps to serve those at increased risk of disparate health outcomes.** Federal agencies will work to fill in holes in data gathering through multiple mechanisms:
- a.** HHS will partner with federal agencies, private partners, and public service organizations to reduce persistent SDOH data gaps. Although growing, datasets registering SDOH burden, environmental exposures, and health outcomes in communities need continued investment. Without a clear measure of the problem and those affected by it, CBOs are left without evidenced-based data standards to develop solutions. ONC addresses specific SDOH health IT data gaps involving the availability of terminology and data standards. Projects include pilot initiatives, a national pilot affinity group, and support toward the finalization of the SDOH Clinical Care FHIR Implementation Guide. The Guide will accelerate adoption of FHIR (Fast Healthcare Interoperability Resources), advance real-world testing and evaluation, and enable CBOs to exchange operating standards with clinical systems.
 - b.** Through its newly developed Enterprise-wide Veteran Social Determinants Health Framework Integrated Project Team, VA will evaluate how information about five SDOH (food insecurity, housing instability, transportation needs, utility difficulties, and interpersonal safety) is collected and developed within VA, promote interoperability of various data sets across VA systems, and identify best practices to tie the collected determinants to tools, training, and community partnerships to improve veteran outcomes. Objectives include aligning SDOH elements with national standards, fostering interoperability with internal and external stakeholders, and developing a national VA SDOH community of practice.
 - c.** The White House Office of Science and Technology Policy, in consultation with the White House Council on Environmental Quality, launched the National Science and Technology Council’s Environmental Justice Subcommittee to address the need for a coordinated federal strategy to identify and address gaps in science, data, and research related to environmental justice, such as disparities in risk and exposure, data collection challenges related to racial discrimination and bias, and analyzing cumulative impacts (including health risks) from multiple sources, chemicals, pathways, and stressors.⁵⁸ Among other things, the Environmental Justice



Subcommittee will prepare an Environmental Justice Science, Data, and Research Plan to analyze any gaps and inadequacies in data collection and scientific research related to environmental justice, which will assist agencies in addressing this issue, linked with other SDOH.

- 1.6 Strengthen SDOH data collection and sharing across programs for Medicaid beneficiaries.** Ensuring that HRSN data are managed in a consistent manner is critical for focusing interventions. As unequally addressed HRSN can create health disparities across populations, we must gather better data on population demographics. In order to improve how data are collected and shared, CMS will emphasize the adoption of existing data standards on demographic data collection, to identify disparities for Medicaid and CMS Innovation Center model populations disproportionately impacted by unmet HRSN. In addition, using novel imputation methodologies, CMS has produced a series of data briefs analyzing demographics across individuals enrolled in Medicaid and CHIP to improve the ability to identify health care disparities resulting from SDOH and better design policies to reduce those disparities.
- 1.7 Illuminate disparities in localities with significant SDOH burden.** By September 2023, the Centers for Disease Control and Prevention (CDC) plans to release newly acquired SDOH data from the Behavioral Risk Factor Surveillance System SDOH/Health Equity module which assesses potential social needs such as economic instability, food insecurity, housing instability, transportation barriers, and need of social and emotional support. This data will be analyzed and eventually added to Population-level Analysis and Community Estimates of Health (PLACES), a collaborative health surveillance database that generates small area estimates of public health measures. The small area estimates will allow local health departments and other jurisdictions, regardless of size and rurality, to better understand the geographic distribution of social needs and health-related indicators at the local level. CDC intends to publish the small area estimates on the PLACES website by Summer 2024. CDC is also planning to develop an analysis plan to help decipher relationships between SDOH, health behaviors, and health outcomes.
- 1.8 Connect veterans to needed social services.** The Veteran Health Administration National Social Work Program, Care Management and Social Work Services and Office of Health Equity are partnering to implement the Assessing Circumstances and Offering Resources for Needs (ACORN) initiative. Additional support for ACORN, including an ongoing evaluation, is being provided by VHA's Office of Research and Development. The ACORN initiative systematically screens veterans for HRSNs, then offers focused interventions to address identified needs, support wellness, and advance health equity. ACORN is currently being used in a range of clinical settings at more than 25 VA medical centers across the country with plans to add 15-20 new sites in fiscal year 2024. To further facilitate expansion across VHA, the existing ACORN electronic health record screening note template will be available nationally to promote consistent HRSNs screening and health data across the enterprise. This will enhance VA's understanding HRSN trends and offer opportunities to identify and address health inequities impacting veterans.



Opportunities for Congressional Action

The President's FY24 Budget calls for Congress to take the following actions:

- Standardize post-acute provider data collection on SDOH to improve quality and promote equitable care.
- Support grants to States and tribes aimed at addressing disparities, developing innovative approaches for integrating equity into CMS's programs and policies, building analytic systems to integrate data on underserved populations, and developing dashboards and other products to support interventions to address health disparities.
- Allow collection of demographic and social determinants of health data through CMS quality reporting and payment programs
- Invest in NIH research and investments in data collection on the sociocultural and structural factors, including SDOH, contributing to maternal morbidity and mortality through the IMPROVE initiative.
- Invest in ONC's innovative equity-by-design approach to advance the use of interoperable, standardized data to represent social needs and the conditions in which people live, learn, work, and play.
- Provide additional funding for that National Center for Health Statistics that will be used to collect, analyze, integrate, link, and disseminate data related to social determinants of health, to improve understanding of factors contributing to health disparities.



Pillar 2: Support Flexible Funding for Social Needs

Identify how flexible use of funds could align investments across sectors to finance community infrastructure, offer grants to empower communities to address HRSNs, and encourage coordinated use of resources to improve health outcomes.

Context and Challenges: Communities often receive funding from multiple federal, state, local, tribal, territorial, and philanthropic sources to support specific components of their health and social services. Regulations often define how the money can be spent in order to prevent misappropriation of funds. For complex endeavors like providing social and health care services for at risk populations, it can be difficult for CBOs to determine if funding earmarked for a particular health program can be used for social issues that impact health outcomes. For example, while a grant may be able to finance a health clinic to run a diabetes prevention program, it may not be clear if using that money to deliver medically tailored meals to program participants is allowed. The siloed nature of different funding streams, along with a lack of clarity regarding allowable ways to coordinate grants and other sources of funding, can make it challenging for community organizations to maximize their impact.⁵⁹

Two useful ways in which communities or organizations may combine funds to address unmet social needs are “braiding” and “blending” of funds. Braiding involves lacing funds from multiple sources, each funding unique activities, together to support a common goal while maintaining the specific program identity of each individual funding source. “Blending” funds involves mixing funds together to finance a single activity without maintaining program-specific identities. However, undertaking either braiding or blending funds can require guidance and/or statutory authority.⁶⁰ In the context of large federal grants, these rules may be complex and difficult to interpret. Relatedly, the complexity and resource-intensive nature of applying for federal grants can exclude applications from groups with limited resources and capacity. These groups are often serving populations disproportionately affected by adverse SDOH. Ensuring that funding is available and can be used flexibly is a critical long-term priority that the Administration will continue to support.

One prominent example of federal flexibility to address HRSNs is the Medicaid section 1115 demonstrations which allow CMS to approve experimental or pilot projects that are likely to promote the objectives of the Medicaid program. In recent years, CMS has approved several Medicaid 1115 demonstrations with a focus on flexible funding to address HRSNs. To date, CMS has approved Medicaid waivers that cover HRSN services in seven states (California, Oregon, Massachusetts, Arizona, Arkansas, New Jersey, and Washington). Some states use these demonstrations to cover limited housing-related services such as medically necessary home modifications (e.g., carpet replacement, air filtration, air conditioner repair) to improve a child’s asthma control. States also use the demonstrations to provide time-limited nutritional supports, such as nutrition counseling and medically tailored meals. These initiatives are not meant to supplant or duplicate existing funding in these social need areas, but rather, to provide funds that allow Medicaid recipients to connect with community-based providers in order to receive services in a more efficient manner. The demonstrations use evidence-based services that focus on the specific social needs of people at risk for a variety of poor health outcomes such as individuals experiencing homelessness, people living with chronic disease, people who are transitioning from institutional or carceral settings, or youth leaving the child welfare system.



There is no one-size-fits-all solution to address siloed funding streams or ensure adequate resources. The actions described below reflect a series of steps across the federal government to improve how various funding streams can be used to impact unmet social needs and can serve as building blocks for future work in other sectors of society:

- 2.1 Enable use of Medicaid funds for SDOH investments.** In recent years, CMS has prioritized significant new flexibilities that allow Medicaid and CHIP funding to more effectively address SDOH. The Biden-Harris Administration is committed to supporting states in implementing these flexibilities. In November 2023, CMS issued the [Medicaid and CHIP HRSN Framework](#) accompanied by a [CMCS Informational Bulletin \(CIB\)](#). These documents provide guidance for more states, beyond the current seven, to structure programs that address housing and nutritional insecurity for enrollees in high-need population. An example is a program providing medically tailored meals or helping homeless youth find and obtain housing. In January 2021, CMS issued guidance to help states leverage federal funding and design services that address SDOH, including housing-related services and nutritional supports. This guidance acknowledges how a range of social, economic, and environmental factors shape the health outcomes of Medicaid and CHIP enrollees, and how a focus on SDOH can be a central element of state work to advance value-based care, improve outcomes, and reduce costs. In January 2023, CMS issued additional guidance to states expanding on this work and building new paths to implement these approaches. The guidance clarifies how states can use in lieu of services and settings (ILOS) through Medicaid managed care programs to offer optional alternatives to State plan covered services to address health-related social needs, building upon regulatory provisions finalized in 2016. These alternative benefits can be used in place of current State plan covered services or offset potential future acute and institutional care. These ILOS can improve care quality, health outcomes, and the patient experience overall. For example, offering medically appropriate and cost effective ILOSs—such as medically tailored meals for people with chronic health conditions made worse by poor diet, living in food deserts, or without access to nutritious food choices—could improve health outcomes and facilitate greater access to home and community-based services, thereby preventing or delaying the need for nursing facility care or acute hospitalization.
- 2.2 Increase payment for assessing and addressing SDOH.** Health care providers are integral components in assessing and managing social needs for their patients, so supporting clinician screening for SDOH is critical. In July 2023, Medicare proposed new codes and separate payment under their Physician Fee Schedule that, in part, account for clinical resources used to both identify unmet social needs their patients are facing and also to facilitate access to community-based services to address those needs. This [policy was finalized](#) in November 2023 and results in separate Medicare payment and coding (HCPCS code G0136) for a social determinants of health risk assessments. These services can be provided in person or virtually during an office visit or annually at the Medicare annual wellness visit.



