

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

Trends, Risks, and Recommendations, 2020



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 that 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.

TFAH BOARD OF DIRECTORS

Gail Christopher, D.N.

*Chair of the TFAH Board
Executive Director
National Collaborative for Health Equity
Former Senior Advisor and Vice President
W.K. Kellogg Foundation*

David Fleming, M.D.

*Vice Chair of the TFAH Board
Vice President of Global Health Programs
PATH*

Robert T. Harris, M.D.

*Treasurer of the TFAH Board
Senior Medical Director
General Dynamics Information Technology*

Theodore Spencer

*Secretary of the TFAH Board
Founding Board Member*

Stephanie Mayfield Gibson, M.D.

*Senior Physician Advisor and Population Health
Consultant
Former Senior Vice President, Population
Health, and Chief Medical Officer
KentuckyOne Health*

Cynthia M. Harris, Ph.D., DABT

*Director and Professor
Institute of Public Health
Florida A&M University*

David Lakey, M.D.

*Chief Medical Officer and Vice Chancellor for
Health Affairs
The University of Texas System*

Octavio Martinez Jr., M.D., DPH, MBA, FAPA

*Executive Director
Hogg Foundation for Mental Health
The University of Texas at Austin*

Karen Remley, M.D., MBA, MPH, FAAP

*Senior Fellow
de Beaumont Foundation
Former CEO and Executive Vice President
American Academy of Pediatrics*

John Rich, M.D., MPH

*Co-Director
Center for Nonviolence and Social Justice
Drexel University*

Eduardo Sanchez, M.D., MPH

*Chief Medical Officer for Prevention and Chief
of the Center for Health Metrics and Evaluation
American Heart Association*

Umair A. Shah, M.D., MPH

*Executive Director
Harris County (Texas) Public Health*

Vince Ventimiglia, J.D.

*Chairman, Board of Managers
Leavitt Partners*

TRUST FOR AMERICA'S HEALTH LEADERSHIP STAFF

John Auerbach, MBA

President and CEO

J. Nadine Gracia, M.D., MSCE

*Executive Vice President and Chief Operating
Officer*

REPORT AUTHORS

Rhea K. Farberman, APR

*Director of Strategic Communications and
Policy Research*

Matt McKillop, MPP

Senior Health Policy Researcher and Analyst

Dara Alpert Lieberman, MPP

Director of Government Relations

Daphne Delgado, MPH

Senior Government Relations Manager

Cecelia Thomas, J.D.

Senior Government Relations Manager

Jonah Cunningham

Government Relations Manager

Kevin McIntyre

Associate Government Relations Manager

CONTRIBUTORS:

Lauren Becker

TFAH intern

Brenda Dimaya

TFAH intern

Staff from the Department of Health Policy and Management at the Milken Institute School of Public Health at The George Washington University contributed to this report including:

Katie Horton, R.N., MPH, J.D.

Research Professor

Naomi Seiler, J.D.

Associate Research Professor

Gregory Dwyer, MPH

Research Scientist

Anya Vanecek, MPH

Senior Research Associate

Aaron Karacuschansky, MPH

Research Associate

PEER REVIEWER

Angela Ostrom, Executive Director

Coalition for Health Funding

Executive Summary

The health emergencies of the past year—from flooding to wildfires, vaping-associated lung injuries to the novel coronavirus (COVID-19)—are a stark reminder of the critical importance of a standing-ready public health infrastructure and workforce. Such a public health system requires adequate and sustained funding.

Trust for America's Health (TFAH) has found a chronic pattern of underfunding of these vital programs in its annual analysis of the nation's investment in public health. This year's report comes to the same conclusion: the nation's public health system is seriously underfunded, and this lack of investment puts Americans' lives at risk. Furthermore, the impact of this underinvestment gets worse each year as the range and severity of health security threats continue to grow.

As a nation, we need to be prepared for increasing public health challenges.

Our nation's public health challenges are increasing. We face the ongoing challenges of the seasonal flu, vaccine-preventable disease outbreaks, the growing number of Americans who have obesity, risks associated with vaping, rising rates of sexually transmitted infections, and the opioid and other substances misuse and suicide epidemics. Weather-related emergencies are now more frequent and more intense due to the effects of climate change.¹

In addition, as TFAH was producing this report, the world was grappling with the unprecedented threats of the COVID-19 pandemic.

We have not given health departments the funds to modernize and create a prevention focus across sectors, diseases and health conditions. Health departments across the country are battling 21st-century health threats and need appropriate resources to win those battles. The COVID-19 crisis demonstrates this reality in the starkest of terms.

This annual report examines federal, state, and local public health funding and recommends the investments and policy actions necessary to effectively address 21st-century health security

threats. The United States spends an estimated \$3.6 trillion annually on health, but less than 3 percent of that spending is directed toward public health and prevention.^{2,3} And, public health spending as a proportion of total health spending has been decreasing since 2000 and falling in inflation-adjusted terms since the Great Recession.⁴

Fiscal year 2020 public health funding is a mixed picture.

