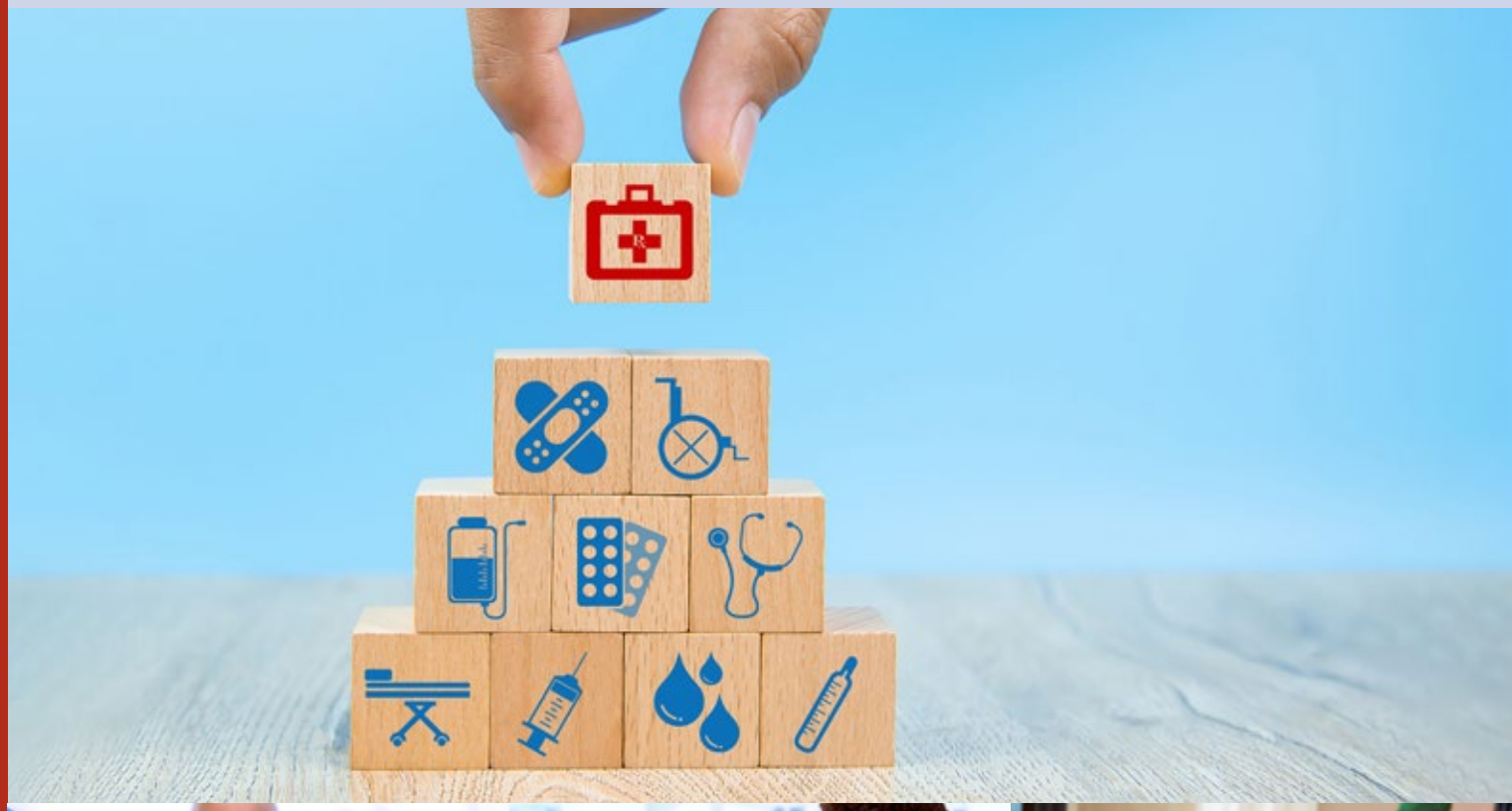
ISSUE REPORT

The Impact of Chronic Underfunding on America's Public Health System:

Trends, Risks, and Recommendations, 2021



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MAY 2021

Acknowledgements

Trust for America's Health (TFAH) is a nonprofit, nonpartisan public health policy, research, and advocacy organization that promotes optimal health for every person and community and makes the prevention of illness and injury a national priority.

The Public Health Funding report series is supported by generous grants from the **Robert Wood Johnson Foundation** and the **W.K. Kellogg Foundation.** Opinions in this report are TFAH's and do not necessarily reflect the views of either foundation.

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Executive Summary

Since the founding of *Trust for America's Health* (TFAH) 20 years ago, TFAH has consistently called in this report series and in other places for federal, state, local, territorial, and tribal leaders to provide adequate funding for the nation's public health system, both to promote health in good times and to prevent catastrophes in bad times. The COVID-19 pandemic on top of other, less extraordinary health emergencies over the past year—including wildfires in the West, Hurricane Laura, and the winter storm in Texas that brought about widespread power outages—provide conclusive evidence of the importance of public health resources. Under-resourced, understaffed, and overburdened health agencies responded to a major pandemic with inadequate systems, and the country's longstanding failure to invest in disease prevention, address the root causes of poor health, and promote health equity made the nation less resilient.

The clear consequences of failing to address these needs can be measured in lost lives; severe disease; exhausted and traumatized public health and healthcare systems; a deeply wounded economy, with widespread unemployment and underemployment; and serious learning loss among millions of children. **As the United States emerges from the pandemic, *this time* the nation must use lessons learned to build a world-class, standing-ready public health infrastructure and workforce with adequate and sustained funding, lest any U.S. resident ever again experience a year like the past one.**

Over the years, this series has documented a chronic pattern of underfunded vital public health programs in its annual analysis of such investments. This year's report comes to the same conclusion: underfunding continues to jeopardize the health, safety, and well-being of U.S. residents. Furthermore, the impact of underinvestment is cumulative, as the range and severity of health security threats continue to grow.

We need to better prepare for increasing public health challenges.

The nation's public health challenges are increasing. Americans face the ongoing challenges of the seasonal flu, vaccine-preventable disease outbreaks, the growing number of U.S. residents who have obesity or other chronic diseases, the opioid and other substance-related epidemics, and the suicide epidemic. In addition, weather-related emergencies are becoming more frequent and more intense.[1] Each of these crises is made worse by the persistence and, in some cases, exacerbation of profound health disparities.

The United States has not given health departments and partner agencies the funds they need to modernize and create a prevention focus across sectors, diseases, and health conditions. Indeed, the country spent $3.8 trillion on health in 2019, but with just 2.6 percent directed toward public health and prevention—the same as in 2018—the smallest share since at least 2000.[2,3] Understaffed departments across the country are battling 21st-century health threats and need appropriate resources, staffing, and tools to win those battles. The COVID-19 crisis demonstrated this reality in the starkest terms, as some overstretched departments found themselves using antiquated tools and methods, such as fax machines for data transmission, as they were racing a deadly and unforgiving virus.[4]

This annual report examines federal, state, and local public health funding and recommends the investments and policy actions necessary to effectively address modern health security threats.

Mixed picture for recent funding.

In some sense, Fiscal Year (FY) 2020 and FY 2021 (federal fiscal years run from October 1 to September 30) presented dual realities for health agencies. Within the sphere of standing program budgets, it was a typical year, with marginal increases and decreases. But on top of that, federal agencies received several infusions of discrete funding to fight the COVID-19 pandemic, much of it redistributed to states (and their localities) and territories. However, in general, states and localities could not use this funding to shore up longstanding weaknesses in preparedness and disease-prevention programs, as it was meant for urgent funding on the pandemic response. Moreover, while of some use, the simple reality is that such after-the-fact appropriations are inherently too late. To stand a chance against a threat like COVID-19, the nation needs to sustain higher funding year to year and invest resources in planning, workforce, and infrastructure beforehand. Not doing so is akin to hiring firefighters and purchasing hoses and protective equipment amid a five-alarm fire.

The Centers for Disease Control and Prevention (CDC) is the country's leading public health agency and a primary source of funding for state, local, tribal, and territorial communities. Historically underfunded, the agency's budget has not even kept pace over the past decade with the nation's growing public health needs and emerging threats. Its FY 2021 budget, which does not account for the onetime infusion of money from pandemic-relief laws, is $7.8 billion, reflecting a $100 million year-over-year cut. Several key programs received increases, but the total fell primarily because FY 2020 had included onetime money for work on the Chamblee Research Support Building on a CDC campus and because Congress provided funding for the Infectious Disease Rapid Response Reserve Fund through emergency supplemental funding rather than annual appropriations.[5]

To stand a chance against a threat like COVID-19, the nation needs to sustain higher funding year to year and invest resources in planning, workforce, and infrastructure for years beforehand. Not doing so is akin to hiring firefighters and purchasing hoses and protective equipment amid a five-alarm fire.

The CDC's budget fell by 2 percent over the past decade (FY 2012–2021), after adjusting for inflation. And there remains a mismatch between need and funding levels, as some successful prevention programs do not have enough funding to reach all states; for example, funding to fight obesity has been virtually flat for years, even as obesity continues to increase, leaving only enough money to support 16 states as they combat one of the leading drivers of health costs.[6]

The CDC's annual funding for public health preparedness and response programs increased slightly between FY 2020 and FY 2021, from $827 million to $842 million.[7] Funding for Public Health Emergency Preparedness (PHEP) Cooperative Agreements, which support core public health capabilities in states, territories, and local areas, increased by $20 million, while support for the CDC's other preparedness work decreased by $5 million. However, Congress has cut PHEP funding by just over one-quarter since FY 2003, or about half, after adjusting for inflation.[8]

In addition, in response to the pandemic, the CDC received several tranches of supplemental money since March 2020:[9]

- **$2.2 billion** from the Coronavirus Preparedness and Response Supplemental Appropriations Act (March 2020);
- **$4.3 billion** from the Coronavirus Aid, Relief, and Economic Security (CARES) Act (March 2020);
- **$1 billion** from the Paycheck Protection Program and Health Care Enhancement Act (April 2020) transferred to the CDC from the Public Health and Social Services Emergency Fund (PHSSEF) and administered by the U.S. Department of Health and Human Services (HHS);
- **$10.3 billion** from the PHSSEF to state, territorial, and some local health departments through the CDC Epidemiology and Laboratory Capacity program;
- **$8.8 billion** from the Coronavirus Response and Relief Supplemental Appropriations Act (December 2020), **$19.1 billion** from the PHSSEF to health departments through the CDC Epidemiology and Laboratory Capacity program; and
- **$11.5 billion** from the American Rescue Plan Act (March 2021).

The Hospital Preparedness Program—part of HHS's Office of the Assistant Secretary for Preparedness and Response—is the single annual source of federal funding to help healthcare systems prepare for emergencies, such as the COVID-19 pandemic. Its budget was $515 million in FY 2003 and just $280 million in FY 2021—a nearly two-thirds cut, after adjusting for inflation.[10,11]

The Prevention and Public Health Fund, originally designed to expand and sustain the nation's investment in public health and prevention, remains at about half the level Congress should have funded it at in FY 2021, due to the reappropriation of monies for other purposes.[12]

Three other federal agencies with significant public health responsibilities, the Substance Abuse and Mental Health Services Administration, the Health Resources and Services Administration, and the Food and Drug Administration (FDA) saw modest operating gains in their core annual funding for FY 2021.

Forty-three states and the District of Columbia maintained or increased public health funding in FY 2020, but seven reduced it amid a once-in-a-century pandemic, increasing the likelihood that they will be less prepared and less responsive in the moments that matter most. State health agencies play a key role in promoting public health and supporting local health departments. They directly engage in population-based primary prevention, developing preparedness plans and coordinating emergency responses, combating the opioid epidemic, and conducting lab testing, disease surveillance, and data collection.

The core capabilities of a robust public health system are vital.

Keeping U.S. residents safe from diseases, disasters, and bioterrorism requires a public health system focused on prevention, equity, preparedness, and surveillance. Investment to ensure foundational capabilities is key. Interagency and jurisdictional planning and cooperation are also critical, as is paying attention to the needs of population groups or communities at the greatest risk of harm. All these activities require dedicated and sustained funding.

Managing such risks requires a well-resourced public health infrastructure, one that has the resources to deal with its everyday work and is well-positioned to quickly scale up during emergencies. Core capabilities of a robust public health system include:

- **Threat assessment and monitoring:** the ability to track the health of a community and prevent or reduce harm using diagnostic testing and other data surveillance.
- **All-hazards preparedness:** the capacity to prevent and/or respond to emergencies of all kinds, from natural disasters to infectious disease outbreaks to bioterrorism.
- **Public communication and education:** the ability to effectively reach and communicate with diverse communities with timely, compelling, science-based information.
- **Community partnership development:** the ability to support, assist, and collaborate with community stakeholders, and to create multisector partnerships to meet health and equity goals.

- **Program management and leadership:** employing state-of-the-art management systems to function effectively and efficiently using advanced technology and expertise.

Critical to protecting the public's health is a well-trained, diverse, and appropriately resourced public health workforce. Even before the pandemic and related recession, state health agencies had lost nearly 10 percent of their full-time equivalent (FTE) workforce from 2012 to 2019,[13] while local health departments lost about 16 percent of their FTE staff from 2008 to 2019.[14] What's more, burnout was a growing issue even before COVID-19, as public health professionals are continually asked to do more with less, pushing them to consider leaving their posts.[15]

How funding flows from the federal government to the states also matters. Federal funding that is consistent, flexible, and informed with input from state and local leaders is necessary to improve and protect health.