- 2.3 Reduce barriers to using grants to address HRSNs.** Across the federal government, OMB coordinates deployment of federal resources. OMB will continue to support the flexible use of various funding streams to address SDOH and HRSNs. OMB has designated HHS as the government wide data standards setting lead. HHS, in close partnership with OMB, will continue to review funding and data reporting processes, and feedback procedures to reduce barriers that might deter potential grantees from applying for federal funds.

Innovation in Action

The Seattle Indian Health Board connects thousands of Seattle-area residents to health and social services across the region. Funding from several foundations as well as from government is braided and blended to support the Board's programs. One such program is the Gender-Based Violence programming that provides confidential services to individuals fleeing from or who are survivors of gender-based violence.

- 2.4 Improve the accessibility of HHS grant funding.** Grants through HHS are largely administered through Grants.gov, but potential applicants are not always able to navigate the grant application process. In order to increase applications from under-resourced potential grant recipients, the HHS Office of the Assistant Secretary of Financial Resources (ASFR), which is the managing partner for Grants.gov, will conduct a comprehensive user experience study building on previous user experience work already completed by the USDS. ASFR will also conduct an assessment of the full federal financial assistance lifecycle to identify root causes and solutions beyond Grants.gov. Furthermore, they will create a detailed roadmap for using the results to create a best-in-class user experience prioritizing ease and accessibility to grant applications. The Grants.gov team will then validate and revise the roadmap based on other factors such as systems architecture, interfaces with other federal systems, and agency input to implement the modernization. A simpler, modernized Grants.gov will provide applicants with an improved user experience which supports the Administration's efforts to increase equity in the HHS granting system.
- 2.5 Support expanded nutrition assistance through coordination with health and social care service programs.** Many of those struggling against food insecurity qualify for food assistance programs but are not yet enrolled. Increasing enrollment in such programs is a critical strategy to drive new resources to individuals and communities who stand to benefit. Agencies across the federal government are taking several actions aimed at increasing access:
- a.** ACL and the Food and Nutrition Service (FNS) at USDA are working to expand a suite of resources highlighting best practices for braiding funding at the state



and local levels to enable a continuum of nutrition services, such as through SNAP and the Older Americans Act. These best practices have been disseminated through a variety of mediums including webinars, conference presentations, and website resources. The content highlights how some states have leveraged the flexibility of the SNAP Elderly Simplified Application Program and worked alongside community organizations to expand and simplify enrollment in SNAP. Through these braided funding mechanisms, states have also increased screening and resource delivery through the Senior Nutrition Program, which includes home-delivered and congregate meals, as well as nutrition education.

- b. CMS and FNS are using data to bolster enrollment of Medicaid participants in food assistance programs such as WIC, SNAP, and free and reduced school meals. FNS has completed cross-enrollment analysis between WIC and Medicaid with the goal of developing guidance on data sharing and matching between Medicaid and to promote outreach and streamlined certification. In September 2023, [FNS issued a \\$10 million dollar award](#) to the Johns Hopkins University Bloomberg School of Public Health (in partnership with Benefits Data Trust and the National WIC Association) to provide sub-grants and technical assistance to help states use data matching to identify, refer, and enroll Medicaid and SNAP participants into WIC. Additionally, CMS and FNS are coordinating on their support of state agencies during the unwinding of the Medicaid continuous enrollment condition and the end of the COVID-19 Public Health Emergency. They are also collaborating on the Medicaid and CHIP Streamlining Eligibility and Enrollment final rule to further enhance coordination between Medicaid and forthcoming SNAP operations.
- c. Other federal agencies are doing their part to expand nutrition assistance as well. The USDS is working to improve benefits-related income verification services and determinations for Federal and state-administered programs. Additionally, ACL is providing technical assistance to grantees explaining how ACL discretionary grants under the Older Americans Act (Title III-D) can be combined with Medicare reimbursements for medical nutrition therapy to deliver nutrition services to older adults. This assistance highlights that some ACL health-related funding can be used to deliver nutritious meals to Americans that need them the most.

- 2.6 Use data to foster hospital and health insurer investments in SDOH.** CMS is taking innovative steps to encourage investment in addressing HRSNs: upfront payments, social risk adjustment, benchmark considerations, and payment incentives for reducing disparities or screening for social needs and coordinating with CBOs to address them, to name a few. For example, the advanced investment payments finalized in the 2023 physician fee schedule rule for the Medicare Shared Saving Program can be used to address social and other needs of Medicare beneficiaries. Despite the flexibilities introduced by these payment mechanisms, they may not be fully leveraged by providers due to a lack of sufficient information about the needs of their patients and beneficiaries. As a way to equip providers with the information



they need to effectively improve the health care experience of beneficiaries, CMS will support provider screening and referral for HRSNs where feasible (including in CMS Innovation Center models).

- 2.7 Support high value hospital community benefits spending.** In December 2022, the Internal Revenue Service (IRS) updated the instructions to Schedule H (Form 990) which guides hospitals on how to report activities as community benefits and community-building programs. The updated instructions clarify that hospital spending on food security, nutrition, and other SDOH may be allowable community-building or community benefit activities. If reporting the activity as a community-building activity, the hospital must describe how it promotes the health of the communities it serves as a narrative response in Schedule H, Part VI. If reporting the activity as a community benefit activity, the hospital must maintain in its books and records establishment of a community need for the activity or program and how the activity seeks to achieve a community benefit objective. The hospital may also describe the community benefit activity in Schedule H, Part VI. As nonprofit hospital organizations are required to spend a portion of their operating funds serving community needs, this clarification may encourage investment in community SDOH-related initiatives.
- 2.8 Incorporate health equity guidance into CDC’s non-research notice of funding opportunity (NOFO) template.** CDC has developed revisions to the existing CDC non-research NOFO template to incorporate health equity guidance. These revisions are intended to assist HHS offices in writing NOFOs in integrating scientifically grounded health equity approaches and SDOH interventions during the development stage of NOFOs. A main goal of these efforts is to improve awareness regarding the flexible use of health-related funding to address SDOH for all people. Recommendations are sweeping and include guidance for incorporating data on drivers and markers of health disparities in the populations of focus. Components include plans for recipients to meaningfully engage multi-sector partners, including CBOs, in project planning and implementation; and a description of evaluation methods to assess impact of the initiatives. The template will also describe how CDC-funded public health programs will add to the evidence base for reducing health disparities and improving health outcomes for communities that are disproportionately impacted by one or more public health issues. These changes to the NOFO guidance and added support structures are currently being processed and implemented.



Opportunities for Congressional Action

The President's FY24 Budget calls for Congress to take the following actions:

- Expand and enhance access to Medicare coverage of nutrition and obesity counseling.
- Increase funding for the CDC SDOH program to implement and evaluate SDOH accelerator action plans and to build the evidence base for SDOH-directed interventions through applied research, data collection, and surveillance.
- Continue and expand demonstrations to improve service delivery across multiple benefit programs through ACF and agency partners, including establishing a delivery team to help states adopt leading practices and innovations in federal benefits delivery to ease application burden, lower time to access benefits, and improve cross-enrollment rates.
- Expand CDC's State Physical Activity and Nutrition Program, which leverages resources from multiple sectors to implement evidence-based nutrition and physical activity strategies to reduce chronic disease, to all States and Territories.
- Invest in pilot coverage of medically-tailored meals in Medicare.



Pillar 3: Support Backbone Organizations

Support the development of community backbone organizations and other community infrastructure to link health care systems to community service organizations.

Context and Challenges: Within the context of this Playbook, backbone organizations are entities that manage community-based partnerships formed across sectors such as health care, social services, public health, and economic development to improve the health and well-being of individuals and the community. These organizations can serve as central coordinating hubs that connect individuals needing various services such as housing support, transportation, legal services, or nutrition support with relevant providers. At their best, these entities coordinate across service providers, integrate funding from multiple public and private sources to support operations and service delivery, leverage trusted relationships and members' existing assets, and foster community-based workforce development and training. One example of a specific type of backbone organization with a robust set of capabilities is a community care hub. These organizations centralize administrative functions and operational infrastructure for a network of CBOs, including, but not limited to, payment operations and contractual agreements, management of referrals, service delivery fidelity and compliance, technology maintenance, information security, data collection, and reporting.