In terms of both federal and state public health funding, there were both programmatic increases and decreases when compared with the previous year. Due to the budget agreement of summer 2019, additional nondefense discretionary funding was available for fiscal year (FY) 2020, although the final appropriations bill provided far less public health funding than the version first passed by the House of Representatives.⁵ In addition, the year saw two short-term continuing resolutions to keep the government running, which makes it difficult for public health agencies to plan for the year and hire and retain a workforce. Still, appropriators invested in some programs that had been long-neglected; however, decades of underfunding public health will require a similar multiyear commitment to increased and sustained funding to ensure a public health system that can meet 21st-century challenges.



Andrei Stanescu

The Centers for Disease Control and Prevention (CDC) is the primary driver of federal public health funding through its grant programs to the states and large cities. CDC's overall budget was up by 9 percent between FY 2019 and FY 2020, or 7 percent when adjusted for inflation. FY 2020 increases were due to onetime funding for buildings and facilities, for some new initiatives like public health data modernization and ending HIV, and to replace expiring global health security funds with annual funds. Programs that had not received funding in many years, such as suicide prevention and gun violence research, received modest investments. Even with these increases, CDC's program level remains just above its level in FY 2008, when adjusting for inflation.⁶ And there remains a mismatch between need and funding levels—for example, the funding to fight obesity was held stagnant, leaving only enough funding for 16 states to combat one of the leading drivers of health costs.⁷ Despite short-term increases, CDC's budget remains inadequate to meet the nation's public health needs; many states that need funding to support state and local

public health initiatives do not get that funding because the demand outlasts the available resources.

CDC funding for public health preparedness and response programs decreased slightly between FY 2019 and FY 2020, from \$858 million to \$850 million. Within that total, CDC's Public Health Emergency Preparedness (PHEP) cooperative agreements, which support core public health capabilities in states, territories, and local areas, remained level. PHEP has seen its funding shrink from \$940 million in FY 2002 to \$675 million in FY 2020.⁸

The Hospital Preparedness Program—part of the Office of the Assistant Secretary for Preparedness and Response in the U.S. Department of Health and Human Services—is the single source of federal funding to help regional healthcare systems prepare for emergencies. Its budget was \$515 million in FY 2004 and \$275.5 million in FY 2020. Congress provided a small increase in FY 2020 to continue Ebola training and treatment programs.

Emergency Federal Funding for COVID-19 Response Actions

To bolster the nation's response to the COVID-19 pandemic, and increase capacity across several federal agencies, Congress enacted three COVID-19 response bills including emergency supplemental funding. For the purpose of this report, we have summarized the monies provided to support the mitigation and suppression of the virus, protect Americans' health and well-being—including nutritional needs—during the outbreak, and strengthen the nation's public health infrastructure.

The Coronavirus Preparedness and Response Supplemental Appropriations Act (H.R. 6074, P.L. 116-123), enacted on March 5, provided \$8.3 billion in emergency funding. Within that total, the bill provided the Public Health Social Services Emergency Fund, administered by the Office of the Assistant Secretary for Preparedness and Response (ASPR), more than \$3 billion for research, development and procurement of diagnostics, therapeutics, vaccines, and medical supplies. It also sent \$2.2 billion to the Centers for Disease Control and Prevention (CDC) to fund prevention, preparedness, and response efforts of which \$950 million was to go to state, local territorial and tribal public health response and \$300 million would replenish the Infectious Disease Rapid Response Reserve Fund. The bill also gave the Food and Drug Administration (FDA) \$61 million to facilitate the development and review of medical countermeasure devices, therapies, and vaccines, and to help prevent or shorten supply chain interruptions. The bill also waived restrictions on Medicare providers, allowing them to offer telehealth services to more beneficiaries outside of rural communities at an estimated cost of \$500 million.

Next, the Families First Coronavirus Response Act, (H.R. 6201, P.L. 116-127), signed into law on March 18, focused on strengthening nutrition services and addressed issues

related to testing, employment, and health insurance coverage. The bill provided \$500 million for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) to increase access to nutritious foods among low-income pregnant women or low-income mothers with young children who lose their jobs or are laid off during the COVID-19 emergency. The Emergency Food Assistance Program saw a \$400 million boost to assist local food banks in meeting increased demand. The Senior Nutrition Program at the Administration for Community Living received \$250 million in order to provide approximately 25 million additional home-delivered and pre-packaged meals to low-income seniors. The bill included \$1 billion for ASPR and the Centers for Medicare and Medicaid Services to reimburse the costs of COVID-19 diagnostic testing and services provided to people without health insurance. The package established a federal emergency paid leave program, which requires employers with fewer than 500 employees to provide at least two weeks of paid sick leave for employees who are unable to work because they are subject to quarantine or isolation, are experiencing symptoms of COVID-19, are caring for someone who is in quarantine or isolation, and/or have children in schools that have closed. Employers will receive tax credits to offset the cost of providing this leave.