Investments in public health improve health outcomes and reduce health spending.

The United States spends trillions annually on healthcare, but U.S. residents are not getting significantly healthier, and they tend to be less healthy overall than residents of developed countries that spend comparably less money on healthcare.[16,17] One reason is America's lack of focus on prevention. Investment in public health programs saves money by preventing injury and illness, which is particularly important among older populations. Today, nearly half of all U.S. residents ages 55 or older have two or more chronic conditions, such as diabetes or hypertension.[18] Moreover, failure to adequately address social determinants of health (SDOHs)—the nonmedical and upstream factors that influence a community's health—has exacerbated disparities and increased downstream costs.

There is strong existing evidence of the link between public health investment and improved community health, societal benefit, and reduced healthcare costs. For example, investments in tobacco-cessation programs save many times what is spent through premature deaths avoided, life years gained, and healthcare treatment costs averted.[19] Furthermore, researchers found that seven childhood vaccinations save more than $5 in direct costs and about $11 in additional societal costs per dollar spent.[20] An additional $10 per capita in public health spending can decrease premature mortality and increase the proportion of the population in "very good" or "excellent" health.[21]

A 2017 systemic review of the return on investment of public health interventions in high-income countries found a median return of 14 to 1.[22] The report's authors concluded that local and national public health interventions "are substantially cost saving" and that cuts to public health budgets in high-income countries are a "false economy."[23] In addition, a broad 2018 study of public health spending concluded that each dollar invested in public health "often returns more than one dollar in terms of health and financial benefits."[24] And a study on the impact of funding community health workers hired to address the social conditions in which people live and their effects on health found that every dollar invested in the intervention returned an average of $2.47 to Medicaid payors within the fiscal year.[25]

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Recommendations to bolster a hollowed-out public health infrastructure

Over the past decade, this report has documented the nation's underfunding of public health, underfunding that has put the health of U.S. residents at risk. The COVID-19 crisis illuminated these risks in ways many in this country never imagined.

Unfortunately, a pattern has emerged: the country temporarily pays attention to public health investment when there is a crisis and then moves on when the emergency passes. This boom-bust cycle has left the nation's public health infrastructure on weak footing. The Public Health Leadership Forum estimated that an annual infusion of $4.5 billion is necessary to fully support core public health foundational capabilities at the state, territorial, local, and tribal levels nationwide.[26]

This report presents in-depth recommendations for policy action within four priority areas:

1) Substantially increasing core funding to strengthen the public health infrastructure and workforce, including by modernizing the system's data and surveillance capacities.

2) Strengthening public health emergency preparedness, including within the healthcare system.

3) Safeguarding and improving U.S. residents' health by investing in chronic disease prevention and the prevention of substance misuse and suicide.

4) Addressing SDOHs and advancing health equity.

ADDITIONAL FUNDING NEEDED TO BOLSTER PUBLIC HEALTH INFRASTRUCTURE AND EQUITY.

While public health issues, such as chronic disease or emergency preparedness, affect everyone, some groups bear a disproportionate burden of the condition or event. This disparity is often due to factors beyond the control of individuals, such as historic disinvestment, poverty, and structural racism.

Racism in the United States undermines equity and opportunity, inflicting a far-reaching toll on the lives and health of Black people and other people of color. Its cross-cutting impacts are felt across health, education, economic opportunity, employment, housing, food security, transportation, criminal justice, and other SDOHs. And they are felt through environmental conditions, such as pollution sources regularly located near communities of color and, indeed, climate change itself.[27]

People of color in the United States suffer from health threats first and worst. This was true once again with COVID-19, as social determinants influenced communities' infection risk and outcomes severity, and it will continue to be true of climate change and other threats, unless leaders at all levels and across sectors prioritize the protection of disadvantaged people, including by finally confronting and reconciling with centuries-old biases that sit at the core of so many socially determined disparities. It is long past time to advance health equity and environmental justice.

To be effective, public health and other sectors require greater resources to address social determinants. Investments in public health have the potential to positively impact these factors, especially if there are resources to allow the sector to move beyond a narrow disease-specific model. TFAH's report *Promoting Health and Cost Control in States* includes 13 relevant evidence-based policy recommendations.[28]

To help fund these urgent priorities, TFAH advocates two key pieces of congressional action.

1. Strengthen Public Health Infrastructure.

Public health departments must respond quickly to emergencies while maintaining the day-to-day work they do to support healthy communities. But annual spending falls billions of dollars short of what is necessary to ensure that all communities receive service from health departments with comprehensive capabilities. The Public Health Infrastructure Saves Lives Act would establish and directly fund, at a level ramping up to $4.5 billion annually, a Core Public Health Infrastructure Program at the CDC, which would redistribute most of the money in grants to state, local, tribal, and territorial health departments, helping to ensure that they have the tools, workforce, and systems in place to address existing and emerging health threats and to reduce health disparities.[29] The program would build foundational capabilities in areas such as public health assessment, preparedness and response, policy development and support, communications, community partnership development, organizational competencies, accountability, and equity.

2. Improve Social Determinants of Health.

Most public health agencies lack the funding and tools to support cross-sector efforts and face limits in doing so by disease-specific federal funding. Given appropriate funding and technical assistance, more communities could engage in opportunities to address SDOHs that contribute to high healthcare costs and preventable disparities in health outcomes. For the first time, in FY 2021, Congress provided the CDC with $3 million in funding to specifically address SDOHs.[30] TFAH supports President Biden's FY 2022 budget request of $153 million to strengthen SDOH activities across the centers and to provide grants to state, local, tribal, and territorial agencies.[31] Such funding would allow these agencies to act as or complement the chief health strategists in their communities, leading efforts to convene partners across sectors to build integrated systems and programs that improve health and health equity.[32]

FUNDING FORMULAS MAKE A DIFFERENCE.

In addition to funding levels, there are other barriers to the effective use of public health funds. First, funding for public health typically comes in the form of legislatively determined program budgets, which create siloes and restrict limited funding to a specific condition, disease, or purpose, with little to no flexibility beyond its narrow definition. Yet individuals and communities are at risk of multiple interconnected health problems that often do not align neatly with budgetary line items.

A second challenge is that public health grant making often rewards organizations that have the means to write better grant applications and meet a high bar for eligibility. Although often unintended, this trend can leave behind small organizations doing good work, reinforce historic inequities, and fail to meet the needs of targeted populations at higher risk. To be effective, funders, agencies, and grant-making institutions must recognize that some communities may need higher funding levels and resources for technical assistance and capacity building, and they should take this into account when planning resource allocation. Likewise, potential funders should adapt their grant-making practices to account for differential needs, resources, and capacity, such as considering disease or incidence burden and social context when determining grant-making eligibility criteria. Funders need to ensure that grant-making criteria create a funding environment where communities with the greatest health-related needs can benefit from competitive grant mechanisms.

Because the method of funding predetermines when and how grantees can spend the funding, there is little opportunity for the involvement of members of the affected community in determining the key local priorities. Both grant makers and grantees should recognize that programs planned with local communities, rather than for them, stand a much greater chance of success.

In addition, initiatives that enable groups to work across sectors could benefit from program guidelines that allow for the braiding and blending of funds.[33] Braiding refers to coordinating funding and financing from several sources to support a single initiative or portfolio of interventions (usually at the community level). Braiding keeps funding/financing streams in distinguishable strands, so each funder can track resources. Blending combines different streams into one pool under a single set of reporting and other requirements, which makes streams indistinguishable from one another as they meet needs on the ground that are unexpected or unmet by other sources.[34]

However, the need for greater flexibility must not be an excuse for reducing funding. Models that combine block grants with budget cuts ultimately limit rather than increase flexibility by forcing communities to make untenable choices about which existing programs to eliminate.

A final critical element of the effective use of funds is the length of program funding. Often grant makers limit funding to a few years when the most effective approaches require a longer window of time to measure efficacy.

AMERICAN RESCUE PLAN

In March 2021, Congress passed, and President Joe Biden signed into law, the American Rescue Plan Act, a $1.9 trillion package designed to address the dual public health and economic crisis created by the COVID-19 pandemic. The legislation includes specific funding for expanded disease surveillance and testing, vaccine supply and administration, therapeutics, and the public health workforce, while also providing direct aid to states, localities, territories, tribes, and families. Also included in the package was increased funding for mental health and substance use services.

Among the package's key appropriations were critical outlays to bolster the COVID-19 response and invest in public health. Highlights include:[35]

- **$47.8 billion** to HHS to implement a national strategy for testing, contact tracing, surveillance, and transmission mitigation, including grants to state, local, and territorial public health departments for testing supplies and personal protective equipment, information technology, data modernization, and workforce expansion.
- **$7.7 billion** to HHS to sustain and expand the public health workforce, including through grants to state, local, and territorial health departments. Additional funding was set aside for the Medical Reserve Corps, the National Health Service Corps, and the Nurse Corps.
- **$7.6 billion** to community health centers to support COVID-19 mitigation.
- **$7.5 billion** to the CDC to plan, prepare, promote, distribute, administer, monitor, and track COVID-19 vaccines.
- **$6 billion** to support research, development, manufacturing, production, and purchase of vaccines, therapeutics, and other medical products.
- **$1.8 billion** to the CDC for genomic sequencing, analytics, and disease surveillance.
- **$1.5 billion** for block grants to community mental health services.
- **$1.5 billion** for block grants for substance abuse prevention and treatment.
- **$1 billion** to support programs to increase vaccine confidence and educate the public about emergency-use authorization approved vaccines.
- **$750 million** for global health activities.
- **$500 million** to the CDC to modernize public health data and disease warning systems.
- **$500 million** to the FDA to evaluate emerging Sars-COV-2 variants, vaccines, and other therapeutics, and to oversee the supply chain and mitigate vaccine shortages.

TFAH applauded the passing of the rescue plan as a critical step in helping the country defeat COVID-19, but also noted that while onetime funding is critical to helping the United States recover from the pandemic, protecting the public's health against the next health emergency requires sustained annual funding. The investments in public health data modernization and workforce beginning under the American Rescue Plan Act should lay the foundation for enduring change in the system: real-time public health surveillance; a well-trained, expert workforce; and the capacity to promote health equity in every community.

TFAH's statement:

"Controlling the pandemic requires immediate investment and improved coordination among federal agencies, and among the federal government and states. TFAH applauds the adoption of the American Rescue Plan Act. Emergency spending is appropriate and important but also requires a strong public health infrastructure to be effective. Ultimately, investment in that infrastructure is necessary. This plan is a critical down payment in controlling the pandemic. A long-term investment in the nation's public health system must be a top priority going forward."

Public Health Funding Trends

Federal public health funding

The federal government invests in public health programs across many of its agencies and dozens of programs. These programs—the backbone of the nation's public health system—are designed to improve health, prevent diseases and injuries, and prepare for potential disasters and major health emergencies. Most of this money flows through the Centers for Disease Control and Prevention (CDC), with additional funds going to other agencies within the U.S. Department of Health and Human Services (HHS), the U.S. Department of Agriculture (USDA), the U.S. Department of Housing and Urban Development, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency, among others.

CDC funding trends

The CDC is the nation's leading public health agency. Its mission includes protecting U.S. residents from disease outbreaks, disasters, unsafe food and water, and reducing the incidence of leading causes of injury and death. To help accomplish its objectives, the CDC supports states, localities, tribes, and territories in addressing threats in their communities. Indeed, the CDC redistributes the bulk of its program funding to these jurisdictions.

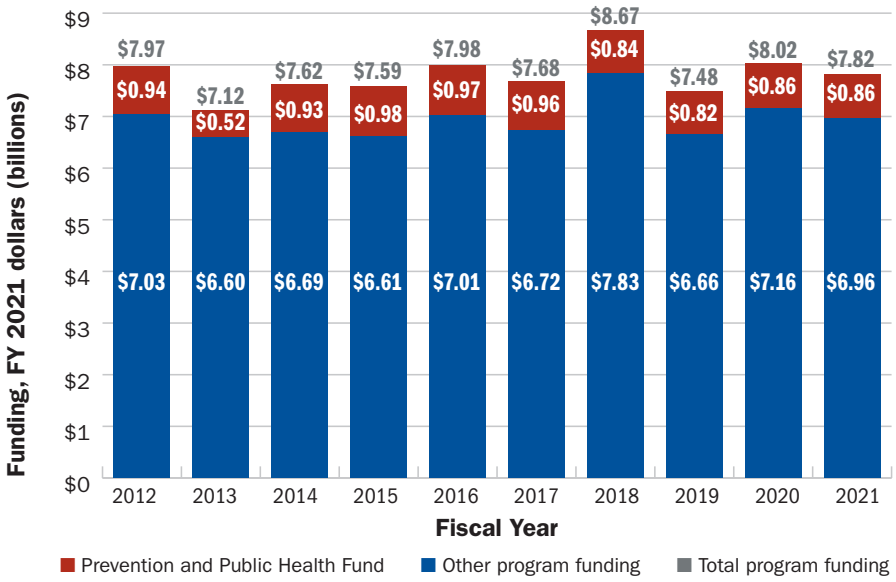
The agency's budget has not kept pace with the nation's growing public health needs and emerging threats, particularly the rise in chronic disease and weather-related emergencies. Years of eroding resources for public health emergency preparedness contributed to the country's flat-footed response to the COVID-19 pandemic.[36]

Funding for effective obesity and community prevention programs is inadequate to sufficiently support every state.[37] Despite rapid growth in the elderly population,[38] funding to support the overall wellness of older adults is nonexistent. Finally, the CDC also lacks sufficient dedicated funding to adequately support the cross-cutting, foundational capabilities that bolster comprehensive public health systems at the federal, state, local, tribal, and territorial levels.[39]

The Fiscal Year (FY) 2021 budget for the CDC, which does not account for the onetime distribution of money from reserve funds and pandemic relief laws enacted in 2020 and early 2021, is $7.8 billion. (See Figure 1.) This budget reflects a $100 million (1 percent) decrease from FY 2020 funding—or a 2 percent decrease in inflation-adjusted dollars. The largest increases went to the Ending HIV/AIDS Initiative (+$35 million), Influenza Planning and Response (+$25 million), Global Disease Detection and Emergency Response (+$20 million), and the Public Health Emergency Preparedness Cooperative Agreement (+$20 million). But the overall total fell primarily because FY 2020 had included a onetime infusion of $225 million for the Chamblee Research Support Building on the CDC campus, and because Congress provided funding for the Infectious Disease Rapid Response Reserve Fund through emergency supplemental funding rather than through annual appropriations.