While these organizations can play a key role in helping improve community level coordination, they can also face significant challenges regarding partnership development, sustainability, data collection and sharing, and information technology interoperability with providers. With the right mix of supportive policies, technical assistance, community governance structures, and financing streams, existing backbone organizations have demonstrated that these challenges can be overcome. It is critical to both support these organizations and ensure that they are utilizing resources efficiently to serve their communities. The federal government will take the following steps to help expand a network of backbone organizations across the country which we hope will galvanize states, communities, and Congress to build upon:

- 3.1 Provide training and technical assistance to community care hubs through a National Learning Community.** In November of 2022, the ACL, with support from the CDC, launched a National Learning Community bringing together community care hubs that are either in development or interested in expansion. These local organizations coordinate a diverse network of CBOs addressing social needs and serve as critical infrastructure undergirding the delivery of basic services like transportation access, nutrition assistance, and housing support in many communities. Through this Learning Community, ACL and CDC will continue to bolster nearly 60 hubs across 32 states by offering technical assistance, increasing information and resource exchange, offering access to individualized consulting with subject matter experts, and providing training in topics such as network administration and operations, designing service lines, health and housing partnerships, billing, coding, and payment for services. These actions will build organizational capacity to address SDOH across multiple domains. Building on the success of the current Learning Community, ACL plans to host another beginning in November of 2023.



- 3.2 Award new funding to support community care hubs.** In FY 2023, ACL, with support from CDC, disbursed a \$5.5 million discretionary grant to fund a national Center of Excellence to provide technical support and facilitate collaboration between hubs and the health care sector. This funding also provides competitive subawards directly to aging and disability organizations to support their community care hub infrastructure. Increasing the quantity and scope of hubs will enable more rapid, efficient, and sustainable delivery of social care services.

Innovation in Action

In 2020, New Jersey established the Regional Health Hubs program to coordinate provision of person-centered health care. This innovative model establishes a regional network of non-profit organizations that partner with Medicaid and State agencies to reduce health disparities and improve health outcomes by combining robust connections to social services and community resources at both the patient and organizational levels. The state began with establishing four Regional Health Hubs and plans to expand.

- 3.3 Support backbone organizations through HHS Health Resources and Services Administration’s (HRSA) Early Childhood Comprehensive Systems Program.** Mothers and young children are at risk of poor short- and long-term health outcomes resulting from increased rates of a variety of HRSNs: food insecurity, inadequate housing, and poor access to health care, to name a few. Through the Early Childhood Comprehensive Systems Program, HRSA fosters the development of integrated, comprehensive maternal and early childhood systems of care that provide equitable access to social and health services during the prenatal period to age three. This program strengthens state, county, and local non-governmental organizations that work to connect health care and social support services. These networks help meet the needs of families and young children to promote long-term health.
- 3.4 Support backbone organizations through the HHS Administration for Children and Families (ACF) Children’s Bureau.** ACF currently funds community-based primary prevention demonstration grants to encourage provision of coordinated services. Many of these services address SDOH, including navigation and access to benefits as part of a “one-stop shop” service array and referral system infrastructure. Grant recipients operate as backbone organizations, coordinating funding from multiple private and public sources to develop a hub-like infrastructure that supports screening individuals for social and/or health-related needs.
- 3.5 Build backbone organizations to strengthen at-risk neighborhoods through the Choice Neighborhoods program.** Administered by HUD, the Choice Neighborhoods program leverages public and private dollars to support locally driven strategies serving struggling neighborhoods to improve the lives of residents.



Many of these programs incorporate backbone organizations to coordinate the network of health and social care services that are available in at-risk neighborhoods. In FY 2022, \$180 million in implementation funds were provided for the program to help communities transform neighborhoods through expanding housing, supporting local businesses, and improving social care services administered through a variety of backbone organizations. Optimizing implementation of the Choice Neighborhoods program will serve to mitigate the impact of negative SDOH in these communities.

- 3.6 Seed backbone organization infrastructure by enhancing access to legal services for patients at health centers.** HRSA will work with technical assistance organizations that provide training on integrating access to legal services into health care settings. This training will strengthen the ability of HRSA-supported health centers to operate as backbone organizations by increasing their capacity to address the complex legal and social needs of patients experiencing housing and financial insecurity. These efforts will support the centers' ability to care for their patients.
- 3.7 Expand and disseminate SDOH-related research resources and training opportunities.** The HHS National Institutes of Health (NIH) Community Partnerships to Advance Science for Society (ComPASS) Program funded a Coordination Center in FY 2023 and intends to fund five Health Equity Research Hubs in FY 2024. The Coordination Center and Hubs will provide research training and capacity building in the delivery and evaluation of health equity structural interventions. Recipients of this training will include backbone organizations funded to conduct structural intervention research. Training materials developed through the ComPASS Program will be open access with the aim to serve backbone organizations beyond those that are funded. Additionally, the PhenX SDOH Assessments Collection, an expanding set of consensus-derived common protocols, can be used to assess SDOH across public health and clinical care settings. This toolkit will help backbone organizations improve their SDOH data collection methodologies. NIH will also continue to expand and disseminate SDOH-related research resources and training opportunities to the scientific workforce, including community partners and practitioners.
- 3.8 Inform backbone organization work through targeted research.** The USDA will research the relationship between SDOH, particularly nutrition security, and health and economic outcomes to inform backbone organization agendas. Ensuring these localized organizations address current and pressing community needs is vital to backbone organizations' mission and sustainability.
- 3.9 Increase technical assistance and build capacity of backbone organizations to support communities, including with environmental justice needs.** To remove barriers and improve accessibility to certain federal resources that address climate, economic development, and infrastructure needs closely linked with other social determinants of health, the Biden-Harris Administration has established a network of assistance centers to support communities and backbone organizations. Together, [DOT](#), [HUD](#), DOE, USDA, as well as the General Services Administration (GSA) and the U.S. Environmental Protection Agency (EPA) established the Federal



Interagency Thriving Communities Network to create a holistic government-wide framework for providing place-based technical assistance and capacity-building resources for urban, rural, and Tribal communities experiencing a history of economic distress and systemic disinvestment. These resources include grant and financial management support, pre-development assistance, community engagement, planning, and project delivery support. By working alongside and within communities, technical assistance programs can better support locally identified needs and priorities. As part of the Network, in April 2023, EPA announced the selection of 16 Environmental Justice Thriving Communities Technical Assistance Centers in partnership with DOE that will receive \$177 million to help disadvantaged communities, including underserved and overburdened communities, access funds from President Biden's Investing in America agenda, including historic investments to advance environmental justice. These efforts align with the President's Justice40 Initiative, which set a goal that 40 percent of the overall benefits of certain Federal investments reach disadvantaged communities that are marginalized and overburdened by pollution and underinvestment.⁶¹

Opportunities for Congressional Action

The President's FY24 Budget calls for Congress to take the following actions:

- Support Medicare coverage of screening for social determinants of health and linkage to social supports.
- Expand the scope of Healthy Start grants by investing in promising practices learned from the "Benefits Bundle" pilots which focused on innovative, family-centered approaches to making enrollment in existing public benefits easier for eligible low-income families, addressing social determinants of health (food insecurity, unstable housing, lack of transportation), and delivering culturally competent care.
- Support Medicare coverage for evidence-based support services delivered by a community health worker, including screening for SDOH and linkage to social supports.



Conclusion

Improving health and well-being across America requires addressing the social and environmental circumstances that impact health outcomes. Without ensuring people have stable employment and income, adequate housing, clean air and water, access to nutritious food, reliable transportation, and a host of other necessities, millions of Americans will continue to suffer the burden of the downstream effects stemming from these social circumstances. We envision a future where one's social circumstances do not predetermine one's health outcomes.

Addressing unmet social needs through community coordination, funding, and data access are essential steps to improving these health outcomes; however, vital work is needed in other areas as well. Training and technical assistance for state, local, tribal, and territorial organizations are essential to ensure that teams managing data and funds are clear on current guidelines and that any knowledge gaps are addressed. Continued research on best practices to address HRSNs, and how those practices may differ by population, will be critical to help us better implement the most effective policy changes. Additional analysis on the impact of HRSN and SDOH interventions can further build the evidence base to guide future action. It is critical that funders, both government and private, recognize that social advances, while somewhat more challenging to quantify, are also critical measures of success. Advances such as improving language access and literary skills, expanding broadband access and connectivity, and providing resources for both domestic and community violence prevention all contribute to the overall health and well-being of both individuals and communities.

This Playbook outlines a series of actions the federal government is taking to make additional progress towards addressing social needs, but significant work remains in order create a truly whole-of-government approach to addressing SDOH. A number of initiatives to support this work have been included in the Administration's FY 2024 budget and will require Congressional support to implement. Additional changes in federal grant flexibility and reporting requirements will also need to be evaluated. Individual states, tribal communities, territories, health care systems, CBOs, public health agencies, and health plans also have a vital role to play in strengthening community governance and contributing to better coordinated health and social care systems.

We envision a future where health and social circumstances can be addressed holistically and equitably. Clinical intervention alone is not sufficient to maximize the health and well-being of Americans negatively impacted by SDOH. Achieving this vision will require bold collaboration as well as a shared agreement that significant and sustainable change must take place in order to effectively address the underlying drivers of suboptimal health outcomes in our society. We look forward to the day when all individuals in every community are able to achieve their optimal state of health and well-being.