Finally, the Coronavirus Aid, Relief, and Economic Security (CARES) Act (H.R. 748, P.L. 116-136), enacted on March 27, included dramatic economic relief measures for businesses and individuals and made \$4.3 billion available to the CDC through FY 2024 to support response activities among state, local, territorial, and tribal health departments. The Act also included funds for data modernization and the Infectious Disease Rapid Response Emergency Fund. The Public Health Social Services Emergency Fund at ASPR received \$27 billion for the purchase of vaccines (once available), fortifying the Strategic National Stockpile, and the development and purchase of medical countermeasures at the Biomedical Advanced Research and Development Authority (BARDA). Other measures included \$45 billion for the Disaster Relief Fund, \$31 billion for the Department of Education, a \$3.6 billion Childcare Development Block Grant, \$706 million for the National Institute of Allergy and Infectious Diseases, and \$425 million for the Substance Abuse and Mental Health Services Administration to support community behavioral health clinics. The needs of older adults are also addressed through a \$955 million appropriation for aging and disability services programs at the Administration for Community Living, including programs authorized under the Older Americans Act, and the authorization of a geriatrics workforce training program.

“As TFAH worked on this report, the novel coronavirus continued to spread across the globe. The increasing number of threats to Americans’ health—from infectious disease to weather events to vaping—demonstrate the critical importance of a robust public health system. Being prepared is often the difference between harm or no harm during emergencies and requires four things: (1) planning, (2) interagency and jurisdictional cooperation, (3) good data, and (4) a skilled public health workforce. Having these elements at the ready requires increasing our investment in public health.”

—JOHN AUERBACH, President and CEO, Trust for America’s Health

The Prevention and Public Health Fund, which was designed to expand and sustain the nation’s investment in public health and prevention, remains at half of where it should have been funded in FY 2020 due to the reappropriation of monies to other spending programs.⁹

Three other federal agencies with significant public health responsibilities, the Food and Drug Administration, the Substance Abuse and Mental Health Services Administration, and the Health Resources and Services Administration saw modest operating gains for FY 2020.

State investment in public health programs was also mixed. Most states (39) and the District of Columbia increased or maintained funding for public health budgets in FY 2019, but 11 states decreased such funding (see table 2, page 23).

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

Keeping Americans safe from disease, disaster, and bioterrorism requires a public health system that is focused on prevention, 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 during emergencies. All of these activities require dedicated and sustained funding.

Managing these risks requires a well-resourced public health infrastructure, one that has the resources to deal with its everyday work and the ability to quickly scale up during emergencies. At the 2019 Aspen Ideas Festival, medical and public health experts discussed the reality that ubiquitous world travel now means that an infectious disease outbreak in a remote part of the world can become a global problem within a single day. During the discussion, CDC Director Dr. Robert Redfield noted the need to invest in the core capabilities of public health, including big data and predictive analytics.¹⁰

The core capabilities of a robust public health system include:

- **Threats assessment and monitoring:** the ability to track the health of a community via data and laboratory testing.

- **All-hazards preparedness:** the capacity to respond to emergencies of all kinds, from natural disasters to infectious disease outbreaks to bioterrorism.
- **Public communication and education:** the ability to effectively communicate to diverse public audiences with timely, science-based information.
- **Community partnership development:** the ability to harness, work with, and lead community stakeholders and to create multisector collaborations to address public health and health equity issues.
- **Program management and leadership:** applying the best business and data-informed practices to the public health enterprise.

Critical to protecting the public's health is a well-trained and appropriately resourced public health workforce. Between 2016 and 2019, the number of state full-time or

equivalent people working in public health shrank from 98,877 to 91,540.¹¹ What's more, burnout is a growing issue, as public health professionals are continually asked to do more with less. The Public Health Workforce Interests and Needs Survey found that a large proportion of workers are considering leaving their organization in the next year, in part due to inadequate pay.¹² Also of concern, state health officials estimate that 25 percent of their workforce will be eligible for retirement this year (2020).¹³

How funding flows from the federal government to the states also matters. Funding that is flexible and funding programs that are planned with input from local leaders do more to improve and protect health at the local level than funding that is not so informed or that lacks flexibility (see sidebar, *How funding is allocated makes a difference*, on page 9).

PRIORITIZE FUNDING WITH AN EYE TOWARD ADDRESSING THE SOCIAL DETERMINANTS OF HEALTH AND CREATING HEALTH EQUITY.

While several public health issues, such as chronic disease or emergency preparedness, affect all communities and populations, some groups bear a disproportionate burden of the condition or event. This disparity is often due to factors beyond the communities' control, such as historic disinvestment, poverty, structural racism and discrimination. Prioritizing funding for these communities is essential if we are to improve the health and well-being of the nation and address long-standing inequities.