Looking further back, the CDC's budget fell by 2 percent over the past decade (FY 2012–2021), after adjusting for inflation. (See Figure 1.)

Figure 1: CDC Program Funding, adjusted for inflation, FY 2012 - 2021



Note: Appropriately comparing funding levels in FY 2018 and FY 2019 requires accounting for the transfer of funding for the Strategic National Stockpile from the CDC to the Office of the Assistant Secretary for Preparedness and Response in FY 2019 and the exclusion of onetime lab funding in FY 2018.

Funding levels are in FY 2021 dollars. TFAH adjusted the data for inflation using the Bureau of Economic Analysis's implicit price deflators for gross domestic product.

Source: CDC Annual Operating Plans[40]

Much of the funding that the CDC receives annually is rerouted to states, localities, tribes, and territories to support their communities' related health programming. Major priorities include funding for childhood vaccination campaigns (e.g., Hepatitis B, MMR, DTaP); prevention of serious infectious diseases, such as HIV/AIDS, tuberculosis, and various sexually transmitted infections; and chronic disease prevention. In FY 2020, the latest year for which data were available, support from the CDC's annual budget ranged from $18 per person in New Jersey to $209 per person in the District of Columbia. (See Table 1.)

Amid the COVID-19 pandemic, the CDC received several tranches of money since March 2020,[41] in addition to its annual allocation:

- $2.2 billion from the Coronavirus Preparedness and Response Supplemental Appropriations Act (March 2020);
- $4.3 billion from the Coronavirus Aid, Relief, and Economic Security (CARES) Act (March 2020);
- $1 billion from the Paycheck Protection Program and Health Care Enhancement Act (April 2020) transferred to the CDC from the Public

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Health and Social Services Emergency Fund (PHSSEF), administered by HHS; $10.3 billion from the PHSSEF went to health departments through the CDC Epidemiology and Laboratory Capacity program for testing and contact tracing;

- $8.8 billion from the Coronavirus Response and Relief Supplemental Appropriations Act (December 2020), $19.1 billion from the PHSSEF to health departments through the CDC Epidemiology and Laboratory Capacity program for testing and contact tracing; and
- $11.5 billion from the American Rescue Plan Act (March 2021).

In all, the CDC awarded at least $48.1 billion in COVID-19-related funding to states, localities, tribes, and territories, with per capita grant totals among states ranging from $101 per resident for New York (New York City received an additional $1.8 billion) to $293 per resident for the District of Columbia.[42] (See Table 2.) States also received related funding from the National Institutes of Health, the Substance Abuse and Mental Health Services Administration, the Health Resources and Services Administration, the Administration for Children and Families, the Administration for Community Living, and others.

Table 1: CDC Program Funding to States, FY 2020

State	Agency for Toxic Substances and Disease Registry (ATSDR)	Birth Defects, Developmental Disabilities, Disability and Health	CDC-Wide Activities and Program Support	Childhood Obesity Demonstration Project	Chronic Disease Prevention and Health Promotion	Emerging and Zoonotic Infectious Diseases	Environmental Health	Health Reform - Toxic Substances & Environmental Public Health	HIV/AIDS, Viral Hepatitis, STI and TB Prevention
Alabama		$4,698,929	$2,868,766		$13,991,810	$1,981,277	$679,993		$13,011,492
Alaska	$423,449	$810,000	$632,550		$19,866,739	$1,721,308	$316,414		$2,192,494
Arizona		$1,571,826	$1,930,486		$20,932,920	$2,983,636	$1,343,931		$12,838,396
Arkansas		$2,398,474	$1,615,388		$10,596,199	$1,775,682			$6,142,725
California	$1,842,205	$3,072,943	$12,987,418	$749,920	$39,512,325	$14,256,141	$3,343,974		$117,636,920
Colorado	$1,672,306	$1,835,064	$3,959,470		$15,298,244	$7,983,043	$2,829,867		$10,687,420
Connecticut	$511,133	$396,513	$2,293,948		$9,832,959	$5,660,570	$1,826,351		$6,111,149
Delaware			$293,028		$8,210,676	$1,137,410	$421,489		$2,511,970
D.C.	$200,000	$13,595,503	$2,316,986		$25,710,744	$7,061,259	$2,016,107		$29,675,732
Florida	$468,638	$1,485,641	$6,032,871		$18,772,470	$3,499,545	$2,574,971		$66,318,259
Georgia	$252,622	$3,648,961	$8,725,275	$306,003	$53,712,495	$9,486,367	$1,623,255		$38,525,845
Hawaii		$160,000	$1,242,288		$6,578,565	$2,776,702	$530,000		$3,574,181
Idaho	$222,010	$160,000	$672,014		$5,834,136	$1,047,398	$40,000		$1,784,952
Illinois	$1,933,184	$2,278,998	$3,916,387	$410,891	$36,061,428	$5,073,636	$3,220,780		$28,886,230
Indiana		$264,581	$2,981,039		$8,685,751	$3,097,647	$1,427,630		$10,066,808
Iowa		$2,304,140	$2,315,326		$9,046,027	$3,588,367	$2,475,488		$3,047,311
Kansas		$799,637	$2,023,798		$10,706,340	$1,540,069	$1,243,885		$2,336,889
Kentucky		$687,613	$2,510,102		$11,330,913	$1,926,261	$1,797,328		$7,185,724
Louisiana	$335,191	$160,000	$5,269,383		$12,485,858	$1,346,348	$1,362,030		$17,873,123
Maine		$160,000	$1,754,964		$5,765,384	$1,494,320	$2,200,505		$1,840,929
Maryland		$4,030,315	$6,233,651	$850,001	$21,268,585	$17,533,601	$3,750,323		$32,360,167
Massachusetts	$1,898,048	$2,370,285	$4,683,198	$749,984	$15,858,560	$4,351,147	$3,346,945		$16,386,457
Michigan	$1,650,000	$1,116,621	$7,357,667		$24,154,848	$5,016,520	$10,069,830		$15,788,220
Minnesota	$606,688	$1,508,401	$4,630,218		$19,975,059	$11,235,146	$3,780,417		$6,527,983
Mississippi			$2,531,395		$13,743,177	$1,326,298	$574,392		$10,162,009
Missouri	$380,338	$1,514,288	$4,119,069	$749,587	$14,489,418	$1,218,755	$2,120,299		$12,747,935
Montana	$340,124	$390,000	$1,852,863		$9,960,673	$1,281,594	$537,500	$2,499,974	$1,669,249
Nebraska		$160,000	$2,679,163	$745,310	$10,275,133	$2,056,836	$545,684		$2,417,768
Nevada		$410,000	$619,660		$11,242,801	$1,416,071	$864,487		$7,239,089
New Hampshire	$389,452	$600,000	$2,300,867		$7,085,661	$1,634,876	$3,485,486		$1,752,415
New Jersey	$1,483,661	$850,239	$4,557,234		$9,509,842	$2,316,829	$2,390,231		$27,473,301
New Mexico	$339,937	$160,000	$2,234,567		$11,563,273	$3,362,223	$2,037,579		$2,579,225
New York	$1,648,431	$10,041,661	$12,137,625		$33,372,725	$15,562,544	$6,120,316		$98,727,382
North Carolina	$1,539,654	$3,524,392	$5,299,993		$18,702,078	$2,697,005	$1,477,084		$20,795,212
North Dakota		$160,000	$443,862		$8,718,891	$902,717			$1,719,383
Ohio	$450,000	$368,000	$7,195,040		$12,570,196	$5,895,342	$1,598,699		$17,964,947
Oklahoma		$370,000	$2,227,113		$12,427,093	$1,269,455	$498,096		$7,441,969
Oregon	$449,937	$878,000	$1,892,716		$16,059,098	$4,548,616	$1,703,142		$6,829,491
Pennsylvania	$476,018	$506,300	$7,579,196		$18,359,102	$3,735,241	$1,653,524		$26,425,666
Rhode Island	$444,790	$320,000	$750,569	$737,854	$9,980,530	$1,556,378	$2,198,336		$2,503,743
South Carolina		$2,716,000	$2,470,487		$15,998,273	$2,376,978	$534,000		$13,597,873
South Dakota			$366,816		$8,986,372	$901,769			$1,593,863
Tennessee	$450,000	$993,708	$3,128,412		$11,303,937	$9,269,374	$734,233		$14,379,851
Texas	$440,233	$761,182	$7,299,599		$21,292,725	$5,584,209	$3,766,475		$62,413,563
Utah	$251,816	$2,166,983	$1,529,005		$13,748,419	$5,068,220	$1,886,909		$2,696,035
Vermont		$325,000	$1,018,368		$6,535,954	$973,194	$2,080,010		$1,654,774
Virginia	$69,540	$2,238,436	$6,107,655		$23,982,186	$4,113,282	$1,830,632		$15,008,678
Washington	$415,663	$180,499	$2,072,097		$24,376,608	$7,536,514	$2,006,606		$17,005,582
West Virginia			$1,420,723		$8,866,388	$610,203	$481,600		$2,805,831
Wisconsin	$475,651	$1,466,510	$3,440,044		$15,225,070	$5,668,170	$2,448,767		$5,297,151
Wyoming		$160,000	$450,711		$4,093,152	$886,654			$1,747,025
United States	**$22,060,719**	**$80,775,643**	**$176,971,070**	**$5,299,550**	**$796,657,810**	**$211,342,747**	**$95,795,600**	**$2,499,974**	**$839,960,386**