Appendices

Appendix A: Whole of Government Approach—Additional Ongoing Work

The whole of government approach described in this report brings myriad programmatic authorities and funding sources to this work. This section can serve as a resource for individuals and community-based organizations interested in learning more about the programs each agency administers. It highlights the mission of several, but not all, agencies addressing health-related social needs and social determinants of health so that community-based organizations and service providers better understand the landscape of federal programs currently in operation.

Department of Health and Human Services

The Administration for Children and Families (ACF) promotes the economic and social well-being of families, children, youth, individuals, and communities. Although not specifically designed to influence health, these anti-poverty and family support programs provide cash assistance, in-kind family support, and other individual, family, and child services that can profoundly affect traditional health outcomes. All ACF programs—including childcare, Head Start, child support, child welfare, Runaway and Homeless Youth, Temporary Assistance for Needy Families (TANF), healthy marriage and responsible fatherhood, Low Income Home Energy Assistance and other community services, refugee resettlement, adolescent pregnancy prevention, and family violence prevention—address social determinants that can affect health and quality of life outcomes. For example, case management provided through TANF can screen for and identify health-related barriers such as mental health conditions or substance use disorder, and Head Start’s activities aimed at promoting school-readiness include health and nutritional services to children in families with low incomes. Other SDOH-related initiatives include a collaboration with federal and local youth-serving agencies to develop a coordinated public health response to youth homelessness that addresses SDOH and an effort to assess, modify, and create training and technical assistance materials for populations negatively affected by SDOH, specifically those that are disproportionately impacted by trafficking in persons.

The Administration for Community Living (ACL) advances independence, integration, and inclusion for older adults and people with disabilities. The agency is leading efforts to develop and scale community care hubs, which are discussed further in Pillar 1 of this Playbook. ACL supports community care hubs through discretionary grants and technical assistance and has highlighted community care hub exemplars [here](#). Additionally, ACL is a longstanding partner with the U.S. Department of Transportation Federal Transit Administration (FTA) and an active member of the Coordinating Council on Access and Mobility. ACL works in collaboration with FTA to jointly administer the National Aging and Disability Transportation Center, coordinate and leverage transportation technical assistance activities, and promote [braiding federal transportation funding](#) to states and communities to expand the availability of community transportation programs for people with disabilities and older adults.



ACL also administers the [Housing and Services Resource Center \(HSRC\)](#), a partnership between HHS and HUD. The HSRC leverages and coordinates housing related technical assistance activities funded by HUD, The Office of the Assistant Secretary for Planning and Evaluation (ASPE), ACL, the Centers for Disease Control and Prevention (CDC), the Centers for Medicare & Medicaid Services (CMS), and the Substance Abuse and Mental Health Services Administration (SAMHSA). Launched in December 2021, the HSRC is a joint technical assistance program to assist state and local disability, aging, health and housing agencies to coordinate federal resources to address the housing and health needs of older adults, people with disabilities, and people at risk of or experiencing homelessness. The partnership was established to improve access affordable housing and the critical services that make community living possible for these at-risk populations. Since December 2021, the HSRC has provided technical assistance to thousands of organizations. These activities include a one-stop shop website of technical assistance resources, learning collaboratives to facilitate partnerships, office hours with states and communities, webinars, and issue briefs. Technical assistance activities have supported several states and communities across the country. ACL works closely with the USDA to encourage states and communities to respond to food insecurity through the Older Americans Act nutrition program, Benefits Enrollment Centers, assisting people to enroll in SNAP, and helping people access the USDA home modification programs.

The Agency for Health Care Research and Quality (AHRQ)'s mission is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable. AHRQ has developed a [SDOH Database](#) that collects standardized community-level SDOH data from multiple public sources to analyze community-level variation and inform efforts to improve both health and equity. AHRQ's extensive data resources, including the [Medical Expenditure Panel Survey and the Healthcare Cost and Utilization Project](#), can be used by researchers to study the relationships between health, health care, and SDOH. They can also be used to analyze medical expenditures, providing insights on health care costs and utilization. AHRQ funds research to [assess clinicians' SDOH information needs](#), such as a [study](#) comparing the effectiveness of predictive modeling versus questionnaire-based screening to identify patients in need of social and behavioral services. AHRQ, in partnership with the National Institute of Diabetes and Digestive and Kidney Diseases, is developing and testing an interoperable app to enable person-centered care planning, including assessing and addressing HRSNs. Additionally, AHRQ has funded the development of dashboards to bring together data on chronic disease, SDOH, and community services to better equip primary care practices to address social needs in high-risk individuals and populations.

The Centers for Disease Control and Prevention (CDC) has a number of partnerships and collaborations addressing SDOH. To address the health needs of people who are experiencing homelessness and support aging in place, CDC, through the CDC Foundation, supports a pilot program of three Homelessness and Public Health Centers of Excellence. These centers formalized collaborative partnerships, prioritized intervention areas, and supported public health data collection on homelessness. Additionally, in 2021, CDC established a collaborative relationship with HUD to leverage opportunities and resources in support of shared agency goals and priorities related to aging in place. The first shared priority is to provide evidence-based approaches for affordable senior housing programs that coordinate health, wellness, and supportive services to help older adults remain healthy, age in their community, and reduce their use of costly health care services. The broad purpose of this interagency agreement is to build a



sustainable, collaborative partnership between HUD and CDC to intentionally advance shared priorities related to health and housing.

CDC has also partnered with the Department of Transportation on the Complete Streets model, in which streets are designed and operated to enable safe use and support mobility for all users. Over 1600 Complete Streets policies have been passed in the United State, including those adopted by 35 state governments, the Commonwealth of Puerto Rico, and the District of Columbia.⁶²

CDC supports planning efforts and actions in state, local, tribal, and territorial jurisdictions that fast-track improvements in health and social outcomes among populations experiencing health inequities. Through CDC's Closing the Gap with Social Determinants Accelerator Plans, recipients develop implementation-ready multi-sectoral plans to address SDOH in their communities. In fiscal years 2021 and 2022, 56 recipients were funded to develop plans. In fiscal year 2023, CDC has funded projects in state, local, territorial, and tribal jurisdictions focused on implementing plans that include policy, systems, and environmental (PSE) change interventions across four SDOH domains: the built environment, community-clinical linkages, food and nutrition security, and social connectedness. These PSE interventions aim to reduce chronic disease related disparities, risk factors, and inequities, among disproportionately affected populations.

CDC is also collaborating with the Robert Wood Johnson and CDC Foundations on [PLACES](#) (Population-level Analysis and Community Estimates of Health), the first-ever initiative to provide county, place, and census tract data for the entire United States. PLACES complements existing surveillance data by providing estimates necessary to understand the health issues affecting the residents of local areas of all sizes, and regardless of urban or rural status, to develop and implement targeted prevention activities. CDC will review information from CDC Foundation-hosted focus groups to inform potential enhancements of PLACES and resources to address health equity.

The Centers for Medicare & Medicaid Services (CMS), the largest health care payer in the world, recognizes the significant role that the SDOH can play in access, cost, and outcomes. Every day, CMS ensures that over 150 million people in the U.S have health coverage that works, including 91 million through Medicaid and CHIP, 65 million through Medicare, and 16 million enrolled in the Health Insurance Marketplace (. CMS has efforts underway across all of these programs to address SDOH focused on nutrition, housing, transportation, and data analysis. The aim of these efforts include increasing screening of common SDOH as part of annual Health Risk Assessments, improving quality measures, and updating payment models. CMS is also working to advance health equity by designing policies and programs that support health for all the people, reducing health disparities, and providing the care and support that enrollees need to thrive.

The Indian Health Service (IHS) is responsible for providing federal and public health services to American Indian and Alaska Natives (AI/AN). The mission of the IHS is to raise the physical, mental, social, and spiritual health of AI/AN people to the highest level. Reflecting the scope of this mission are efforts extending beyond the sector of health care itself, such as assuring access to safe water supply, sewage, and solid waste disposal facilities for AI/AN people homes and communities and management of multiple federal and grant programs designed to address health



disparities, critical health care needs, access to health care, and tribal and community capacity building activities.

Examples include integration of HRSNs screening into health care facilities and configuration of the electronic health record to support this data collection and align with the United States Core Data for Interoperability (USCDI) standard; development of a Produce Prescription Pilot Program grant opportunity to combat disproportionate rates of food insecurity and diet-related chronic diseases experienced by AI/AN people; and expansion of the Community Health Aide Program which will enable dental, behavioral health, and community health provider extenders to provide services in remote and underserved communities.