In order to be effective, public health and other sectors require the resources to address the everyday conditions in people's lives that negatively impact their health. Typically referred to as the "social determinants of health," these conditions include (but are not limited to) access to high-quality and affordable healthcare. They involve such factors as the availability of safe and affordable housing, quality education, livable wages, paid sick and

family leave, availability of nutritious foods for children and adults, transportation systems, and criminal justice reform. Investments in future-oriented public health have the potential to positively impact these health determinants, 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 evidence-based policy recommendations that address social determinants of health, determinants outside the healthcare sector, that, if adopted by states, could improve Americans' health.

Congress should provide additional funding for state and local public health departments to address social determinants of health. Such funding would allow them to act as 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.²⁴

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

As noted earlier, the United States spends trillions annually on healthcare, but Americans aren't getting significantly healthier. One reason is the lack of focus on prevention within our health systems. In 2018, public health spending amounted to approximately \$286 per person—just 3 percent of all healthcare spending in the country.¹⁴ Investment in public health programs saves money by preventing injury and illness, which is particularly important as the population ages. Today, nearly half of all Americans age 55 and older have two or more chronic conditions, such as diabetes or hypertension.¹⁵

While a direct link between public health investment and improved community health or healthcare savings can take years to quantify, there is strong existing evidence of highly successful public health interventions. For example, investments in tobacco cessation programs save \$2 to \$3 for every \$1 spent.¹⁶ Furthermore, childhood vaccinations can save \$5 to \$11 for every dollar in program costs.¹⁷ An additional \$10 per capita in public health spending can decrease premature mortality and increase

the proportion of the population in excellent health.¹⁸

A 2017 systemic review of the return on investment of public health interventions in high-income countries found a median return of 14 to 1.¹⁹ The report's authors concluded that local and national public health interventions "are cost saving" and that cuts to public health budgets in high-income countries are a "false economy."²⁰ 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."²¹

Furthermore, a study of the impact of funding community health workers hired to address the social conditions in which people live and their effect on health found that every dollar invested in the intervention returned an average of \$2.47 to the payer within the fiscal year.²²

Lack of investment has led to a dangerously underfunded public health infrastructure.

Over the past decade, this report has documented the nation's underfunding of public health, underfunding that has put Americans' health at risk. The current COVID-19

crisis is illuminating these risks in ways Americans have never imagined.

Unfortunately, a pattern has emerged: as a nation, we pay attention to public health investment when there's a crisis, often borrowing from existing public health budgets (money typically meant to address chronic illness) to pay for the emergency response. This robbing-from-Peter-to-pay-Paul approach has left the nation's public health infrastructure on weak footing. The Public Health Leadership Forum estimates that an annual infusion of \$4.5 billion is needed to fully support core public health foundational capabilities at the state, territory, local, and tribal levels nationwide.²³

In February 2020, TFAH expressed concern about President Donald Trump's proposed FY 2021 budget because, if adopted by Congress, it would cut funding for programs critical to safeguarding the public's health and would add to the impact of years of stagnant or decreased public health funding. At press time, TFAH was working with other public health advocacy groups to ensure that the administration and Congress substantially and adequately fund the COVID-19 emergency response. (*See side-bar page 5*)

HOW TO PREPARE FOR GROWING POPULATION OF OLDER AMERICANS.

The number of Americans age 65 or older is projected to more than double over the next 40 years, rising from 15 percent in 2016 to nearly 24 percent of the U.S. population.²⁵ Yet very little funding is dedicated to a public health approach to healthy aging. "Age-friendly" public health interventions can optimize the health of adults 65 and older, prolong their independence, and reduce their use of expensive healthcare services. A dedicated public health role is necessary to foster multisector collaboration and develop effective solutions to

improve the lives of older Americans. Congress should fund a Healthy Aging program within CDC to build state and local public health departments' capacity to promote the health and well-being of older adults including determinants of health beyond healthcare. The unit would coordinate grants so that states can create conditions that reduce risk factors for chronic illness, social isolation, and healthcare costs and can implement evidence-based programs and policies that improve the health of older adults.

The report includes recommendations for policy action within four priority areas:

Increased funding to strengthen the public health infrastructure and workforce, including modernizing the system's data and surveillance capacities.

Safeguarding and improving Americans' health by investing in chronic disease prevention and the prevention of substance misuse and suicide.

Improving emergency preparedness, including preparation for weather-related events and infectious disease outbreaks.

Addressing the social determinants of health and advancing health equity.



HOW FUNDING IS ALLOCATED MAKES A DIFFERENCE.

In addition to funding levels, there are other barriers to effective use of public health funds. First, funding for public health typically comes in the form of legislatively determined siloes, each restricted to a specific condition, disease, or purpose, with little to no flexibility to go beyond a narrow definition of the associated risk factors. Yet individuals and communities often are at risk of multiple health problems, problems that often don't align neatly with the budgetary line items.