Table 1: CDC Program Funding to States, FY 2020

State	Immunization and Respiratory Diseases	Injury Prevention and Control	Occupational Safety and Health	Public Health Preparedness and Response	Public Health Scientific Services (PHSS)	Vaccines for Children	World Trade Center Health Programs (WTC)	Total State Funding	Total State Funding, Per Capita	Total State Funding, Per Capita Ranking
Alabama	$3,973,529	$6,079,925	$1,662,833	$8,612,317	$816,526	$64,333,140		$122,710,537	$24.93	23
Alaska	$2,123,329	$6,407,848	$100,966	$5,020,482	$936,462	$9,633,350		$50,185,391	$68.64	2
Arizona	$5,814,264	$10,371,454	$1,253,300	$11,721,118	$1,011,991	$83,484,591		$155,257,913	$20.92	37
Arkansas	$3,026,192	$3,955,885	$539,931	$6,558,883	$725,027	$36,745,290		$74,079,676	$24.44	25
California	$33,010,758	$21,531,363	$6,850,747	$61,535,310	$4,392,181	$413,953,967		$734,676,172	$18.66	48
Colorado	$7,796,487	$10,751,724	$6,970,852	$10,315,422	$1,212,401	$48,153,535		$129,465,835	$22.29	33
Connecticut	$6,535,248	$10,497,912	$522,370	$7,514,989	$695,060	$31,198,437		$83,596,639	$23.50	30
Delaware	$1,537,255	$6,788,097		$5,312,726	$762,013	$11,251,369		$38,226,033	$38.74	5
D.C.	$9,941,066	$29,460,597	$1,421,168	$8,422,825	$8,478,186	$10,364,412		$148,664,585	$208.56	1
Florida	$12,846,852	$24,730,154	$4,174,403	$30,197,523	$1,144,100	$250,915,751	$499,883	$423,661,061	$19.49	42
Georgia	$19,901,992	$16,656,025	$987,367	$16,713,757	$8,193,969	$137,538,593		$316,272,526	$29.53	15
Hawaii	$2,488,059	$3,854,631		$5,743,173	$1,012,743	$16,139,491		$44,099,833	$31.34	12
Idaho	$2,314,914	$3,870,297		$5,419,650	$637,639	$23,808,901		$45,811,911	$25.08	22
Illinois	$13,399,581	$16,661,270	$2,944,171	$25,758,703	$300,691	$100,364,980		$241,210,930	$19.16	45
Indiana	$5,334,991	$9,883,317	$732,282	$11,238,343	$182,756	$71,818,947		$125,714,092	$18.61	50
Iowa	$3,737,355	$5,730,705	$4,586,463	$6,718,250	$220,134	$34,010,660		$77,780,226	$24.59	24
Kansas	$3,290,605	$4,731,634		$7,069,860	$583,562	$26,290,697		$60,616,976	$20.80	38
Kentucky	$4,029,472	$11,859,719	$3,709,934	$8,504,136	$876,449	$51,037,204		$105,454,855	$23.55	28
Louisiana	$3,335,744	$9,581,601	$252,000	$9,107,462	$1,712,329	$70,833,385		$133,654,454	$28.77	16
Maine	$2,495,614	$7,036,293		$5,542,500	$818,554	$12,823,338		$41,932,401	$31.06	13
Maryland	$15,322,559	$19,871,666	$7,656,710	$14,618,221	$17,607,053	$67,158,529		$228,261,381	$37.69	6
Massachusetts	$7,262,480	$14,845,695	$9,013,076	$13,031,996	$1,727,408	$68,833,893		$164,359,172	$23.84	26
Michigan	$11,092,429	$16,182,686	$2,860,710	$16,165,200	$1,461,357	$81,361,247		$194,277,335	$19.49	43
Minnesota	$8,391,238	$7,092,471	$3,730,220	$11,089,065	$1,535,174	$43,736,414		$123,838,494	$21.89	34
Mississippi	$3,168,540	$3,589,631	$130,000	$6,933,779	$526,727	$42,554,597		$85,240,545	$28.73	17
Missouri	$5,002,836	$7,234,477	$488,461	$10,681,850	$536,090	$61,759,952		$123,043,355	$20.00	41
Montana	$1,640,862	$4,145,676	$243,627	$5,542,500	$631,180	$9,557,199		$40,293,021	$37.29	7
Nebraska	$2,978,497	$3,963,020	$2,046,122	$5,577,593	$806,352	$20,424,607		$54,676,085	$28.22	19
Nevada	$3,618,599	$7,960,954		$6,918,548	$740,635	$32,774,772		$73,805,616	$23.52	29
New Hampshire	$1,894,573	$5,466,205	$819,829	$5,274,439	$430,785	$10,886,066		$42,020,654	$30.76	14
New Jersey	$6,919,559	$11,522,455	$431,775	$15,165,097	$444,541	$77,818,063		$160,882,827	$18.11	51
New Mexico	$4,326,479	$7,297,794	$144,976	$6,664,176	$583,934	$30,131,654		$71,425,817	$33.91	11
New York	$21,416,906	$19,253,368	$4,625,617	$36,563,444	$5,237,759	$235,819,358	$22,717,371	$523,244,507	$27.06	20
North Carolina	$7,455,859	$18,697,973	$2,382,913	$14,850,340	$1,181,876	$119,925,109		$218,529,488	$20.61	39
North Dakota	$1,819,488	$796,402		$5,169,900	$452,980	$7,498,329		$27,681,952	$36.17	9
Ohio	$8,018,990	$27,356,536	$2,508,325	$17,493,914	$670,039	$120,832,686	$499,999	$223,422,713	$19.11	47
Oklahoma	$3,747,029	$9,531,639	$258,000	$7,742,012	$428,711	$57,880,586		$103,821,703	$26.08	21
Oregon	$6,497,932	$7,868,234	$2,096,709	$8,308,801	$770,426	$31,346,171		$89,249,273	$21.04	36
Pennsylvania	$15,642,830	$28,356,468	$2,649,029	$19,869,077	$321,744	$118,709,290		$244,283,485	$19.11	46
Rhode Island	$1,836,401	$8,444,425		$5,460,627	$271,026	$14,111,173		$48,615,852	$45.99	4
South Carolina	$4,124,655	$5,726,015		$10,384,796	$246,934	$64,897,535		$123,073,546	$23.59	27
South Dakota	$1,789,809	$3,749,183		$5,753,739	$138,849	$9,829,805		$33,110,205	$37.09	8
Tennessee	$9,154,424	$11,189,176	$290,210	$12,038,097	$1,186,094	$86,938,091		$161,055,607	$23.39	31
Texas	$26,118,307	$7,313,894	$4,397,663	$40,511,313	$1,132,923	$414,927,890		$595,959,976	$20.30	40
Utah	$3,381,156	$6,962,202	$1,800,000	$7,683,958	$507,108	$25,350,451		$73,032,262	$22.47	32
Vermont	$1,541,129	$4,611,272		$5,383,009	$329,544	$6,684,837		$31,137,091	$49.95	3
Virginia	$7,557,068	$14,338,781	$695,880	$18,130,442	$4,080,589	$68,061,158		$166,214,327	$19.35	44
Washington	$7,214,923	$12,636,994	$4,666,459	$13,294,948	$615,067	$72,874,850		$164,896,810	$21.43	35
West Virginia	$1,413,152	$8,520,648	$400,000	$5,335,516	$309,129	$20,645,597		$50,808,787	$28.47	18
Wisconsin	$7,118,422	$10,174,167	$1,641,525	$12,028,584	$721,539	$43,071,388		$108,776,988	$18.65	49
Wyoming	$1,559,392	$528,761		$5,205,019	$400,272	$5,112,376		$20,143,362	$34.59	10
United States	**$355,959,830**	**$535,669,319**	**$92,686,623**	**$625,897,429**	**$80,746,618**	**$3,576,213,712**	**$23,717,253**	**$7,522,254,283**	**$22.83**	**N/A**

Note: These figures do not include funding tied directly to the COVID-19 pandemic response. The U.S. total reflects grants and cooperative agreements to all 50 states and the District of Columbia, but it does not include territories, localities, or tribes for the purpose of comparability.

Source: CDC Grant Funding Profiles[43]

Table 2: CDC COVID-19 Pandemic Response Funding to States			
	CDC Funding to States for COVID-19 Pandemic Response	Funding, Per Capita	Per Capita Ranking
Alabama	$659,190,049	$134	36
Alaska	$169,941,374	$232	4
Arizona	$963,697,914	$130	44
Arkansas	$422,414,568	$139	27
California	$3,986,030,465	$101	50
Colorado	$806,772,976	$139	29
Connecticut	$593,227,456	$167	14
Delaware	$206,690,566	$209	8
District of Columbia	$209,158,355	$293	1
Florida	$2,799,979,823	$129	45
Georgia	$1,444,215,958	$135	34
Hawaii	$236,506,350	$168	13
Idaho	$273,034,730	$149	20
Illinois	$1,401,584,493	$111	49
Indiana	$932,161,308	$138	30
Iowa	$459,185,404	$145	23
Kansas	$417,958,657	$143	24
Kentucky	$594,208,694	$133	40
Louisiana	$712,817,637	$153	18
Maine	$228,469,317	$169	12
Maryland	$886,347,977	$146	21
Massachusetts	$1,148,446,206	$167	15
Michigan	$1,427,332,145	$143	25
Minnesota	$769,161,437	$136	31
Mississippi	$432,680,505	$146	22
Missouri	$819,931,828	$133	38
Montana	$199,571,802	$185	9
Nebraska	$306,842,386	$158	17
Nevada	$443,668,203	$141	26
New Hampshire	$237,455,884	$174	11
New Jersey	$1,608,138,278	$181	10
New Mexico	$338,187,542	$161	16
New York	$1,948,055,158	$101	51
North Carolina	$1,345,395,006	$127	46
North Dakota	$170,850,779	$223	6
Ohio	$1,533,868,021	$131	43
Oklahoma	$529,623,432	$133	39
Oregon	$561,659,567	$132	42
Pennsylvania	$1,550,556,232	$121	47
Rhode Island	$236,108,090	$223	5
South Carolina	$691,882,108	$133	41
South Dakota	$190,153,636	$213	7
Tennessee	$918,826,452	$133	37
Texas	$3,404,894,774	$116	48
Utah	$451,909,411	$139	28
Vermont	$161,214,057	$259	3
Virginia	$1,160,679,148	$135	33
Washington	$1,030,809,171	$134	35
West Virginia	$273,542,014	$153	19
Wisconsin	$789,047,456	$135	32
Wyoming	$150,873,543	$259	2
Total	**$43,234,958,342**	**$131**	**N/A**

Note: The U.S. total reflects grants to all 50 states and the District of Columbia, but does not include territories, localities, or tribes for the purpose of comparability.

Source: CDC Response to COVID-19[44]

Prevention and Public Health Fund

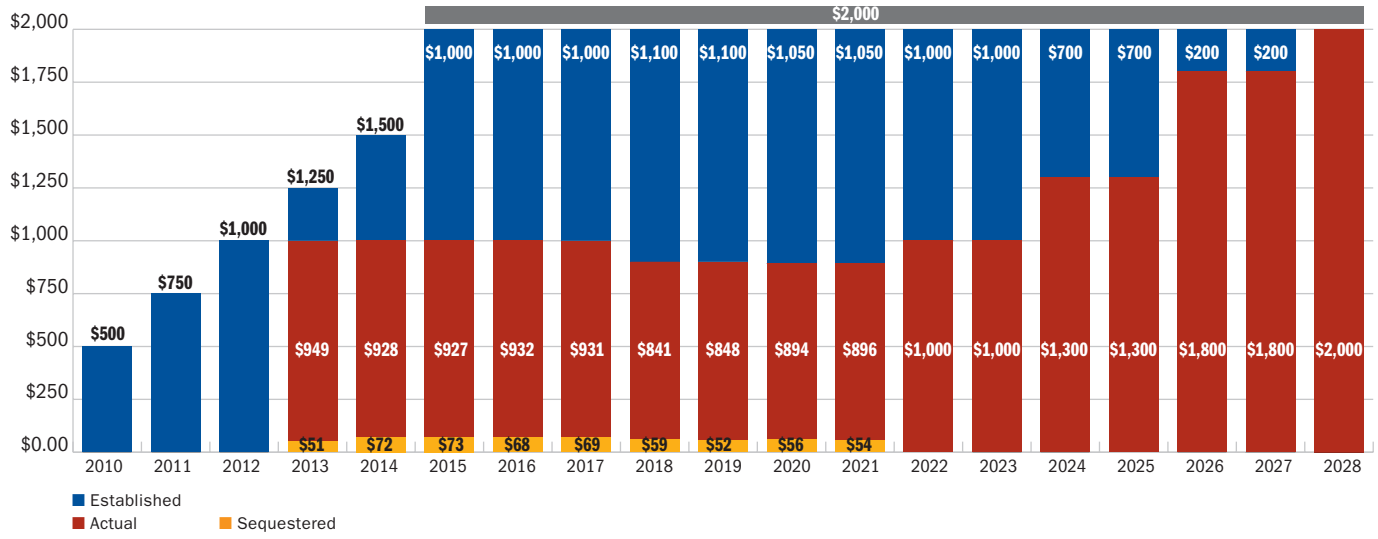
Eleven percent of the CDC's FY 2021 budget ($856 million) consists of funding for the Prevention and Public Health Fund, or the "Prevention Fund,"[45] a critical source for prevention and public health funding within the federal budget. The Prevention Fund is intended, by statute, to "improve health and help restrain the rate of growth in private and public sector health care costs."[46] Its purpose is to support "an expanded and sustained national investment in prevention and public health programs."[47]

Prevention Fund programs have demonstrated the importance of expanding evidence-based approaches to preventing disease and strengthening the public health infrastructure. It has invested more than $9 billion to enable communities in every state and territory to invest in effective, proven public health and prevention efforts. The fund supports proven prevention efforts targeted at reducing tobacco use, expanding access to immunizations, increasing physical activity, improving nutrition, and expanding mental health and injury-prevention programs. It provides financial support directly to states and localities to address some of their most pressing health challenges with the programs and services most appropriate for their community needs.

To the detriment of the nation's health, starting in FY 2013, the Prevention Fund has been repeatedly used for other priorities. There is a growing gap between the funds that were originally enacted and actual or scheduled funding. (See Figure 2.) In all, the fund is on pace to lose $11.9 billion—about a third—of its originally allocated $33 billion from FY 2010–2027.

Figure 2: String of Cuts to the Prevention Fund Since Creation

Prevention Fund, FY 2010 – 2028



Note: The Patient Protection and Affordable Care Act (ACA) (P.L. 110-48) established the original allocations (blue bars + red bars + gold bars), while most recently the Bipartisan Budget Act of 2018 (P.L. 115-123, current law) triggered cuts (blue bars). The CDC receives most but not all distributions from the Prevention Fund; the rest is allocated to the Substance Abuse and Mental Health Services Administration and the Administration for Community Living.

Source: CDC Annual Operating Plans[48]

Funding for key CDC initiatives

The CDC supports both cross-cutting aspects of public health, such as public health laboratories, as well as issue-specific efforts, such as emergency preparedness, chronic and infectious disease prevention, tobacco prevention and cessation, and substance use disorder and suicide prevention. Some of these programs place an emphasis on addressing the health inequities that exist in communities across the country.

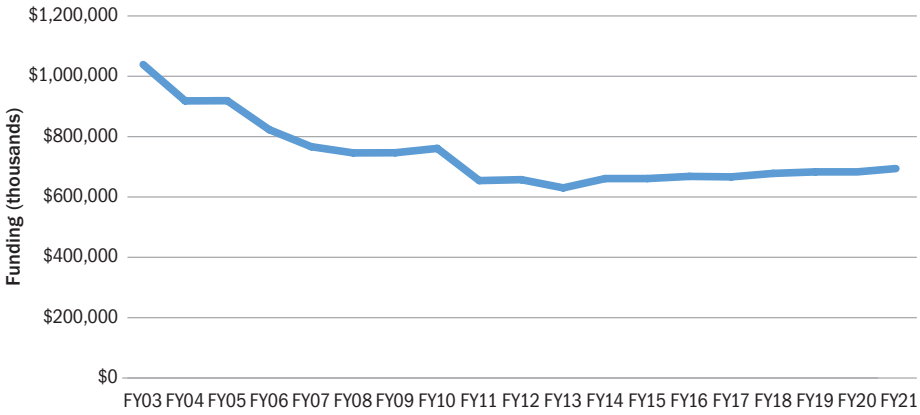
Owing in part to flat funding levels over the past decade, the CDC's budgets for many of these initiatives remain insufficient to support all states, territories, tribes, and localities.[49] This section describes funding trends for several key program areas.