The National Institutes of Health (NIH) invested approximately \$4.1 billion in SDOH research and training in 2022, highlighting the importance of addressing SDOH to advancing NIH's mission to enhance health, lengthen life, and reduce illness and disability. The NIH continues to demonstrate its commitment to addressing SDOH and advancing health equity through a variety of research and training initiatives spanning diseases, conditions, and stages of the life course. One such initiative is 38 research projects on understanding and addressing the impact of structural racism and discrimination on minority health and health disparities, with funding support from 14 NIH Institutes and Centers ([RFA-MD-21-004](#)). In addition, the Transformative Research to Address Health Disparities and Advance Health Equity initiative has supported twelve innovative, translational research projects to prevent, reduce, or eliminate health disparities and advance health equity at institutions with limited NIH funding and either higher enrollment of Pell Grant-supported students or a historical mission to educate students from nationally underrepresented backgrounds ([RFA-RM-21-021](#); [RFA-RM-022](#)). Another example of NIH's work address SDOH is the Community Partnerships to Advance Science for Society (ComPASS) Program, principally focused on supporting community organizations to lead SDOH research activities. The goals of ComPASS are to 1) develop, share, and evaluate community-led health equity structural interventions that leverage partnerships across multiple sectors to reduce health disparities and 2) develop a new health equity research model for community-led, multisectoral structural intervention research across NIH and other federal agencies. Further, the NIH advances SDOH measurement through the PhenX Toolkit SDOH Assessments Collection. The SDOH Assessments Collection enables and encourages researchers to develop, disseminate, and use standardized SDOH measures. Other NIH initiatives with particular relevance to SDOH include [Transformative Research to Address Health Disparities and Advance Health Equity](#), [National COVID Cohort Collaborative \(N3C\)](#), [NIH HEAL Initiative](#), [Environmental influences on Child Health Outcomes \(ECHO\) Program](#) and [All of UsSM Research Program](#).

The Office of the Assistant Secretary for Health (OASH) leads the [Healthy People 2030](#) initiative for the Department. Healthy People 2030 establishes a SDOH framework with five domains supported by specific national objectives with targets to be achieved by the end of the decade. Federal agencies, state and local health departments, communities, academics, and public and private organizations draw on the Healthy People 2030 SDOH framework to shape their own plans for eliminating disparities and achieving health equity for their constituent populations. Healthy People 2030 offers [SDOH literature summaries](#) that provide a snapshot of the latest research related to specific SDOH.



The Office of the National Coordinator for Health Information Technology (ONC)'s mission is to create systematic improvements in health and care through the access, exchange, and use of data. ONC leads the Administration's health information technology (IT) efforts and is a resource to the entire health system to support the adoption of nationwide, standards-based health information exchange to improve health care. This involves advancing the use and interoperability of SDOH data to improve the health and well-being of individuals and communities. USCDI establishes a standardized set of health data classes and elements for interoperable health information exchange, including race and ethnicity, , SDOH-specific data elements, as well as sexual orientation and general identity data elements, in what is referenced as USCDI Version 2. Additionally, specific SDOH-related criteria are included in ONC's Health IT Certification Program for many users of certified health IT products. Further information is available on the [ONC SDOH site](#) including on the ONC Health IT Framework for Advancing SDOH Data Use and Interoperability.

The Substance Abuse and Mental Health Services Administration (SAMHSA), which leads public health and service delivery efforts that promote mental health, prevent substance misuse, and provide treatments and supports to foster recovery while ensuring equitable access and better outcomes focuses on SDOH through its block and discretionary grant programs. For example, SAMHSA funds programs specifically focusing on individuals experiencing homelessness with a mental health and/or substance use disorder. Furthermore, SDOH are addressed through care coordination activities that are provided through several different grant programs, such as the Certified Community Behavioral Health Clinic programs, in which case management and peer support are core services. Through braiding Medicaid funding, SAMHSA also works with local elected officials to improve mental health in communities across the country. SAMHSA also provides training and technical assistance to grantees and state/tribal and community partners that include a focus on SDOH.

Department of Housing and Urban Development

The Department of Housing and Urban Development (HUD)'s mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. Recognizing the primary importance of housing as a social determinant of health, HUD has been working across the federal government to increase the nation's supply of housing under the Biden-Harris Administration's Housing Supply Action Plan. HUD worked with the Department of Treasury to publish a toolkit on the use of American Rescue Plan State and Local Fiscal Recovery Funds to support the acquisition and development of affordable housing. In addition, HUD also published a quick guide on how HUD's Community Planning and Development Programs can be creatively used to create additional housing. In partnership with several HHS agencies, HUD launched the [Housing and Services Resource Center](#), a joint technical assistance program to assist state and local health and housing agencies with coordinating federal resources to address the housing and health needs of older adults, people with disabilities, and people experiencing homelessness. Additionally, HUD and the HHS Office of Minority Health launched the Community Health Worker Place-based Approach to Health, a pilot program at five Jobs Plus sites to place residents in paid positions within community partners that address social determinants of health. On an ongoing basis, HUD collaborated with the National Center for Health in Public Housing to produce and deliver health-related content to HUD-assisted communities on a variety of topics related to the Social Determinants of Health, including



COVID-19 response, seasonal influenza vaccinations, safe return to schools, mental health resources, Smoke Free Public Housing, and more. HUD awarded over \$83 million to end youth homelessness in 17 local communities, including 6 rural communities.⁶³ The Department partnered with young people who have experienced or are currently experiencing homelessness to assess applications in response to this funding opportunity. HUD also awarded over \$290 million in grants to protect children and families from lead-based paint, mold, pests, and other hazards to make low-income families' homes safer and healthier.⁶⁴ HUD plays a critical role in the federal government's response to and recovery from natural disasters. Actions to aid in natural disaster relief include working with FEMA to prepare for relocations when there is a lack of available housing in the impacted area, as well as working with communities on their recovery efforts through the Community Development Block Grant Disaster Recovery program, which addresses a variety of economic and social issues related to natural disasters. HUD also created and issued funds under a new program known as 'Rapid Unsheltered Survivor Housing' program to help communities provide outreach, emergency shelter, rapid re-housing, and other assistance to people experiencing or at risk of homelessness who are in a disaster affected area but who cannot access all services provided by FEMA programs.

Department of Agriculture

The Department of Agriculture (USDA) led the launch of the [Rural Partners Network](#), an alliance of federal agencies and civic partners working to expand rural prosperity through job creation, infrastructure development, and community improvement. The Rural Partners Network puts federal staff, or Community Liaisons, on the ground to support designated, economically challenged communities, called Community Networks. By working with these communities to identify priority needs to navigate federal programs, the Rural Partners Network helps rural communities increase their prosperity. Each Community Network has submitted at least one "Signature Project" representing a high-value initiative that can impact the majority of the community within a year. Community priorities are often aligned with SDOH and include increasing affordable housing; developing the workforce; broadening access to health care; enhancing broadband connectivity; improve access to safe and nutritious foods; and promoting infrastructure improvements to roads, water systems, sanitation systems, and schools.

USDA National Institute of Food and Agriculture Cooperative Extension has also highlighted the importance of SDOH through the new [Health Equity Framework](#), intended to guide Cooperative Extension's health related work. Cooperative Extension has long incorporated SDOH in health-related work, and the new framework provides high level recommendations to the Cooperative Extension system and its partners.

Department of Education

The U.S. Department of Education promotes student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access. The Department of Education has awarded more than \$116 million in grants for programs focused on equity and accessibility for students.⁶⁵ Through the BSCA, Department of Education has awarded nearly \$1 billion in Stronger Connections grants to help schools provide all students with safe and supportive learning opportunities and environments.⁶⁶ As part of the Administration's commitment to addressing the nation's mental health crisis, Department of Education has also



announced \$280 million in grant funding from the BSCA to increase access to mental health services for students and young people.

Department of Commerce

The U.S. Census Bureau's [Enhancing Health Data \(EHealth\) program](#) focuses on leveraging the Census Bureau's unique data assets and linkage infrastructure to enhance health data (such as electronic health records (EHRs), health registries, inpatient/outpatient data, or emergency department data) by linking them to Census' data sources (such as person-level records from the Decennial Census and the American Community Survey). The Census Bureau houses many SDOH data elements which are often absent in health records data (e.g., income, education, housing quality, and transportation access). These data elements either come from self-reported survey responses or from a variety of administrative record data sources. The EHealth program relies on restricted microdata available at the Census Bureau to produce new aggregate statistics on social determinants of health of a population captured by a given health dataset.

Department of Veterans Affairs

The **Veterans Health Administration (VHA)** has ongoing efforts to identify and help eliminate racial, ethnic, and socioeconomic disparities experienced by veterans. VHA's Veterans Geography of Opportunity (VGO) Tool combines publicly available county-level health data with veteran data sourced from VHA and the American Community Survey. The VGO Tool allows users to see how healthy the communities are where veterans live, work, and play. Additionally, it provides invaluable data when community organizations or governments want to more accurately provide targeted support to various regions. As the VGO Tool combines general county-level data with more veteran-specific data, it is crucial to note that the county health factors do not necessarily mirror the exact needs of the country's veterans.

The **VHA Office of Health Equity** supported the development of a brief module as part of the national VA Survey of Healthcare Experiences of Patients to identify HRSNs among veterans who have received health care from VA medical facilities. The module assesses social needs related to financial strain, food, housing, transportation, internet access, employment, education, adult caregiving, childcare, loneliness, social isolation, discrimination, and legal issues. The module is currently being administered to a random sample of 39,000 veterans that will allow VHA to better understand the prevalence of HRSN among this group and how these social needs differ by gender, race, and ethnicity.

National Endowment for the Arts

The **National Endowment for the Arts (NEA)** is a national resource that offers grants to nonprofit organizations, state and local government agencies, colleges and universities, and federally recognized tribal communities, to foster an environment in which the arts benefit everyone in the United States. NEA research consistently has shown correlations between arts engagement and positive social, emotional, and civic outcomes. NEA-funded projects and research advance the public's understanding of the relationship between arts and SDOH. From work that supports the development of social, emotional, and cognitive skills in individuals to programming that seeks to address systemic change within communities through the arts, the NEA demonstrates the importance of arts and culture to individual and community health



outcomes. In particular, the NEA’s “Our Town” creative placemaking grants program integrates arts, culture, and design with local efforts to strengthen communities. These projects advance local economic, physical, or social outcomes in communities, ultimately laying the groundwork for systems change and centering equity. Further, through the Creative Forces: NEA Military Healing Arts Network, a partnership with the U.S. Departments of Defense and Veterans Affairs, the agency offers a sub-granting program intended to improve the health, well-being, and quality of life for military and veteran populations exposed to trauma, as well as their families and caregivers, by supporting non-clinical arts engagement projects. The NEA’s research grants have supported multiple projects investigating the arts’ relationship to SDOH.