A second challenge is that public health grantmaking often rewards organizations that have the means to write more competitive grant applications and meet a high bar for eligibility. Although often unintended, this trend can reinforce historic inequities and fail to meet the needs of targeted populations at higher risk. In order to be effective, funders, agencies, and grantmaking 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 grantmaking practices to account for differential needs, resources, and capacity, such as considering disease or incidence burden and social context when determining grantmaking eligibility criteria. Funders need to ensure that grantmaking criteria create an equitable funding environment where communities with the greatest health-related needs can benefit from competitive grant mechanisms.

When how the funding must be spent is predetermined by the method of funding, there is little opportunity for

the involvement of members of the affected community in determining the key local priorities. Both grantmakers and grantees should recognize that programs that are planned with the local community rather than for the local community stand a much greater chance of success.

In addition, initiatives that enable working across sectors could benefit from program guidelines that allow for the braiding and blending of funds.²⁶ 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.²⁷

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 effective use of funds is the length of program funding. Often funding is limited to a few years when the most effective approaches require a longer window of time to measure their efficacy.

Federal Public Health Funding

The federal government invests in significant public health programs across many of its agencies and dozens of programs. These funding efforts are designed to improve health, prevent diseases and injuries, and prepare for potential disasters and major health emergencies, and such efforts are the backbone of the nation's public health system.

The Centers for Disease Control and Prevention (CDC) is a leader in public health improvement and, as such, receives federal dollars to invest in a variety of public health activities. However, the federal government also invests in health improvement through other agencies at 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 (HUD), and the U.S. Department of Transportation (DOT), among others. Collectively, these federal funds are the largest source of funding for state public health departments, with CDC being the single largest source of public health funding that flows to states, tribes, and territories.

CDC funding trends

CDC is the nation's leading public health agency and is in large part responsible for the nation's disease prevention and control, environmental health, health promotion, and health education activities. In addition to its own programming,

CDC supports states, localities, tribes, territories, and community organizations in efforts to protect Americans from natural disasters and severe weather, unsafe food and water, and infectious and chronic diseases. Although life expectancy in the United States increased slightly in 2018, primarily due to a decline in cancer and prescription-drug-related death rates, life expectancy had decreased for the previous three consecutive years—preventable deaths being the biggest contributing factor.²⁸

Overall, CDC's budget for fiscal year (FY) 2020 is \$7.92 billion. (See Figure 1.) This budget reflects a \$645 million (9 percent) increase over FY 2019 funding—or a 7 percent increase in inflation-adjusted dollars. The largest increase was a onetime investment in buildings and facilities (+\$225 million), and other increases included the ending HIV initiative (+\$140 million), and public health data modernization (+\$50 million). Congress also provided funding for new priorities



sshepard

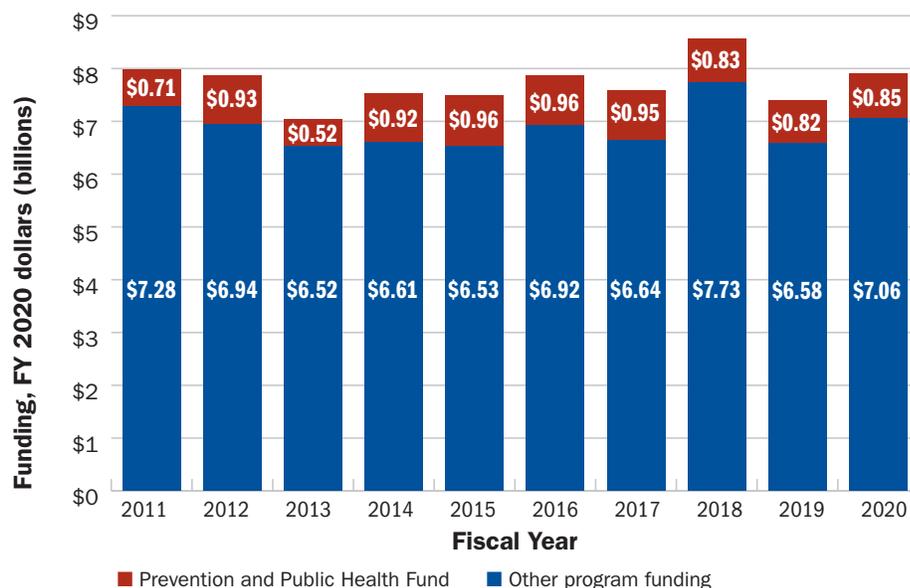
such as suicide prevention (\$10 million), adverse childhood experiences (\$4 million), and Alzheimer’s disease (+10 million).²⁹ (Despite this budget increase, CDC’s overall budget is far from what is needed to adequately fund CDC’s activities in public health. (See Figure 1.)