Public health emergency preparedness and response

In 2019, the Pandemic and All-Hazards Preparedness and Advancing Innovation Act was enacted, reauthorizing the CDC's Public Health Emergency Preparedness (PHEP) Cooperative Agreement through FY 2023.[50] Despite being the primary source of federal support for state, local, tribal, and territorial public health emergency preparedness and response, Congress cut this funding by hundreds of millions of dollars over the past two decades. (See Figure 3.) Following flat funding in FY 2020, PHEP received an additional $20 million in FY 2021, but not nearly enough to restore lost resources.

Figure 3: Public Health Emergency Preparedness Has Lost Ground

CDC funding for state and local preparedness and response, FY 2003-21



Note: Data for FY 2003 to 2015 reflect "state and local preparedness and response capability," with additions in FY 2003 (smallpox supplement) and FY 2004 (Cities Readiness Initiative and U.S. Postal Service costs). Data for FY 2016 to 2021 reflect the sum of funding for the "Public Health Emergency Preparedness Cooperative Agreement" and "Academic Centers for Public Health Preparedness." A change in the CDC's reporting practice in its annual operating plans accounts for this difference.

Source: CDC Annual Operating Plans[53]

This erosion of funding over time increased the vulnerability of the United States ahead of the COVID-19 pandemic, which revealed the tragic consequences of the nation's long-term neglect of public health capabilities at the federal, state, local, tribal, and territorial levels. Understaffed health departments were in some cases using 20th-century tools, such as telephones and fax machines,[51,52] to respond to a 21st-century pandemic. They were needlessly working from a deficit when the pandemic emerged.

The CDC's PHEP Cooperative Agreement provides funding directly to 50 states, four metro areas (Chicago, Los Angeles, New York City, and the District of Columbia), and eight U.S. territories (as well as freely associated states) to improve response readiness.[54] The program is intended to address "all hazards," including infectious diseases, such as COVID-19, measles, and seasonal flu; weather-related emergencies; human-made disasters, such as terrorism; environmental disasters; and water contamination. Money from PHEP enables states to fund epidemiologists, laboratory staff, health educators, health professionals, and field staff to investigate and address public health threats.[55]

In response to the 9/11 terrorist attacks, Congress created the Hospital Preparedness Program (HPP)—in addition to PHEP—to mobilize healthcare organizations and hospitals with federal support in the event of a regional or national emergency.[56] Since 2002, the HPP has supported public health emergency responses, including Hurricane Katrina (which exposed longstanding critical underfunding and unpreparedness in emergency response, presaging what the country experienced during the COVID-19 pandemic); the H1N1 pandemic; the Boston Marathon bombings; Hurricanes Harvey, Maria, and Irma; and the COVID-19 pandemic.[57,58]

Administered and run through the Office of the Assistant Secretary for Preparedness and Response at HHS, the HPP, the only federal source of funding to help the healthcare delivery system prepare for and respond to disasters, has been cut from $515 million in FY 2003 to $280 million in FY 2021—a nearly two-thirds cut, after adjusting for inflation.[59,60]

Over the past year, the Office of the Assistant Secretary for Preparedness and Response has provided $350 million in emergency supplemental funding to support hospitals, health systems, and healthcare providers to prepare for and respond to COVID-19. Of this, Congress awarded $100 million as part of the Coronavirus Preparedness and Response Supplemental Appropriations Act and $250 million as part of the CARES Act. The funding supported the National Special Pathogen System, a nationwide systems-based network that coordinates the National Emerging Special Pathogens Training and Education Center; hospital associations in all 50 states, the District of Columbia, New York City, and Puerto Rico; regional Ebola and other special pathogen treatment centers; and HPP recipients.[61]

Owing in part to long-term underfunding, the pandemic exposed major gaps in healthcare preparedness, including coordinating surge capacity across the system;[62,63] building and maintaining preparedness for high-consequence infectious diseases;[64] preparedness of facilities that serve people at higher risk, such as long-term care facilities; and lack of training and preparedness for events in healthcare.[65] Experts have also identified additional gaps, such as pediatric surge capacity,[66] burn capacity and other specialty care needed for

emerging threats, and ongoing stress on the healthcare system's ability to provide emergency care.

When extraordinary outbreaks or disasters occur, they sometimes require supplemental funding. There are different mechanisms for facilitating such funding. The most frequent approach is for the administration to request and for Congress to pass a supplemental appropriation, as it did during the COVID-19 pandemic. However, this process may result in significant delays, as was the case during the Zika outbreak in FY 2016.[67] Other mechanisms can potentially accelerate the availability of resources:

- **Infectious Diseases Rapid Response Reserve Fund,** established by the FY 2019 Labor-HHS-Education appropriations bill, can be tapped to prevent, prepare for, or respond to a declared infectious disease emergency.[68] Congress also added to the fund an additional $85 million in FY 2020 and $10 million in FY 2021.[69] Under the direction of the HHS secretary, funds may be transferred to other Public Health Service Act programs, as necessary. This mechanism can move targeted money quickly. However, the demands of addressing many major outbreaks far exceed the balance of the fund, especially if medical countermeasures are required. For example, HHS tapped $105 million from the fund to begin to respond to the COVID-19 pandemic within days of the federal public health emergency declaration.[70] Congress replenished the fund with $600 million in COVID-19-related supplemental legislation.[71]

- **Public Health Emergency Rapid Response Fund** can also be tapped during a declared public health emergency. However, this fund has been perpetually empty. The Pandemic and All-Hazards Preparedness and Advancing Innovation Act requires the Government Accountability Office to audit the fund and make recommendations for how to improve it.[72] Unlike the Infectious Diseases Rapid Response Reserve Fund, the Public Health Emergency Rapid Response Fund can be used for noninfectious disease emergencies.
- **Limited authority under the secretary of HHS to transfer funds** among HHS accounts up to a 1 percent cut and a 2 percent increase. During the COVID-19 response, for example, then-HHS Secretary Alex Azar transferred up to $136 million among HHS programs as a stop-gap measure.[73] Transfers can have major harms on public health programs, as was evident during the Zika response, when the HHS secretary redirected $44 million from PHEP grants while the CDC waited for supplemental funding.[74] Even when Congress back-fills these transfers, the harm may have already been done, as grantees cannot easily hire back a lost workforce.

These mechanisms are intended to serve as a bridge between existing annual funding and emergency supplemental funds but are not intended to supplant or substitute for either. In the early days of the COVID-19 pandemic, transfers from the Infectious Diseases Rapid Response Reserve Fund and other HHS programs helped to jumpstart the response, but delays in the administration's request for emergency supplemental funding, as well as its request to repurpose existing funds, hindered the nation's overall response.[75]

Of course, consistently providing adequate annual funding for public health agencies at the state, local, territorial, and tribal levels would reduce the country's reliance on such emergency tools.

Community prevention

The communities where people work, live, and play affect their health and well-being.[76,77,78] Social determinants of health—such as economic opportunity, accessible transportation, robust physical infrastructure, educational access, affordable food, stable housing, and public safety—all contribute to wellness and life expectancy.[79,80] Despite these social determinants' significant impact on a community's health outcomes, many jurisdictions still struggle to provide quality living conditions or economic opportunities.[81] And the CDC has minimal funding targeted to addressing social determinants of health (SDOHs) and altering these conditions.

Governmental and nongovernmental organizations, along with community members, must work together to improve SDOHs and the overall health of whole populations, rather than one individual at a time.[82] For example, community partnerships have developed and advocated for healthy food retailers in low-income neighborhoods; engaged in "Complete Streets" planning to address the needs of pedestrians, bicyclists, and transit riders; worked to reduce exclusionary disciplinary practices to create more supportive school environments; and launched multimedia campaigns to reduce tobacco use.

The National Diabetes Prevention Program includes the Appalachian Diabetes Control and Translation Project[83] and the Native Diabetes Wellness Program.[84] Millions of people in Appalachia suffer from poor health outcomes tied to socioeconomic, geographical, and cultural factors of the Appalachian region.[85] Meanwhile, Native Americans have the highest prevalence of type 2 diabetes among all U.S. racial groups.[86] Both projects utilize regional coalitions and community resources to deliver the National Diabetes Prevention Program's education and lifestyle interventions to the communities that need it most. But insufficient funding limits the number of communities where these programs occur.

Additionally, successful programs, such as the CDC's State Physical Activity and Nutrition (SPAN) program, do not have enough funding to operate in all 50 states. SPAN provides evidence-based strategies to improve nutrition and encourage physical activity by helping to establish early care and education, breastfeeding, food-service guidelines, street design, and other local efforts. Unfortunately, in FY 2021 SPAN only has enough funding to support programs in 16 states.[87] Additional states could receive this support for an estimated $1.2 million each. Compared with the estimated $190 billion in obesity-related healthcare costs that the United States spends annually,[88] increasing SPAN funding would be a small investment that could substantially reduce overall healthcare costs.

Two valuable CDC initiatives that specifically focus on racial and ethnic populations at elevated risk of preventable illness, injury, and death—Racial and Ethnic Approaches to Community Health (REACH) and Good Health and Wellness in Indian Country—are underfunded and often compete for limited resources. Both have a solid track record of advancing culturally appropriate and effective interventions for populations that bear disproportionate burdens of chronic disease; Congress should appropriately fund them to match the scale of the problem.

These and other community prevention efforts can effectively address a wide variety of adverse health outcomes, such as chronic disease, substance misuse, injury, and violence.[89,90] By extension, this can also help reduce preventable acute healthcare spending, producing a substantial return on investment. For example, school-based substance misuse screenings, brief interventions, and referrals to treatment programs have produced returns on investment as high as $20 for every $1 spent.[91,92] School-based violence-prevention efforts can achieve a return ranging from $15 to $81 for every $1 spent. Tobacco-control mass media campaigns have demonstrated returns ranging from $7 to $74 per $1 spent,[93,94,95,96] and the CDC's Tips from Former Smokers (TIPS) campaign, the first federally paid national tobacco education campaign, helped prevent an estimated 129,000 early deaths and an estimated $7.3 billion in smoking-related healthcare costs from 2012 to 2018.[97] Prevention Fund monies funded the TIPS campaign.

While the CDC's existing programs have proved effective in addressing several SDOHs, FY 2021 was the first year that the CDC specifically received funds to focus on SDOH strategies. The $3 million that the CDC received in FY 2021 for SDOHs will serve as a valuable launching pad for innovative work, but that amount needs to grow to fully address the scope of the issue.

Chronic disease prevention

According to the CDC, roughly 60 percent of adults[98] and about 25 percent of children ages 2 through 8 in the United States live with one or more chronic diseases, such as heart disease, diabetes, cancer, obesity, and/or asthma.[99] Together, chronic diseases are responsible for seven in 10 deaths each year in the United States[100] and, along with mental health conditions, are responsible for 90 percent of the country's $3.8 trillion in annual healthcare expenditures.[101] While genetic risk factors may play a role in the development and progression of chronic disease, behaviors such as smoking, alcohol consumption, diets with high-calorie and low-nutrition content, and lack of physical activity are major factors that influence the rate and severity of chronic disease.[102] For instance, lack of physical activity contributes to an estimated 10 percent of premature deaths.[103] Yet at least 15 percent of adults in every state and territory in the country are physically inactive.[104] The CDC estimates that physical inactivity alone costs the healthcare system $117 billion annually.[105] These risk factors have ties to social and economic conditions (e.g., neighborhood walkability); prevention efforts involve improving these conditions as well as promoting healthful behaviors.

While the majority of adults in the United States live with chronic disease, the burdens are not distributed equally and usually fall on neighborhoods and communities that have been historically under-resourced. Racial and ethnic disparities are deep and wide. For example, obesity rates are higher among Black, Latino, and American Indian populations, compared to white populations, owing in part to income-related access to healthful foods and places to safely exercise.[106]

The key to reducing healthcare expenditures related to treating chronic disease is increased investment in effective and proven prevention programs. The CDC's chronic disease prevention and health promotion activities focus on four key areas:[107]

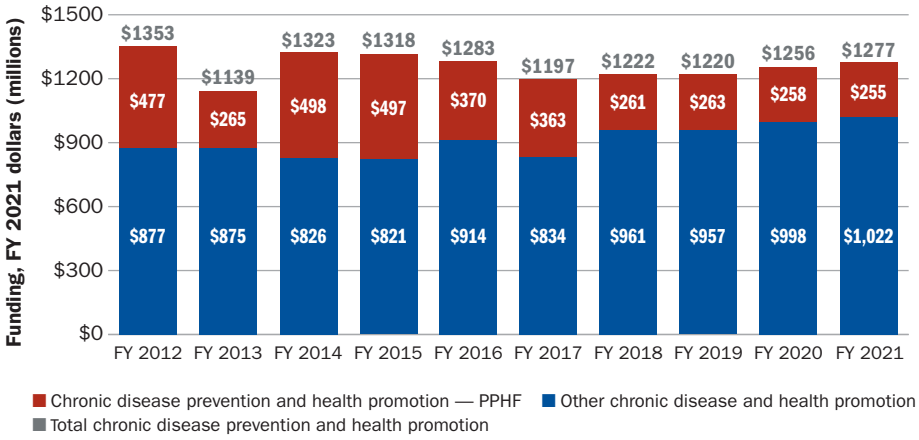
1. Measuring prevalence of chronic diseases and risk factors among U.S. residents.
2. Making environmental improvements that facilitate healthy choices.
3. "Strengthening healthcare systems to deliver prevention services that keep people well and diagnose diseases early."
4. "Connecting clinical services to community programs that help people prevent and manage their chronic diseases and conditions."