The U.S. Interagency Council on Homelessness

The U.S. Interagency Council on Homelessness (USICH) is the only federal agency with a sole mission focused on preventing and ending homelessness in America. USICH promotes housing as a right, not a privilege, and is guided by its commitment to racial equity, Housing First, decriminalization, and inclusion. USICH also believes that housing is health care. USICH leads the development of the Federal Strategic Plan to Prevent and End Homelessness with input from 19 federal agencies. USICH works across federal, state, and local governments, as well as the private sector, to help communities create partnerships, use resources in the most efficient and effective ways, and employ evidence-based best practices. The newest Federal Strategic Plan, *All In*, was released in February 2023 and sets the ambitious goal of reducing homelessness by 25% by 2025. The plan is built around six pillars: three foundations—equity, data and evidence, and collaboration—and three solutions—housing and supports, crisis response, and prevention.



Appendix B: Guidance and Toolkits

The purpose of this appendix is to highlight resources that might be helpful for local community organizations who are addressing SDOH. The appendix gathers in one place a number of resources that have been made publicly available by a wide variety of entities, some of which are produced by public sector entities, some by private sector entities. Each toolkit is briefly described and includes a link provided by the entity that created it.

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Resources for Backbone Organizations

[Working with Community Care Hubs to Address Social Drivers of Health: A Playbook for State Medicaid Agencies](#) – Manatt

This Playbook aims to identify opportunities for state Medicaid agencies to partner with networks of CBOs and community care hubs to address SDOH; introduce state Medicaid leaders to the key functions of hubs and provide practical advice on how state Medicaid agencies can collaborate with hubs; highlight strategies to overcome existing challenges around establishing and building sustainable relationships between CBOs and health care organizations; and feature practical examples, tips, and links to materials used to support SDOH and community care hub efforts in communities across the country.

[Community Care Hub Resources](#) – Partnership to Align Social Care

The Partnership to Align Social Care has resources on community care hubs including a primer on the background, evolution, and value proposition of working with a local CBO network led by a community care hub and a webinar series that includes examples of successful hubs.

[Contracting Toolkit](#) – Aging and Disability Business Institute

This toolkit will help prepare CBOs for contracting work by exploring the critical elements of CBO-health care contracts. An index of common contracting terms is included, as well as an overview of basic elements and provisions CBOs may encounter as they pursue contracting arrangements. Additionally, general guidance on the basics of health care contracting insurance, and sample contracts are provided in this toolkit.

[Health Equity Zones: A Toolkit for Building Healthy and Resilient Communities](#) – Change Lab Solutions and the Rhode Island Department of Health

State and local health departments working to advance health equity can use the detailed, step-by-step instructions in this toolkit to learn how to emulate the Rhode Island Department of Health's method for creating the Health Equity Zone initiative.



Funding Support

[Bridging the Sectors: A Compendium of Resources](#) – American Hospital Association Center for Health Innovation

This compendium offers tools, assessments, evidence-based examples, and other resources developed by leading organizations across the U.S. to help build and sustain cross-sector partnerships that are working to improve the health of individuals and communities.

[Braiding Federal Funding to Expand Access to Quality Early Care and Education and Early Childhood Supports and Services: A Tool for States and Local Communities](#) – Office of the Assistant Secretary for Planning and Evaluation

The goal of this tool is to assist states and local communities in braiding, blending, or layering multiple federal funding streams (for example, Head Start and the Child Care and Development Fund) to increase the supply of quality early care and education (ECE) and increase access to comprehensive early childhood and family support services within a coordinated, comprehensive early childhood system. This tool will help those interested in braiding better understand what the process entails and how to find existing resources that can help with the process.

[Coordinating Council on Access and Mobility \(CCAM\) Federal Fund Braiding Guide](#) – Coordinating Council on Access and Mobility

This guide defines federal fund braiding for local match and program eligibility to enable federal agencies and federal grant recipients to more effectively manage federal funds and coordinate human service transportation. The Coordinating Council on Access and Mobility (CCAM) is a federal interagency council that works to coordinate funding and provide expertise on human services transportation for three targeted populations: people with disabilities, older adults, and individuals of low income.

Social Needs Screening and Referral

[A Guide to Using the Accountable Health Communities Health-Related Social Needs Screening Tool: Promising Practices and Key Insights](#) – Centers for Medicare & Medicaid Services

This document describes the HRSN Screening Tool from the Accountable Health Communities (AHC) Model and shared promising practices for universal screening. Implementing universal HRSN screening in clinical settings requires planning—aligning priorities, training staff, and developing customized screening protocols—and the strategies shared in this guide are meant to inform effective universal HRSN screening in a wide range of clinical settings.

[Building Bridges: A Case Study on Engaging Clinical and Community Partners to Identify a Common Referral Platform](#) – Centers for Medicare & Medicaid Services

This case study provides actionable strategies that community organizations and health systems can consider as they collaboratively identify and implement community service referral platforms. This case study highlights one example of an AHC Model participant, or bridge organization, that harnessed community motivation to unite around a common referral platform. United Way of Greater Cleveland (UWGC) is a nonprofit organization operating in Cuyahoga County, Ohio that partnered with three health systems and many CBOs to address the HRSNs of a subset of the local community through screening, community resource referral, and navigation.



As a trusted organization, they were able to bring together clinical and community partners, elevate CBO voices, and create future opportunities for continued collaboration around community referral platforms.

Data Collection

[PhenX Social Determinants of Health \(SDOH\) Assessments Collection](#) – National Institutes of Health and RTI International

The SDOH Assessments Collection enables and encourages researchers to develop, disseminate, and use standardized SDOH measures. The Core collection includes 16 measurement protocols that are deemed relevant for all research projects for collection of comparable data SDOH across studies. These measures are designed to create a common foundation for cross-study analyses that compare or combine data from different studies. The Core collection includes Race/Ethnicity, Age, Gender Identity, and Annual Family Income, as well as English Proficiency, Occupational Prestige and Access to Health Services.

[Social Determinants of Health Database](#) – Agency for Healthcare Research and Quality

AHRQ has developed a SDOH Database that collects standardized community-level SDOH data from multiple public sources to analyze community-level variation and inform efforts to improve both health and equity.

Data Sharing

[Responsibly Sharing Confidential Data: Tools and Recommendation](#) – Administration for Children and Families, Office of Planning, Research and Evaluation

This project is developing guidance on how to navigate the privacy and security challenges that arise when trying to share data to enhance services that promote the well-being of children and families. This project has developed a [Confidentiality Toolkit](#) that discusses why and how to share different categories of human services data, highlights how information technology can assist, and includes sample documents used in data sharing initiatives.

[Interoperability Toolkit](#) – Administration for Children and Families Interoperability Initiative

The ACF Interoperability Initiative provides leadership and technical support to increase the capacity and efficiency of social care data systems to share data in a consistent, reliable manner. These efforts include creating common vocabularies for more consistent capture of data, providing best practices for interoperability architecture planning and system integration, and understanding and mitigating risks associated with the privacy and confidentiality of the information. This initiative has developed an Interoperability Toolkit designed to help state human services agencies connect with their health counterparts.

[Social Determinants of Health Information Exchange Toolkit](#) – Office of the National Coordinator for Health IT

The new Social Determinants of Health (SDOH) Information Exchange Toolkit is a practical, on-the-ground resource designed to aid the health IT community in the implementation of initiatives that recognize the importance of using SDOH information. Addressing SDOH is complex given the diversity and multisector nature of services (e.g., food, housing, transportation



insecurity, clinical care). This can present challenges to service coordination due to non-uniform data collection, varied system designs, and differences in information technology (IT) capacities (including for exchange). The Toolkit can serve as a resource for initiatives that support the collection and use of SDOH information in communities across the United States, and includes considerations related to community engagement, health IT standards, infrastructure, interoperability, and governance. The Toolkit is structured around 11 Foundational Elements of SDOH Information Exchange and includes case studies and questions for consideration that can aid implementers as they build or update data initiatives involving SDOH. This resource provides a helpful starting point for use across sectors, contexts, and communities to support efforts to inform health equity and more informed care. More information is available on the [ONC SDOH website](#).