CDC saw slight increases in funding for chronic disease prevention and health promotion between FY 2019 and FY 2020 (from \$1.18 billion to \$1.24 billion). (See Figure 4.) But CDC still has less than \$3 per capita to spend on chronic disease prevention.³⁰ This funding is inadequate to safeguard well-being and to decrease the more than \$3 trillion in annual healthcare costs attributable to chronic disease and mental health conditions.³¹ For example, within CDC, funding for the Division of Nutrition, Physical Activity and Obesity remained generally flat, at \$57 million, with only enough funding to support obesity prevention activities in 16 states.

Opioid overdose prevention and surveillance activities are components of CDC’s National Center for Injury Prevention and Control and account for more than two-thirds of its budget.³² While recent data suggest the overall drug overdose death rate is falling slightly, drug overdose deaths involving synthetic opioids (for example, fentanyl, fentanyl analogs, and tramadol) have continued to rise and warrant additional investment, particularly given the impact that improvements in school and community environments can have on rates of substance use.³³

Funding for public health preparedness and response programs saw decreases in funding from FY

Figure 1: CDC Program Funding, adjusted for inflation, FY 2011 - 2020



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 Assistant Secretary for Preparedness and Response in FY 2019, and excluding one-time lab funding in FY 2018. Data were adjusted for inflation using the Bureau of Economic Analysis’s implicit price deflators for gross domestic product
 Source: CDC annual operating plans

2019 to FY 2020 (\$858 million to \$850 million). This decrease comes only a year after the United States dealt with 14 weather and climate disasters that each cost at least \$1 billion.³⁴ Just a decade ago, only seven weather/climate events met this \$1 billion threshold (adjusted for inflation).³⁵

Finally, CDC has historically lacked the funding to adequately support comprehensive public health systems at the federal, state, and local levels.³⁶ Funding for such capabilities for FY 2020 (\$359 million) is only slightly more than that of FY 2019 (\$327 million) and would need to be significantly higher to adequately develop the public health infrastructure that has been underfunded for years.

Like FY 2019, the two largest categories of expenditure in the FY 2020 CDC budget (both account for approximately 16 percent of the budget) are for the centers that oversee (1) chronic disease prevention and health promotion, and (2) HIV/AIDS, viral hepatitis, sexually transmitted diseases, and tuberculosis prevention. The former includes funding for prevention activities related to heart disease and stroke, diabetes, cancer, and smoking, while the latter funds the Ending HIV/AIDS Initiative and School Health programs designed to combat HIV.³⁷

On average, states received \$23.53 per person in CDC grants in FY 2019, ranging from as much as \$69.25 per person in Alaska to as little as \$18.44 per person in New Jersey. (See Table 1.)