The CDC has several evidence-based prevention and control programs ready for communities to implement across the chronic disease spectrum that evidence suggests are cost-effective. For example, the CDC's National Diabetes Prevention Program may save more than $1,000 annually per participant in healthcare costs.[108] In the first five-year cycle (2012–2016) of its Million Hearts initiative, a national effort to prevent one million heart attacks and strokes, the program prevented an estimated 135,000 heart attacks, strokes, and related acute cardiovascular events, and it saved $5.6 billion in direct medical costs, a substantial portion of which was saved by public insurance programs such as Medicare and Medicaid.[109]

However, while the CDC is implementing cost-effective and lifesaving work, it is woefully underfunded. As the country spends $3.8 trillion on annual health expenditures, the CDC is on track to spend only $1.3 billion on chronic disease prevention and health promotion in FY 2021,[110] roughly the same level as FY 2020 and below the FY 2012 level, after adjusting for inflation.[111] (See Figure 4.) For example, the Division of Nutrition, Physical Activity, and Obesity, which funds several key programs like SPAN, the High Obesity Program, and the Childhood Obesity Research Demonstration, has resources that equate to roughly 31 cents per U.S. resident per year.[112]

Figure 4: CDC's Current Chronic Disease Funding Lags Behind FY 2012 Level

Chronic disease funding, adjusted for inflation, FY 2012 – 2021



Note: Funding levels are in FY 2021 dollars. TFAH adjusted data for inflation using the Bureau of Economic Analysis's implicit price deflators for gross domestic product.

Source: CDC Annual Operating Plans[113]

Substance use and suicide prevention

"Deaths of despair," including from alcohol, drugs, and suicide, have received increased attention and investment as rates of these deaths rose rapidly over the past decade.[114,115]

Preliminary data suggest that in the early months of the COVID-19 pandemic, overdose deaths increased nationally. Deaths due to drug overdose were the highest ever recorded for a 12-month period ending in May 2020, according to provisional data from the CDC. More than 81,000 people in the United States died due to a drug overdose over this period, an 18 percent increase over the prior year.[116,117] Studies show that the social and economic crises precipitated by the pandemic, coupled with barriers to behavioral health treatment and racial disparities in access to treatment options,[118,119] put people in need of such treatment at particular risk.[120]

Substance use, overdose, and suicide share common risk and protective factors. However, few federally funded programs target their underlying causes and the adversity that often precedes these health concerns. Current efforts to combat drug overdoses and related public health concerns largely center on stemming access to illicit drugs and offering emergency medical services. CDC funding for opioid overdose prevention and surveillance increased by $350 million, from $125.4 million in FY 2017[121] to $476 million in FY 2018 to FY 2021.[122] The agency leverages this funding to provide grants to states and large local health agencies to strengthen prescription drug monitoring programs, implement evidence-based overdose prevention strategies, expand the surveillance of opioid overdoses, and promote appropriate prescribing.

To facilitate multifaceted prevention efforts, the CDC's Injury Center created the Overdose Data to Action—or "OD2A"—grants program. OD2A began awarding grants in September 2019. In addition to supporting the core activities described above, this grant also allows states to support innovative community-based prevention efforts. The program has awarded grants to 66 jurisdictions (state, territorial, county, and city health departments).[123] It is essential to sufficiently fund these efforts and support innovative prevention practices.

The Injury Center has also identified suicide prevention and addressing adverse childhood experiences, or "ACEs," as key priorities. This requires socially focused efforts, including strengthening economic support for families, intervening early to reduce harm when children face trauma, and supporting safe and supportive schools. Some programs funded to address these issues include:

- **Injury Control Research Centers.** To better understand opportunities to prevent suicide and other injury, the CDC currently funds nine Injury Control Research Centers at approximately $833,000 per center each year for five years.[124] At least five of the centers focus on suicide prevention.
- **Core State Violence and Injury Prevention Program.** To support the implementation, evaluation, and dissemination of strategies to address child abuse and neglect, intimate partner/sexual violence, and other injury, the CDC's Core State Violence and Injury Prevention Program (Core SVIPP) currently funds and provides technical assistance to 23 states.[125] The efforts that states undertake through the Core SVIPP are diverse but include efforts like Wisconsin's, which has utilized its Core SVIPP award to decrease reincarceration among mothers and helps them regain custody of their children. These efforts may help protect children from negative health consequences that are associated with parental incarceration and family dysfunction.[126] Core SVIPP should be funded to expand to all 50 states.
- **Independently implemented efforts.** Some states have independently implemented efforts to address ACEs, such as California's "ACEs Aware Initiative," which reimburses Medi-Cal providers for screening for ACE risk factors.[127] The FY 2020 federal budget included new funding for the CDC to research and address suicide prevention and ACEs, and the two program lines were increased slightly in FY 2021 to $12 million and $5 million, respectively.[128,129]

Broader federal funding landscape

While the CDC serves as the primary federal public health agency, several federal agencies within and outside HHS complement and support its work. Like the CDC, these agencies require adequate resources to support their public health activities and improve nationwide health and well-being.

Within HHS, several agencies are responsible for activities related to public health protection. **The Health Resources and Services Administration** (HRSA) augments healthcare services for geographically, economically, and medically vulnerable U.S. residents, including by administering the Ryan White HIV/AIDS Program, which provides primary medical care, essential support services, and medications for low-income people with HIV. **The Substance Abuse and Mental Health Services Administration** (SAMHSA) spearheads the health response to behavioral health conditions at the federal level and supports state efforts to prevent and treat these conditions. The **Food and Drug Administration (FDA)** protects the safety of food, drugs, medical devices, cosmetics, and tobacco products. Throughout the COVID-19 pandemic, the FDA played a leadership role in accelerating medical products to diagnose (e.g., diagnostic and antibody testing), treat (e.g., therapeutics), and prevent (e.g., authorizing at least three vaccines for emergency use) the disease. Together, these agencies help support the physical and mental health of all U.S. residents. All three agencies saw modest increases in appropriations in FY 2021 (HRSA: $7.05 billion to $7.22 billion;[130] SAMHSA: $5.88 billion to $6.02 billion;[131] FDA: $3.16 billion to $3.20 billion[132]).

In recognition of the positive impact of early childhood education, the **HHS Office of the Administration for Children and Families** administers the Head Start Program (for children ages 3 to 5) and the Early Head Start Program (for children under age 3). These programs promote school readiness among low-income children by providing access to early learning, health, and family well-being initiatives. Research suggests that early childhood education positively impacts cognitive and emotional development, as well as longer-term health outcomes associated with higher income, better employment, and higher educational attainment.[133] In FY 2021, Head Start and Early Head Start received $10.7 billion,[134] a slight increase from FY 2020. Additionally, the Coronavirus Aid, Relief, and Economic Security (CARES) Act, enacted in spring 2020, included an extra $750 million to help Head Start support children and families impacted by the COVID-19 pandemic and allowed up to $500 million of those funds to go to existing grantees to operate supplemental summer programs.[135]

Still, even these funding levels do not adequately serve all the children who would stand to benefit from Head Start and Early Head Start: nationally, only about one-third of Head Start–eligible children and about 1 in 10 Early Head Start–eligible infants and toddlers have access to these programs due to limited funding.[136]

Outside of HHS, many departments are assisting in public health protection by addressing SDOHs—that is, the broad spectrum of factors in a person's life that influence their health, such as access to safe housing, adequate nutrition, and clean air and water.

The USDA, for instance, also plays a role in public health promotion through anti-hunger programs such as the Supplemental Nutrition Assistance Program (SNAP) and through nutrition-assistance programs such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Addressing economic insecurity is core to the mission of the USDA's food nutrition programs serving low-income individuals and families.

Even before the COVID-19 pandemic, millions of U.S. residents[137] struggled to consistently get enough food to eat, making funding for SNAP critical to the nation's public health. The economic devastation wrought by the pandemic, particularly for families who were already living near the brink of crisis, only worsened the problem. The Census Bureau's February 2021 Household Survey found that 1 in 7 adults with children reported that their household sometimes or often did not have enough to eat. Black and Latino adults were more than twice as likely as white adults to report that their household did not get enough to eat, and adults who identify as American Indian, Alaska Native, Native Hawaiian, Pacific Islander, or as multiracial, taken together, were twice as likely as white adults to report that their households did not get enough to eat.[138]

To help provide some relief, Congress and the USDA took repeated steps in 2020 and early 2021 to bolster the federal nutrition programs. The 2020 Families First Coronavirus Response Act allowed states to give some SNAP-eligible households emergency allotments up to the maximum benefit[139] and established new waiver authorities that allowed WIC and other child nutrition programs to serve participants more effectively during the pandemic. This flexibility for WIC extended through the duration of the public health emergency declaration, and flexibility for the Summer Food Service Program extended through September 30, 2021.[140,141]

The American Rescue Plan Act boosted SNAP and WIC benefit levels and expanded eligibility, extending a 15 percent increase to SNAP benefits through September 30, 2021; adding a four-month increase in WIC benefit for fruits and vegetables; providing extra administrative funds to administer SNAP benefits; and adding funding to expand access to SNAP online purchasing. The law also allowed young adults to receive healthy Child and Adult Care Food Program meals at homeless and youth shelters, and provided additional funding to support nutrition programs for older adults and Native American communities under the Older Americans Act.[142]

Low-income individuals with access to SNAP and WIC have significantly better health outcomes than those without it, including lower rates of obesity, hypertension, and diabetes, and they have approximately 30 percent lower healthcare expenditures than low-income individuals without SNAP.[143,144] Access to SNAP at early ages can also improve non-health outcomes, such as high school graduation, employment status, and earnings.[145]

State and Local Public Health Funding

State health agencies play a key role in promoting public health and supporting local health departments. They directly engage in population-based primary prevention, developing preparedness plans and coordinating emergency responses, combating the opioid epidemic, and conducting lab testing, disease surveillance, and data collection.[146,147] Many are expanding and modernizing their work to include a stronger focus on primary, or "upstream," prevention policies and programs (for more information, see TFAH's *Promoting Health and Cost Control in States* report[148]), a commitment to the promotion of equity as a core value in all of their work, and an expansion of their partnership with healthcare and with non-health sectors. Federal funding, a primary source of state public health money, heavily affects the ability of state health departments to fulfill these roles.

Zooming in on funding supported by states' own revenues (i.e., state-generated revenue from taxes, fees, third-party reimbursements, etc.), 43 states and the District of Columbia maintained or increased public health funding in FY 2020. (See Table 3.) But seven states reduced the money directed to such programing amid the COVID-19 pandemic, increasing the likelihood that they will be less prepared and less responsive in the moments that matter most.[149]

Local public health departments engage their residents and coordinate partners to address public health issues in their community. These agencies help protect the food and water supply, provide immunizations, conduct surveillance to detect and monitor infectious diseases, prepare for and respond to disasters and emergencies, combat the opioid epidemic, and offer other public health services and education.[150,151] In recent years, however, many have reduced their provision of direct services as more Americans gained health insurance, and increased their attention to policies that promote well-being (e.g., CityHealth, an initiative of the de Beaumont Foundation and Kaiser Permanente).

As the country's economy recovers from pandemic-inflicted damage, there are encouraging signs. For instance, as of March 2021, the Federal Reserve projected that the economy would grow by 6.5 percent in 2021—the fastest annual rate since 1984—and that the unemployment rate would fall to 4.5 percent, one percentage point above its pre-pandemic level.[152,153] If these optimistic expectations come to pass, they would be welcome developments for many reasons, including that they may help avoid the type of slow rebound in state, tribal, territorial, and local revenue that was characteristic of the years following the Great Recession.[154] On this score, too, there are hopeful signs, as state and local tax receipts recovered faster than many feared in spring 2020.[155,156,157]

Nevertheless, it will be critical in the coming years for states and localities, who must balance their budgets annually, to ensure that any short- or long-term fiscal contractions do not harm public health budgets. In the past, a boom-bust pattern has weakened the United States: the country temporarily pays attention to public health investment when there is a crisis and then moves on when the emergency passes, leaving the nation's public health infrastructure on weak footing. The United States must not repeat that mistake, especially as most onetime infusions of COVID-related funding went to urgent priorities and cannot be used to bolster health systems in an enduring way. Even if state and local revenue do return to pre-pandemic levels, it will be incumbent on policymakers to ensure that health departments receive the funding they need to achieve their missions.

WHERE DO PUBLIC HEALTH DEPARTMENTS FOCUS THEIR WORK?