Appendix C: White House Consultations and Contributors

The following organizations provided invaluable insights that have contributed to the White House Playbook:

Aligning for Health

Alliance for Health Policy

Anne Arundel County Partnership for Children, Youth, and Families

Allegheny County

de Beaumont Foundation

The Brookings Institution

Camden Coalition

CommonSpirit Health

Commonwealth Fund Commission

The Funders Forum on Accountable Health, George Washington University Milken Institute School of Public Health

Georgia Health Policy Center

Harris County Public Health

Kathy Stack of KB Stack Consulting

National Association of County and City Health Officials

National League of Cities

Nemours Children's Health

North Carolina Department of Health and Human Services

Rhode Island Health Equity Zone

Robert Wood Johnson Foundation

Stewards of Change

The Gravity Project

United Way International



Appendix D: Contributing Agencies and Departments

Executive Office of the President

Council of Economic Advisers
Domestic Policy Council
Gender Policy Council
Council on Environmental Quality
Office of Science and Technology Policy
Office of Management and Budget
United States Digital Service
Office of the Vice President

United States Department of Health and Human Services

Administration for Children and Families
Administration for Community Living
Administration for Strategic Preparedness and Response
Agency for Healthcare Research and Quality
Centers for Disease Control and Prevention
Centers for Medicare & Medicaid Services
Health Resources and Services Administration
Indian Health Service
The National Institutes of Health
Office of the Assistant Secretary for Financial Resources
Office of the Assistant Secretary for Health
Office of the Assistant Secretary for Planning and Evaluation
Office of the National Coordinator for Health Information Technology
Substance Abuse and Mental Health Services Administration

United States Department of Agriculture

United States Department of Housing and Urban Development

United States Department of Labor

United States Department of Treasury

United States Department of Transportation

United States Department of Veterans Affairs

United States Department of Commerce, Census Bureau

National Endowment for the Arts

US Interagency Council on Homelessness



Appendix E: References

- ¹ *Social Determinants of Health - Healthy People 2030* | *health.gov*. (n.d.). <https://health.gov/healthypeople/priority-areas/social-determinants-health>
- ² Gregory, C. A., & Coleman-Jensen, A. (n.d.). Food insecurity, chronic disease, and health among working-age adults. <http://www.ers.usda.gov/publications/pub-details/?pubid=84466>
- ³ Whitaker, R. C., Phillips, S. M., & Orzol, S. M. (2006). Food insecurity and the risks of depression and anxiety in mothers and behavior problems in their preschool-aged children. *Pediatrics*, 118(3), e859–e868. <https://doi.org/10.1542/peds.2006-0239>
- ⁴ Banerjee, S., Radak, T., Khubchandani, J., & Dunn, P. (2021). Food Insecurity and Mortality in American Adults: Results From the NHANES-Linked Mortality Study. *Health promotion practice*, 22(2), 204–214. <https://doi.org/10.1177/1524839920945927>
- ⁵ Hummer, R. A., & Hernandez, E. M. (2013). The Effect of Educational Attainment on Adult Mortality in the United States. *Population bulletin*, 68(1), 1–16.
- ⁶ Muller, C., Sampson, R., & Winter, A. (2018). Environmental Inequality: The Social Causes and Consequences of Lead Exposure. *Annual Review of Sociology*, 44(1), 1-20. <http://dx.doi.org/10.1146/annurev-soc-073117-041222> Retrieved from <https://escholarship.org/uc/item/7z15t63g>.
- ⁷ Cook, Q., Argenio, K., & Lovinsky-Desir, S. (Nov. 2021). The impact of environmental injustice and social determinants of health on the role of air pollution in asthma and allergic disease in the United States. *J. of Allergy & Clinical Immunology*. Vol. 158:5, 1089-1101. <https://doi.org/10.1016/j.jaci.2021.09.018>.
- ⁸ Morello-Frosch, R. & Jesdale, B. (Mar. 2006). Separate and Unequal: Residential Segregation and Estimated Cancer Risks Associated with Ambient Air Toxics in U.S. Metropolitan Areas. *Environ. Health Perspectives*. 114(3): 386-393. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1392233/>.
- ⁹ Buchanan, D., Kee, R., Sadowski, L.S., Garcia, D. (2009). The health impact of supportive housing for HIV-positive homeless patients: a randomized controlled trial. *Am J Public Health*.99 Suppl 3(Suppl 3):S675- S680. doi:10.2105/AJPH.2008.137810
- ¹⁰ Hood, C.M., Gennuso K.P., Swain G.R., et al. County Health Rankings: Relationships Between Determinant Factors and Health Outcomes in 45 States. *American Journal of Preventive Medicine*. February 2016; 50(2): 129-35. doi: 10.1016/j.amepre.2015.08.024
- ¹¹ Marmot, M. G., and M. J. Shipley. "G, Rose. 1984. Inequalities in death-specific explanation of a general pattern." *Lancet*: 1003-1006.
- ¹² *Racism and Health*. (2021, November 24). Centers for Disease Control and Prevention. <https://www.cdc.gov/minorityhealth/racism-disparities/index.html>
- ¹³ Centers for Disease Control and Prevention. (2023, May). About Rural Health. <https://www.cdc.gov/ruralhealth/about.html>
- ¹⁴ The White House (January 20, 2021). Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>
- ¹⁵ Liu, J., et al. (Dec. 15, 2021). Disparities in Air Pollution Exposure in the United States by Race/Ethnicity and Income, 1990–2010. *Environmental Health Perspectives*, Vol. 129: No. 12. <https://doi.org/10.1289/EHP8584>.
- ¹⁶ McDonald, R., et al. (2021). The tree cover and temperature disparity in US urbanized areas: Quantifying the association with income across 5,723 communities. *PLOS ONE*, 16(4): e0249715. 27 p. <https://doi.org/10.1371/journal.pone.0249715>.



-
- ¹⁷ Prüss-Ustün, A., Wolf, J., Corvalán, C., Bos, R., & Neira, M., World Health Organization (2016). Preventing Disease Through Healthy Environments: A Global Assessment of the Burden of Disease from Environmental Risks. https://apps.who.int/iris/bitstream/handle/10665/204585/9789241565196_eng.pdf;jsessionid=09B50968F412E8B2DFD3E8FFDA7C200E?sequence=1.
- ¹⁸ Alderwick, H., & Gottlieb, L. M. (2019b). Meanings and Misunderstandings: A Social Determinants of Health Lexicon for Health Care Systems. *Milbank Quarterly*, 97(2), 407–419. <https://doi.org/10.1111/1468-0009.12390>
- ¹⁹ Sheingold, S., Zuckerman, R., Alberto, C., Samson, L., Lee, E., & Aysola, V. (September 2022). Addressing Social Drivers of Health: Evaluating Area-level Indices / *aspe.hhs.gov*. <https://aspe.hhs.gov/sites/default/files/documents/474a62378abf941f20b3eaa74ca5721c/Area-level-Indices-ASPE-Reflections.pdf>
- ²⁰ Whitman, A., De Lew, N., Chappel, A., Aysola, V., Zuckerman, R., & Sommers, B. (April 2022). Addressing Social Determinants of Health: Examples of Successful Evidence-Based Strategies and Current Federal Efforts/ *aspe.hhs.gov*. <https://aspe.hhs.gov/sites/default/files/documents/e2b650cd64cf84aae8ff0fae7474af82/SDOH-Evidence-Review.pdf>
- ²¹ Tsega, M., Lewis, C., McCarthy, D., Shah, T., Coutts, K. (July 2019). Review of Evidence for Health-Related Social Needs Interventions. *The Commonwealth Fund*. <https://www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINALVERSION.pdf>
- ²² *Worst Case Housing Needs 2023 Report To Congress | HUD USER*. (August 2023). <https://www.huduser.gov/portal/publications/Worst-Case-Housing-Needs-2023-Executive-Summary.html>
- ²³ U.S. Department of Housing and Urban Development, [HUD Releases 2022 Annual Homeless Assessment Report | HUD.gov / U.S. Department of Housing and Urban Development \(HUD\)](https://www.hud.gov/press-releases/2022-annual-homeless-assessment-report)
- ²⁴ *The 2022 Annual Homeless Assessment Report (AHAR) to Congress: Part 1 Point in Time Estimates of Sheltered Homelessness | HUD USER*. (December 2022). <https://www.huduser.gov/portal/sites/default/files/pdf/2022-AHAR-Part-1.pdf>
- ²⁵ Bielenberg, J. E., Futrell, M., Stover, B., & Hagopian, A. (2020). Presence of Any Medical Debt Associated With Two Additional Years of Homelessness in a Seattle Sample. *Inquiry : a journal of medical care organization, provision and financing*, 57, 46958020923535. <https://doi.org/10.1177/0046958020923535>
- ²⁶ Domestic Violence and Homelessness: Statistics (2016). Family and Youth Services Bureau, Administration for Children and Families. U.S. Department of Health & Human Services. <https://www.acf.hhs.gov/ofvps/fact-sheet/domestic-violence-and-homelessness-statistics-2016>
- ²⁷ USICH. (2022, December 19). Article headline. *United States Interagency Council on Homelessness (USICH)*. <https://www.usich.gov/news/after-halting-rapid-rise-in-homelessness-biden-harris-administration-announces-plan-to-reduce-homelessness-25-by-2025/>
- ²⁸ Fisher, B., Hovell, M., Hofstetter, C. R., & Hough, R. (1995). Risks associated with long-term homelessness among women: battery, rape, and HIV infection. *International journal of health services: planning, administration, evaluation*, 25(2), 351–369. <https://doi.org/10.2190/FYAR-WEYE-M1T8-7MF3>
- ²⁹ Singh, A., Daniel, L., Baker, E., & Bentley, R. (2019). Housing Disadvantage and Poor Mental Health: A Systematic Review. *American journal of preventive medicine*, 57(2), 262–272. <https://doi.org/10.1016/j.amepre.2019.03.018>
- ³⁰ Himmelstein, G., & Desmond, M. (2021). Association of Eviction With Adverse Birth Outcomes Among Women in Georgia, 2000 to 2016. *JAMA pediatrics*, 175(5), 494–500. <https://doi.org/10.1001/jamapediatrics.2020.6550>