Table 1: CDC Program Funding Transfers to States, FY 2019

State	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	Immunization and Respiratory Diseases	Injury Prevention and Control	Occupational Safety and Health
Alabama		\$13,876,747	\$1,296,229	\$515,000		\$9,849,560	\$4,072,550	\$4,773,813	\$1,678,053
Alaska		\$17,533,904	\$1,272,024	\$263,678		\$2,145,258	\$2,103,538	\$6,254,850	\$100,966
Arizona		\$18,350,534	\$2,501,162	\$1,290,143		\$10,189,317	\$6,105,282	\$10,140,497	\$1,241,977
Arkansas		\$10,317,042	\$1,658,548			\$4,086,840	\$2,974,767	\$4,305,712	\$601,314
California	\$749,970	\$38,527,891	\$13,217,624	\$2,863,963		\$100,134,536	\$31,874,739	\$19,011,176	\$7,715,159
Colorado		\$14,147,530	\$6,937,710	\$3,944,029		\$10,070,724	\$6,911,493	\$9,072,759	\$6,722,634
Connecticut		\$9,394,011	\$5,799,857	\$1,820,146		\$6,026,522	\$6,490,197	\$7,768,023	\$1,789,202
Delaware		\$8,523,189	\$980,166	\$349,722		\$2,534,821	\$1,468,773	\$6,871,003	
D.C.		\$20,362,593	\$7,136,520	\$2,261,773		\$23,324,940	\$8,933,000	\$30,964,275	\$1,351,206
Florida		\$18,222,321	\$3,442,283	\$2,336,209		\$56,943,000	\$13,130,945	\$24,041,735	\$3,706,773
Georgia	\$100,000	\$52,259,880	\$8,627,098	\$2,050,438		\$32,133,122	\$17,844,679	\$14,950,277	\$1,072,511
Hawaii		\$5,656,846	\$2,441,788	\$430,000		\$3,523,490	\$3,640,605	\$4,133,499	
Idaho		\$6,192,799	\$775,616			\$1,800,925	\$2,288,770	\$3,153,755	
Illinois		\$28,913,840	\$5,580,146	\$2,915,877		\$27,057,350	\$13,652,144	\$14,106,375	\$2,644,030
Indiana		\$8,447,105	\$2,684,769	\$1,384,278		\$7,502,641	\$5,587,520	\$8,241,086	\$693,235
Iowa		\$8,947,707	\$3,232,479	\$2,047,186		\$3,008,254	\$4,487,895	\$5,237,545	\$4,242,341
Kansas		\$9,734,938	\$2,147,377	\$1,306,493		\$2,440,867	\$3,287,906	\$5,229,526	
Kentucky		\$11,057,428	\$2,189,101	\$1,666,065		\$5,263,812	\$4,759,780	\$10,399,331	\$3,610,314
Louisiana		\$11,992,011	\$1,712,993	\$1,505,898		\$14,627,911	\$3,598,750	\$9,854,734	\$252,000
Maine		\$5,200,089	\$1,822,424	\$1,985,901		\$2,006,114	\$2,410,021	\$6,257,222	
Maryland	\$750,000	\$20,838,535	\$12,844,983	\$4,008,308		\$21,105,373	\$11,372,288	\$16,338,779	\$7,688,928
Massachusetts	\$749,996	\$15,247,729	\$5,758,534	\$2,469,612		\$14,214,249	\$7,034,169	\$11,867,778	\$8,785,566
Michigan		\$24,443,348	\$4,094,085	\$7,104,870		\$15,229,377	\$11,236,039	\$12,109,025	\$2,836,343
Minnesota		\$18,868,583	\$11,351,136	\$3,454,001		\$6,075,694	\$8,138,047	\$7,091,925	\$3,698,302
Mississippi		\$13,712,361	\$1,399,455	\$445,000		\$7,882,446	\$3,251,158	\$3,561,630	\$130,000
Missouri	\$749,323	\$15,208,223	\$1,748,012	\$2,103,437		\$9,363,381	\$5,622,733	\$6,330,027	\$487,692
Montana		\$9,850,091	\$1,453,165	\$526,667	\$2,499,969	\$1,600,727	\$1,423,746	\$3,814,527	\$419,126
Nebraska	\$748,116	\$10,375,356	\$2,051,290	\$459,010		\$2,383,924	\$2,412,815	\$4,154,310	\$2,060,730
Nevada		\$10,916,897	\$1,581,641	\$695,750		\$4,947,039	\$3,546,118	\$8,228,283	
New Hampshire		\$6,417,265	\$1,691,836	\$3,660,366		\$1,711,375	\$3,377,620	\$5,245,453	\$145,000
New Jersey		\$9,043,622	\$2,129,072	\$2,202,468		\$23,888,880	\$7,760,023	\$9,280,161	\$150,000
New Mexico		\$11,962,005	\$3,152,208	\$2,038,064		\$2,895,031	\$4,401,425	\$6,563,920	\$145,000
New York		\$33,456,492	\$15,934,428	\$6,582,456		\$91,187,141	\$21,804,238	\$15,834,086	\$4,375,042
North Carolina		\$19,397,228	\$3,517,100	\$939,615		\$19,980,141	\$7,826,969	\$15,334,261	\$2,558,692
North Dakota		\$7,744,445	\$931,939			\$1,615,901	\$1,896,008	\$690,448	
Ohio		\$12,213,247	\$6,935,190	\$1,211,667		\$14,686,405	\$9,688,944	\$26,151,844	\$1,935,776
Oklahoma		\$11,482,024	\$1,587,137	\$415,080		\$5,025,039	\$3,452,034	\$7,897,061	\$683,698
Oregon		\$15,804,451	\$5,020,642	\$1,640,900		\$6,495,683	\$6,348,964	\$6,759,114	\$1,659,079
Pennsylvania		\$16,917,545	\$5,482,238	\$1,371,961		\$23,716,437	\$14,514,775	\$27,039,006	\$2,592,143
Rhode Island	\$747,410	\$9,278,701	\$1,962,106	\$1,995,529		\$2,880,208	\$1,783,523	\$7,106,115	
South Carolina		\$15,047,055	\$3,321,639	\$445,000		\$10,270,460	\$5,141,451	\$5,322,031	\$18
South Dakota		\$10,135,975	\$1,112,970			\$1,612,002	\$1,388,416	\$3,264,312	
Tennessee		\$11,972,071	\$9,152,514	\$1,041,516		\$12,696,393	\$8,847,331	\$9,650,085	\$445,117
Texas		\$19,745,981	\$5,505,077	\$3,387,228		\$53,974,911	\$23,954,199	\$5,838,675	\$4,188,008
Utah		\$13,218,921	\$5,917,580	\$2,128,873		\$2,641,982	\$2,841,839	\$7,028,316	\$1,686,040
Vermont		\$5,692,772	\$1,099,685	\$2,000,802		\$1,593,663	\$1,741,723	\$3,953,940	
Virginia		\$19,142,033	\$4,211,380	\$1,447,478		\$15,001,924	\$8,647,704	\$15,825,408	\$614,511
Washington		\$24,056,871	\$8,123,332	\$1,897,848		\$12,273,165	\$7,711,708	\$13,372,385	\$5,629,416
West Virginia		\$8,928,364	\$1,395,628	\$367,259		\$2,417,986	\$1,436,532	\$8,135,419	\$480,373
Wisconsin		\$14,826,288	\$6,764,792	\$2,337,403		\$4,981,290	\$8,461,772	\$9,106,023	\$1,516,072
Wyoming		\$4,480,237	\$1,284,448			\$1,607,266	\$1,239,142	\$425,559	
United States	\$4,594,815	\$758,083,121	\$213,971,156	\$89,314,967	\$2,499,969	\$720,625,497	\$353,926,807	\$488,087,099	\$92,332,387