According to the 10 Essential Public Health Services framework, updated most recently in September 2020 by a taskforce convened by the Public Health National Center for Innovations and the de Beaumont Foundation, public health programming and services span 10 core activities:[159]

1. "Assess and monitor population health status, factors that influence health, and community needs and assets."
2. "Investigate, diagnose, and address health problems and hazards affecting the population."
3. "Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it."
4. "Strengthen, support, and mobilize communities and partnerships to improve health."
5. "Create, champion, and implement policies, plans, and laws that impact health."
6. "Utilize legal and regulatory actions designed to improve and protect the public's health."
7. "Assure an effective system that enables equitable access to the individual services and care needed to be healthy."
8. "Build and support a diverse and skilled public health workforce."
9. "Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement."
10. "Build and maintain a strong organizational infrastructure for public health."

At the center of these services is a mission to achieve equity by removing systemic and structural barriers that have resulted in health disparities, including poverty, racism, gender discrimination, ableism, and other forms of oppression.

Table 3: Public Health Funding by State, FY 2019-2020		
	FY 2020 funding	Percentage change
Alabama	$229,502,252	-4%
Alaska	$157,389,000	118%
Arizona	$177,174,871	52%
Arkansas	$138,505,528	-2%
California	$2,760,840,000	40%
Colorado	$318,470,153	9%
Connecticut	$124,811,790	8%
Delaware	$35,803,400	8%
District of Columbia	$257,266,394	2%
Florida	$420,815,964	8%
Georgia	$294,931,009	3%
Hawaii	$177,862,009	-2%
Idaho	$151,808,300	2%
Illinois	$412,201,500	7%
Indiana	$100,963,770	0%
Iowa	$269,337,247	-3%
Kansas	$42,913,093	13%
Kentucky	$160,365,896	1%
Louisiana	$118,894,225	3%
Maine	$45,460,052	24%
Maryland	$272,500,950	4%
Massachusetts	$598,010,366	4%
Michigan	$172,751,300	14%
Minnesota	$602,459,000	78%
Mississippi	$47,319,608	2%
Missouri	$43,301,262	-1%
Montana	$20,212,317	2%
Nebraska	$79,122,593	7%
Nevada	$37,535,040	15%
New Hampshire	$32,097,536	11%
New Jersey	$277,586,000	2%
New Mexico	$316,930,200	8%
New York	$1,651,025,571	0.30%
North Carolina	$157,841,307	2%
North Dakota	$46,818,558	31%
Ohio	$184,720,433	13%
Oklahoma	$221,150,689	29%
Oregon	$148,097,432	0.50%
Pennsylvania	$191,960,000	-0.40%
Rhode Island	$62,670,860	3%
South Carolina	$141,661,973	3%
South Dakota	$31,882,470	2%
Tennessee	$378,203,300	9%
Texas	$591,883,601	28%
Utah	$113,696,872	9%
Vermont	$32,830,981	7%
Virginia	$309,463,072	-6%
Washington	$365,148,500	6%
West Virginia	$112,605,951	6%
Wisconsin	$102,900,426	2%
Wyoming	$16,633,810	8%

Note: As a result of differences in organizational responsibilities and budgeting, funding data are not necessarily comparable state to state. See the "Appendix: Methodology" section of TFAH's 2019 Ready or Not report for a description of TFAH's data-collection process, including its definition of public health funding.[158]

While states received federal one-time COVID-response funding, those funds are not included in these tallies, as all federal funds are excluded from this measure. However, in some cases, state funding for pandemic response may have been included in the data reported to TFAH. For some states, COVID response funding may have resulted in an increase in the state's overall public health funding for the year. Other states may have reallocated money from one line to another with little impact on the overall funding level.

The Alaska Division of Public Health's funding more than doubled, primarily because of a nearly 40-fold increase in its "Emergency Programs" budget line. Similarly, the Arizona Department of Health Service's "Public Health Emergency" line was the primary driver behind its dramatic increase. The Minnesota Department of Health's increase was tied primarily to its "Community Health" and "Infectious Disease" budget lines.

SOURCE:
TFAH analysis of states' public funding data.

Recommended Policy Actions

The COVID-19 pandemic has demonstrated the dangerous consequences of underfunding public health and prevention systems. Glaring health inequities, rising rates of chronic disease, archaic and siloed data systems, and understaffed health departments all placed the nation at higher risk during the pandemic and continue to make recovery more difficult than necessary. Given the proven cost-effectiveness of public health interventions and policies,[160] there needs to be greater investment in modernizing public health and expanding existing programs while also supporting public health innovations.

To protect and improve the health and well-being of all U.S. residents, TFAH recommends that Congress and the president take the following actions for FY 2022.

Substantially Increase Core Funding to Strengthen the Public Health Infrastructure and Workforce

Increase the CDC's base appropriation. TFAH supports increasing the CDC's annual program level to at least $10 billion in FY 2022 to strengthen the agency and expand proven public health and prevention programs to more states. Many effective programs fail to reach all states due to underfunding, including the ones highlighted in this report. The CDC's overall core funding line has not meaningfully increased in 10 years, adjusting for inflation, while the nation's public health needs have only grown, including responding to and recovering from the COVID-19 pandemic, the opioid and suicide epidemics, growing health inequities, and preparing for future disasters.

Invest in cross-cutting public health foundational capabilities at state, local, tribal, and territorial health agencies. Strong foundational capabilities would improve the protection of all communities and enable a more agile public health system that is able to address 21st-century health issues and emerging threats. However, chronic underfunding, as well as the boom-and-bust cycle created through emergency supplementals followed by the erosion of funding for public health, prevents health departments from developing and maintaining these cross-cutting capabilities and the required workforce. Furthermore, health departments receive little funding that is not tied to specific diseases or categories, leaving limited space to modernize and adapt to current health threats. The creation of a mandatory, annual $4.5 billion Public Health Infrastructure Fund, such as the one proposed in the Public Health Infrastructure Saves Lives Act, is critical to modernizing health agencies and ensuring an adequate workforce to effectively implement public health programs.[161,162] The fund, which would be an addition to the CDC's annual appropriations, would fill the critical gaps in foundational public health capabilities in state, local, territorial, and tribal governments, such as surveillance, communications, and strategic partnerships. These additional resources

would also support infrastructure modernization at the CDC, as well as technical assistance, oversight, and evaluation.

Invest in sustained public health data modernization. The CDC is the world's premier public health agency, but years of inadequate funding have caused it and its partners, including state, local, tribal, and territorial health departments, to be reliant on archaic, inadequate data systems. The United States felt the pain of delayed and disjointed disease surveillance throughout the pandemic, as the public health surveillance infrastructure relied on antiquated, disconnected systems and methods for tracking and responding to diseases.[163,164] The result was delays in reporting and inadequate demographic data, masking the full extent of disparities during the pandemic. Congress wisely invested $500 million through the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136) and $50 million in the FY 2020 and FY 2021 appropriations bills, respectively, as down-payments on the CDC's Data Modernization Initiative (DMI). More recently, Congress provided another $500 million for the DMI and epidemic forecasting through the American Rescue Plan Act.[165] These investments will help build the foundations for data sharing across public health, modernize the CDC's services and systems, leverage new data sources, and ensure public health can act upon innovative data analytics. However, Congress must augment and sustain these advancements if they are to make up for decades of neglect. Congress should build on these initial investments with long-term, sustained funding, including at least $250 million in FY 2022 funding for the CDC's DMI to upgrade and maintain these systems.

Fund the CDC to support state and local public health laboratories. Congress should increase funding to strengthen the Laboratory Response Network and modernize state and local public health laboratories. Currently, the Epidemiology and Laboratory Capacity grant is only funding approximately half of what laboratories and health department epidemiologists nationwide need, with little funding for cross-cutting systems and workforce. The Association for Public Health Laboratories estimates a $261 million gap in Epidemiology and Laboratory Capacity annual funding needs.[166]

Recruiting and retaining the public health workforce. The nation's 21st-century public health system, equipped to address emergencies and provide national health strategies for communities, requires a 21st-century workforce. Reductions in federal and state public health budgets have undermined efforts to hire, train, and retain a strong public health workforce, which in turn limits governments' ability to effectively protect and promote the health of their communities. Emergency funding for COVID-19 can bolster public health personnel in the short-term but cannot be used to retain a well-trained public health workforce in the long-term. Congress should prioritize the development of a public health workforce, including by issuing funding incentives to enter the public health workforce, such as loan repayments; recruiting and retaining a workforce with needed skills, such as informatics; recruiting a diverse public health workforce that reflects the communities they work in; and improving the training and curriculum for a modern public health workforce.[167]

Restore and grow the Prevention and Public Health Fund. The Prevention and Public Health Fund has made critical investments in evidence-based programs, such as expanding vaccine infrastructure, building laboratory and surveillance capacity, and promoting tobacco cessation. Against its authorized purpose, the Prevention Fund has been cut in order to pay for programs not directly related to prevention and public health, including Medicare physician payments in 2012, the 21st Century Cures Act in 2016, and a short-term extension of the Children's Health Insurance Program in 2018.[168] While these programs are important, this shortsighted approach increases costs and worsens health outcomes in the long run by hampering prevention efforts and eroding the public health infrastructure. Treatment should not be funded at the expense of prevention. As a major investment in prevention, the government should protect the Prevention Fund, restore cuts in future years, and ensure that funds are used for their authorized purpose of promoting public health and prevention.

Improve Emergency Preparedness and Response

Strengthen public health emergency preparedness, including within the healthcare system. The overlapping public health emergencies of the past year—the COVID-19 pandemic and associated economic recession, outbreaks of measles and other vaccine-preventable diseases, wildfires, and severe winter weather—all reinforce the need for sustained funding for the nation's health security. The challenges faced by the nation's public health and healthcare delivery systems in responding to COVID-19 are partially due to more than a decade of cuts to critical programs.

Increase funding for emergency preparedness programs.

- **Public Health Emergency Preparedness.** Congress should increase funding to the CDC's PHEP Cooperative Agreement program to at least $824 million in FY 2022—the level authorized in 2006—to ensure states and localities have the core resources necessary to respond to an escalating number of emergencies. Congress has cut funding for PHEP by 48 percent since FY 2003, adjusting for inflation.[169] This funding would help restore capacity at health departments impacted by cuts, address gaps in capacity, expand readiness for emerging threats, and build laboratory capacity to keep up with current technologies and threats.
- **Hospital Preparedness Program.** Congress should provide at least $474 million to the HPP, the only federal source of funding to help the healthcare delivery system prepare for and respond to disasters. Congress has cut HPP by 62 percent since FY 2003, after adjusting for inflation.[170] HPP helps to build strong healthcare coalitions that are capable of engaging and supporting the healthcare system during disaster responses, but the limited funding has prevented some regions from fully developing this capacity. (For more information, see TFAH's latest edition of *Ready or Not*.[171])
- **Support research and development of medical countermeasures.** Create incentives for the discovery of new products and platforms to fight infections and other emerging threats. There should be robust public and private investment in discovery science, diagnostics, early-stage product development, and research through the Biomedical Advanced Research and Development Authority and other programs.

Finance rapid response funds for emergencies. In addition to stable core funding, the federal government needs readily available funds on hand to enable a rapid response while Congress assesses the necessity for supplemental funding. Congress should continue a no-year infusion of funds into the Public Health Emergency Rapid Response Fund and/or the Infectious Disease Rapid Response Fund to serve as available funding that would provide a temporary bridge between preparedness and supplemental emergency funds. Congress should replenish such funding on an annual basis, and funding should not come from existing preparedness resources, as response capacity cannot substitute for adequate readiness. The HHS secretary should only use such funding for acute emergencies that require a rapid response to save lives and protect the public. TFAH believes no-year as well as annual investments are necessary to maintain at least $2 billion in available reserves.

Promote equity in preparedness and response. Congress should direct targeted resources—during the COVID-19 pandemic and in ongoing appropriations—to community-based organizations and other existing community health networks that explicitly focus on the health and well-being of communities of color and other groups that bear a disproportionate risk during emergencies. This should include resources for culturally and linguistically appropriate public health campaigns and partnering across sectors with trusted messengers to effectively reach impacted communities. Community-based organizations must receive resources to partner with public health and other sectors to promote preparedness, and long-term investments should build off the CDC's National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved.

Prevent infectious disease outbreaks. The COVID-19 crisis is a stark example of how infectious diseases can disrupt the lives of millions of U.S. residents. Fortunately, vaccines and other measures can prevent many of these diseases. Nonetheless, because U.S. vaccination rates are lower than experts recommend, unnecessary illness and even death occurs. During the 2019–2020 flu season, for example, 52 percent of U.S. residents ages 6 months or older received vaccinations against seasonal flu; a notable uptick from earlier years but still well below the Healthy People 2030 goal of 70 percent.[172]

- **Vaccine infrastructure, outbreak prevention, and outbreak response.** Increase support for the CDC's vaccine infrastructure, outbreak prevention, and outbreak response, including $1.13 billion in FY 2022 for the National Immunization Program in the CDC's National Center for Immunization and Respiratory Diseases. The CDC's immunization program supports state and local immunization programs that increase vaccine rates among uninsured and underinsured adults and children, respond to outbreaks, educate the public, target hard-to-reach populations, improve vaccine confidence, establish partnerships, and improve information systems. Funding has not kept up with needs, and the early sluggishness in vaccination campaigns against COVID-19 were partially due to underfunded state systems. States often must spend immunization dollars to respond to preventable outbreaks, leaving little left over to invest in system modernization. While there has been short-term funding in the most recent COVID-19 relief packages, Congress should significantly increase funding for the CDC's immunization program as part of the annual appropriations process to improve information systems, communications, and response capabilities.
- **Vaccination awareness and acceptance.** Continue to raise awareness about the importance of vaccination and improve vaccine acceptance. Government, healthcare providers, health systems, and other trusted partners should use varied and targeted media channels to educate people about the importance, effectiveness, and safety of vaccinations. Congress should continue to provide needed resources to HHS to study the causes for vaccine hesitancy and to educate clinical providers on methods for improving vaccine acceptance.
- **Syringe-service programs.** Congress and states should continue funding for comprehensive syringe-service programs, which are among the most effective and scientifically based methods for reducing the

rate of infectious diseases such as HIV.[173] The American Rescue Plan Act included this kind of funding, but Congress needs to sustain it over time.[174] Estimates show that there would be a return on investment of $7.58 for every $1 spent on syringe-access programs due to averted HIV treatment costs.[175,176] Congress should lift restrictions on the use of federal funds for the purchase of syringes.