- ³¹ Ribeiro, A. I., & Barros, H. (2020). Affordable, Social, and Substandard Housing and Mortality: The EPIPorto Cohort Study, 1999-2019. *American journal of public health, 110*(7), 1060–1067. <https://doi.org/10.2105/AJPH.2020.305661>
- ³² *Homelessness as a public health law issue: selected resources*. Public Health Law Program (Centers for Disease Control and Prevention (U.S.)); Centers for Disease Control and Prevention (U.S.). Office for State, Tribal, Local and Territorial Support. (March 2017). <https://stacks.cdc.gov/view/cdc/45672>
- ³³ Spinelli, M. A., Hessol, N. A., Schwarcz, S., Hsu, L. I., Parisi, M. K., Pipkin, S., Scheer, S., Havlir, D. V., & Buchbinder, S. (2019). Homelessness at diagnosis is associated with death among people with HIV in a population-based study of a US city. *AIDS, 33*(11), 1789–1794. <https://doi.org/10.1097/qad.0000000000002287>
- ³⁴ Tsai, J. (2020). Is the Housing First Model Effective? Different Evidence for Different Outcomes. *American Journal of Public Health, 110*(9), 1376–1377. <https://doi.org/10.2105/ajph.2020.305835>
- ³⁵ Sadowski, L. S., Kee, R. A., VanderWeele, T. J., & Buchanan, D. (2009). Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: a randomized trial. *JAMA, 301*(17), 1771–1778. <https://doi.org/10.1001/jama.2009.561>
- ³⁶ Coleman-Jensen, A., Rabbitt, M. P., Gregory, C. A., & Singh, A. (2022, September 7). Household Food Security in the United States in 2021. Retrieved from USDA Economic Research Report No. (ERR-309) 51 <https://www.ers.usda.gov/webdocs/publications/104656/err-309.pdf>
- ³⁷ *USDA ERS - Key Statistics & Graphs*. (2023, June). <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/#:~:text=percent%20in%202020,-.Food%20Security%20Status%20of%20U.S.%20Households%20with%20Children%20in%202021,households%20with%20children%20in%202021>
- ³⁸ *Food and Nutrition Security*. (n.d.). USDA. <https://www.usda.gov/nutrition-security>
- ³⁹ *Food Accessibility, Insecurity and Health Outcomes*. (n.d.). USDA. <https://www.nimhd.nih.gov/resources/understanding-health-disparities/food-accessibility-insecurity-and-health-outcomes.html>
- ⁴⁰ U.S. Department of Agriculture. (2020, December). Dietary Guidelines for Americans 2020-2025, 9th edition. Retrieved from U.S. Department of Agriculture: https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf
- ⁴¹ National Center for Health Statistics. (2022, September 6). Exercise or Physical Activity. Retrieved from Centers for Disease Control and Prevention: <https://www.cdc.gov/nchs/fastats/exercise.htm>
- ⁴² GBD 2017 Diet Collaborators (2019). Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* (London, England), 393(10184), 1958–1972. [https://doi.org/10.1016/S0140-6736\(19\)30041-8](https://doi.org/10.1016/S0140-6736(19)30041-8)
- ⁴³ Tsega M, Lewis C, McCarthy D, Shah T, Coutts K. Review of Evidence for Health-Related Social Needs Interventions. July 2019. The Commonwealth Fund. <https://www.commonwealthfund.org/sites/default/files/2019-07/ROI-EVIDENCE-REVIEW-FINAL-VERSION.pdf>
- ⁴⁴ Social Determinants of Health Literature Summaries— Healthy People 2030 | health.gov. (n.d.). <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries#education>
- ⁴⁵ Whitman, A., De Lew, N., Chappel, A., Aysola, V., Zuckerman, R., & Sommers, B. (April 2022). Addressing Social Determinants of Health: Examples of Successful Evidence-Based Strategies and Current Federal Efforts/ *aspe.hhs.gov*. <https://aspe.hhs.gov/sites/default/files/documents/e2b650cd64cf84aae8ff0fae7474af82/SDOH-Evidence-Review.pdf>



-
- ⁴⁶ Zajacova, A., & Lawrence, E. (2018). The Relationship Between Education and Health: Reducing Disparities Through a Contextual Approach. *Annual Review of Public Health*, 39(1), 273–289. <https://doi.org/10.1146/annurev-publhealth-031816-044628>
- ⁴⁷ *Penn Wharton Budget Model*. (2023, May 8). Penn Wharton Budget Model. <https://budgetmodel.wharton.upenn.edu/>
- ⁴⁸ *COE - Public High School Graduation Rates*. (n.d.). <https://nces.ed.gov/programs/coe/indicator/coi/high-school-graduation-rates>
- ⁴⁹ *Department of Education Office for Civil Rights—Education in a Pandemic: The Disparate Impacts of COVID-19 on America’s Students* (n.d.). OCR. <https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf>
- ⁵⁰ President Joseph R. Biden (Apr. 21, 2023). Executive Order 14096: Revitalizing Our Nation’s Commitment to Environmental Justice for All. 88 Fed. Reg. 25,251 (Apr. 26, 2023). <https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/21/fact-sheet-president-biden-signs-executive-order-to-revitalize-our-nations-commitment-to-environmental-justice-for-all/>.
- ⁵¹ The White House (n.d.). The American Rescue Plan [Fact Sheet]. <https://www.whitehouse.gov/wp-content/uploads/2021/03/American-Rescue-Plan-Fact-Sheet.pdf>
- ⁵² Kligler, B., Hyde, J., Gantt, C., & Bokhour, B. (2022). The Whole Health Transformation at the Veterans Health Administration: Moving From "What's the Matter With You?" to "What Matters to You?". *Medical care*, 60(5), 387–391. <https://doi.org/10.1097/MLR.0000000000001706>
- ⁵³ USDA Food and Nutrition Service. Fact Sheet: FNS Advances Goals of the White House Conference on Hunger, Nutrition, and Health. September 29, 2022.
- ⁵⁴ *Fact Sheet: FNS Advances Goals of the White House Conference on Hunger, Nutrition, and Health | Food and Nutrition Service*. (n.d.). <https://www.fns.usda.gov/fact-sheet/fns-role>
- ⁵⁵ *Fact Sheet: Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health | The White House*. (n.d.). <https://www.whitehouse.gov/wp-content/uploads/2022/09/White-House-National-Strategy-on-Hunger-Nutrition-and-Health-FINAL.pdf>
- ⁵⁶ https://www.nwea.org/uploads/Educations-long-covid-2022-23-achievement-data-reveal-stalled-progress-toward-pandemic-recovery_NWEA_Research-brief.pdf
- ⁵⁷ Williams MV, Perez L, Siddiqi S, Quresha N, Sousa J, Huttinger A. Building the Evidence Base for Social Determinants of Health Interventions. Office of the Assistant Secretary for Planning and Evaluation. September 2021. <https://aspe.hhs.gov/reports/building-evidence-base-social-determinants-health-interventions>
- ⁵⁸ Executive Order 14096, *Revitalizing Our Nation’s Commitment to Environmental Justice* (Apr. 21, 2023), 88 Fed. Reg. 25,251 (Apr. 26, 2023); [FACT SHEET: President Biden Signs Executive Order to Revitalize Our Nation’s Commitment to Environmental Justice for All | The White House](https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/21/fact-sheet-president-biden-signs-executive-order-to-revitalize-our-nations-commitment-to-environmental-justice-for-all/).
- ⁵⁹ Hughes, D. L., & Mann, C. (2020). Financing The Infrastructure Of Accountable Communities For Health Is Key To Long-Term Sustainability. *Health Affairs*, 39(4), 670–678. <https://doi.org/10.1377/hlthaff.2019.01581>
- ⁶⁰ Butler S, Higashi, T, Cabello M. Budgeting to Promote Social Objectives—A Primer on Braiding and Blending. The Brookings Institution. April 2020. <https://www.brookings.edu/wp-content/uploads/2020/04/BraidingAndBlending20200403.pdf>
- ⁶¹ The White House. The Justice40 Initiative [website]. <https://www.whitehouse.gov/environmentaljustice/justice40/>
- ⁶² *Smart Growth America*. (2023, February 9). Smart Growth America. <https://smartgrowthamerica.org/>



⁶³ HUD Awards \$84 Million to Help End Youth Homelessness | U.S. Department of Housing and Urban Development. (n.d.). https://www.hud.gov/press/press_releases_media_advisories/HUD_No_22_219

⁶⁴ HUD Awards Over \$125 Million to Protect Families from Lead and other Home Health and Safety Hazards | U.S. Department of Housing and Urban Development. (n.d.). https://www.hud.gov/press/press_releases_media_advisories/HUD_No_22_189

⁶⁵ U.S. Department of Education Awards More Than \$116 Million in Grants for Programs Focused on Equity and Accessibility for Students | U.S. Department of Education. (n.d.). <https://www.ed.gov/news/press-releases/us-department-education-awards-more-116-million-grants-programs-focused-equity-and-accessibility-students>

⁶⁶ Midwest Region: Department Awards Nearly \$1 Billion to 56 States and Territories to Provide Students with Safer and Healthier Learning Environments | U.S. Department of Education. (n.d.). <https://www.ed.gov/news/press-releases/midwest-region-department-awards-nearly-1-billion-56-states-and-territories-provide-students-safer-and-healthier-learning-environments>