Slow the spread of antimicrobial resistance. Combating antimicrobial resistance (AMR) requires a multipronged approach across healthcare, public health, agriculture, academia, and industry.

- **Prevention and surveillance.** Significantly increase investments in innovative public health initiatives to combat AMR, including the CDC's Antibiotic Resistance Solutions Initiative and National Healthcare Safety Network. The CDC is investing in every state to strengthen antibiotic-resistance lab capacity, track infections across healthcare systems, detect new threats, disrupt pathogens, coordinate prevention strategies, and educate healthcare providers on appropriate antibiotic use and other innovations. These investments have already had an impact, helping contribute to an 18 percent reduction in deaths from resistant infections since 2013. However, progress varies across states, and it will take investments of at least $264 million to equip all states with up-to-date tools to combat resistant bacteria.[177] Increases should also support global capacity to prevent and detect resistant infections to combat this national security risk.
- **AMR innovations.** Support sustainable funding and bold incentives for antimicrobial innovation, including reimbursement reform, improved stewardship and surveillance, and the creation of meaningful development incentives.

Prepare for the impact of climate change, including weather-related emergencies. The administration and Congress should increase funding to $110 million in FY 2022—as President Biden's discretionary funding request calls for—to expand the CDC's Climate and Health Program so that every state, large city, tribe, and territory can become climate-ready.[178] Only 16 states and two cities are grantees of the CDC's Climate and Health Program, which gives these communities assistance to implement its Building Resilience Against Climate Effects (BRACE) framework. The BRACE framework can identify likely climate impacts, potential health impacts, and high-risk populations and locations, and it can create and implement adaptation plans.[179] In addition, Congress should increase funding to $75 million to extend the CDC's National Environmental Public Health Tracking Network to every state.[180] The network helps states collect key data around environmental health threats and target interventions to save lives.

Safeguard and Improve Health Across the Lifespan

Investing in chronic disease prevention. The COVID-19 pandemic is not just an infectious disease outbreak, but a chronic disease crisis, as obesity, type 2 diabetes, heart disease, and smoking significantly increase one's risk for severe illness.[181] Going into the pandemic, a majority of U.S. adults had at least one chronic condition, many of which are preventable with appropriate support. Researching, identifying, disseminating, scaling, and evaluating evidence-based programs requires consistent and significant funding. Under current funding, the CDC cannot provide adequate resources to all eligible states or communities, leaving many underfunded or unfunded for certain prevention activities, which harms health and exacerbates health disparities.

TFAH recommends significantly increasing funding for the CDC's National Center for Chronic Disease Prevention and Health Promotion to improve the nation's prevention of tobacco use, chronic diseases such as heart disease and stroke, and promotion of community prevention programs and activities, including:

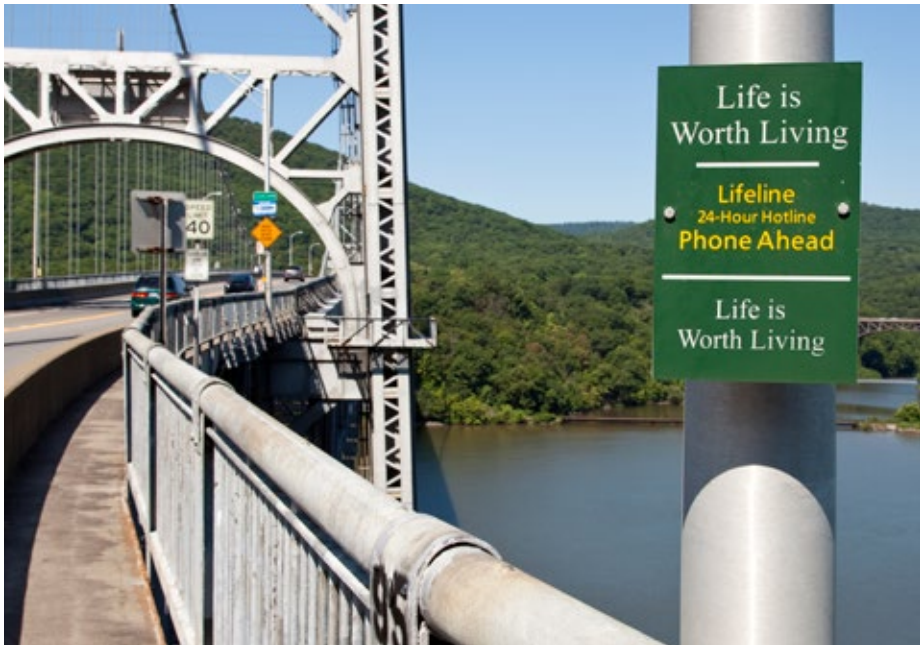
- **Division of Nutrition, Physical Activity and Obesity.** Allocate $125 million in FY 2022 to the CDC's Division of Nutrition, Physical Activity and Obesity to allow the CDC to continue building out key programs, including the State Physical Activity and Nutrition (SPAN) program and its Active People, Healthy Nation initiative. Within this total, TFAH estimates that an additional $40.8 million[182] to SPAN is necessary to provide all 50 states with resources to implement evidence-based strategies to combat the obesity epidemic by improving nutrition and physical activity. SPAN grantees focus their efforts on breastfeeding support, food-service guidelines, community physical activity access strategies, and integration of both nutrition and physical activity standards in statewide early care and education systems. Current SPAN funding only supports 16 states.[183]
- **Racial and Ethnic Approaches to Community Health (REACH) and Good Health and Wellness in Indian Country.** Allocate at least $102.5 million to the CDC's REACH, including $75.5 million for the REACH grant program to continue scaling to all states and U.S. territories, and support grantees in building capacity for collaboration and dissemination of evidence-based strategies in communities funding. And allocate $27 million for Good Health and Wellness in Indian Country to expand Tribal Epidemiology Centers for Public Health Infrastructure and continue the program's important work. The REACH program, which began in 1999, is one of the only CDC programs that explicitly focuses on improving chronic disease outcomes for specific racial and ethnic groups in communities with high incidence rates for such diseases. REACH grantees plan and carry out local, culturally appropriate programs that address the root causes of chronic disease and reduce health disparities among African Americans/Blacks, Hispanic Americans, Asian Americans, Native Hawaiian/Other Pacific Islanders, American Indians, and Alaska Natives. Good Health and Wellness in Indian Country works with American Indian tribes, Alaskan Native villages, tribal organizations, and tribal epidemiology centers to promote health, prevent disease, reduce health disparities, and strengthen connections to culture and lifeways that improve health and wellness.

Prevent substance misuse and suicide epidemics. Early data suggest that deaths from overdoses increased in 2020.[184] While the number of deaths by suicide is unclear at this time, there is evidence showing hospitalizations for suicidal ideation and attempts, mental health conditions, intimate partner violence, and child abuse and neglect increased during the pandemic.[185,186] Of special concern are youth with claims for substance use care, self-harm, and anxiety disorders all increasing significantly in 2020 for ages 13 to 18.[187] It is more important than ever to expand programs that translate research into effective prevention of suicide, overdose, and adverse childhood experiences. Congress and the president should build on recent investments to reduce substance misuse and suicide by increasing coordination and funding for relevant programs within SAMHSA and the CDC's National Center for Injury Prevention and Control, with a renewed emphasis on upstream prevention activities and health equity promotion.

Increase funding for the CDC and SAMHSA's substance misuse and suicide prevention programs.

- **Division of Adolescent and School Health.** Increase funding for the CDC's Division of Adolescent and School Health (DASH) program to $100 million in FY 2022. DASH offers in-school, evidence-based approaches to equip children and adolescents with protective knowledge and skills that enable them to avoid substance misuse and become healthy adults. DASH funds local education agencies to implement school-based programs and practices designed to reduce and prevent HIV, sexually transmitted diseases, and pregnancy among adolescents, as well as to establish safe and supportive environments for students. DASH's programs reduce sexual risk behaviors, among other positive outcomes.[188]

- **Suicide prevention and intervention efforts.** Increase SAMHSA and CDC funding for early intervention and suicide prevention efforts, such as the Garrett Lee Smith Suicide Prevention Grant Program, which supports evidence-based suicide prevention activities on college campuses and other settings, including screening and connecting students to behavioral health services. The CDC's Suicide Prevention program funds states, territories, and tribes to implement comprehensive suicide prevention plans using multisector partnerships and data to inform prevention efforts with the goal of reducing suicide by 20 percent by 2025.[189] Despite receiving a small increase in funding in FY 2021,[190] this program still has a robust demand for grants as shown by the large list of approved but unfunded applicants. Congress should provide at least $36 million for the CDC's suicide prevention work in FY 2022.



- **Preventing adverse childhood experiences.** Expand investments in the CDC-led research into the conditions that contribute to substance misuse and suicide, including ACEs and trauma, with a renewed focus on primary prevention as well as risk and protective factors. The CDC recently expanded its support to state activities to conduct surveillance and implement comprehensive strategies to prevent ACEs. In 2020, the CDC awarded two ACEs-related funding opportunities: (1) Preventing ACEs: Data to Action, which focuses on community strategies; and (2) Preventing ACEs: Leveraging the Best Available Evidence, which expands research. Given the toll of the pandemic on children's well-being, Congress should provide at least $7 million in FY 2022 to enable additional states to work on this crisis.

- **Opioid overdose prevention and surveillance.** Increase funding for the Opioid Overdose Prevention and Surveillance program at the CDC's Injury Center, and increase funding for grants to build on state activities like provider education and prescription drug monitoring programs. The program helps states implement evidence-based practices, like responsible prescribing, access to medication-assisted treatment, and access to naloxone.[191] FY 2022 funding should continue to provide the program the flexibility to target other substances, including stimulants, and to prioritize prevention capacity at the state, local, tribal, and territorial levels so that communities can identify and reduce upstream risk factors and promote protective factors to prevent substance misuse.

Support the growing population of older adults. Congress should provide at least $50 million for a healthy aging program within the CDC to build state, local, tribal, and territorial public health department capacity to promote the health of older adults. Age-Friendly Public Health System interventions can optimize the well-being of adults ages 65 or over, prolong their independence, and reduce their use of expensive healthcare services. Yet there is no standalone program at the CDC that supports state, local, tribal, and territorial public health departments to improve older adult health and well-being. A dedicated public health role is necessary to foster multisector collaboration and to develop effective solutions to improve the lives of older adults.[192]

Address Racism, Social Determinants, and Health Disparities through Investments

Address community-wide social determinants of health. SDOHs, such as housing, employment, food security, and education, have a major influence on individual and community health.[193] Current efforts supported by healthcare systems are short-term—such as temporary housing, nutrition after medical discharge, or transportation—and do not necessarily address the harmful underlying economic and social factors in communities beyond the individual patient.[194]

Congress should authorize a CDC program to support public health entities to convene across sectors, gather data, identify priorities, establish plans, and act to address unmet nonmedical social needs and underlying community conditions that can improve health outcomes and reduce health inequities.

In FY 2021, Congress provided first-time funding of $3 million for the creation of a CDC Social Determinants of Health Program. For FY 2022, TFAH urges Congress to build on this initial investment and fund the program at $153 million—as President Biden's discretionary funding request calls for—to create a national investment in addressing the conditions that affect the health and livelihoods of all communities and prevent disease at the outset.[195]

Focus funding on populations at elevated risk due to the impact of racism, poverty, systemic discrimination, and disinvestment. Racism in the United States undermines equity and opportunity, inflicting a far-reaching toll on the lives and health of Black people and other people of color. Its cross-cutting impacts are felt across health, education, economic opportunity, employment, housing, food security, transportation, criminal justice, and other SDOHs. And they are felt through environmental conditions, such as pollution sources regularly located near communities of color and, indeed, climate change itself.

People of color in the United States suffer from health threats first and worst. This was true once again with COVID-19, as social determinants influenced communities' infection risk and outcomes severity, and it will continue to be true of climate change and other threats, unless leaders at all levels and across sectors prioritize the protection of disadvantaged people, including by finally confronting and reconciling with centuries-old biases that sit at the core of so many socially determined disparities. It is long past time to advance health equity and environmental justice.

Communities disadvantaged by systemic discrimination, including those with health disparities as a result, must be a priority for funding and investment. Congress should expand grants to address health inequities and ensure funding is reaching under-resourced, marginalized, and disproportionately affected communities, and it should adapt grant-making practices to account for differential community needs, resources, and capacities. Federal agencies should consider disease burden and social context when determining grant-making eligibility criteria so the communities with the greatest need can benefit from competitive grant mechanisms.

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