Table 1: CDC Program Funding Transfers to States, FY 2019

State	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	\$9,722,675	\$664,776	\$65,584,893		\$118,312,898	\$24.13	28
Alaska	\$5,468,785	\$820,206	\$12,896,469		\$50,656,580	\$69.25	1
Arizona	\$12,350,403	\$972,211	\$95,736,826		\$162,355,747	\$22.31	36
Arkansas	\$7,072,525	\$558,100	\$42,506,778		\$78,292,253	\$25.94	21
California	\$61,836,875	\$3,028,874	\$493,388,072		\$790,959,612	\$20.02	43
Colorado	\$10,579,775	\$1,254,246	\$54,558,100		\$129,647,817	\$22.51	33
Connecticut	\$8,073,805	\$874,211	\$35,710,075		\$87,075,658	\$24.42	26
Delaware	\$5,169,021	\$424,492	\$11,802,096		\$38,638,289	\$54.75	2
D.C.	\$8,469,682	\$6,939,504	\$12,075,378		\$138,740,982	\$142.48	
Florida	\$30,945,684	\$366,526	\$283,233,362		\$443,152,300	\$20.63	40
Georgia	\$17,551,292	\$5,773,155	\$146,126,008		\$315,980,935	\$29.76	14
Hawaii	\$5,715,651	\$1,034,827	\$16,183,687		\$44,887,704	\$31.70	11
Idaho	\$5,265,156	\$242,355	\$23,356,854		\$44,191,956	\$24.73	23
Illinois	\$26,968,212	\$861,271	\$125,270,115		\$255,414,547	\$20.16	42
Indiana	\$11,527,724	\$746,142	\$77,120,736		\$126,622,588	\$18.81	49
Iowa	\$7,658,441	\$207,355	\$35,955,672		\$78,769,080	\$24.97	22
Kansas	\$6,600,607	\$220,355	\$29,658,292		\$62,947,618	\$21.61	37
Kentucky	\$8,349,055	\$215,355	\$58,891,800		\$109,167,853	\$24.44	25
Louisiana	\$8,672,294	\$1,326,753	\$78,899,850		\$137,869,559	\$29.66	15
Maine	\$5,075,000	\$22,000	\$13,771,966		\$40,309,777	\$29.99	13
Maryland	\$13,651,938	\$10,688,311	\$73,580,954		\$205,036,077	\$33.91	10
Massachusetts	\$12,962,700		\$73,870,842		\$162,713,759	\$23.61	30
Michigan	\$16,092,218	\$350,000	\$95,894,674		\$199,429,813	\$19.97	44
Minnesota	\$10,820,718	\$240,193	\$49,339,141		\$126,543,035	\$22.44	34
Mississippi	\$6,524,256	\$209,859	\$45,650,480		\$85,440,344	\$28.71	18
Missouri	\$10,959,467	\$204,707	\$66,846,138		\$125,573,594	\$20.46	41
Montana	\$5,075,000	\$371,814	\$11,009,868		\$40,048,206	\$37.47	6
Nebraska	\$5,194,290	\$334,948	\$21,556,367		\$55,891,813	\$28.89	17
Nevada	\$7,261,278	\$76,841	\$37,177,311		\$75,934,099	\$24.65	24
New Hampshire	\$5,441,738	\$315,434	\$11,209,736		\$42,285,125	\$31.10	12
New Jersey	\$15,157,019	\$654,134	\$86,173,174		\$163,792,173	\$18.44	50
New Mexico	\$6,638,183	\$419,099	\$33,286,848		\$74,258,502	\$35.41	7
New York	\$36,579,734	\$2,133,281	\$265,219,763	\$24,139,713	\$546,566,914	\$28.10	19
North Carolina	\$15,105,315	\$468,587	\$128,334,683		\$222,640,922	\$21.23	39
North Dakota	\$5,075,000	\$222,458	\$7,388,749		\$26,384,278	\$34.62	9
Ohio	\$17,348,435		\$129,469,355		\$228,325,010	\$19.53	45
Oklahoma	\$7,693,590	\$201,845	\$62,286,745		\$102,970,476	\$26.02	20
Oregon	\$8,106,290	\$22,000	\$35,776,832		\$90,470,884	\$21.45	38
Pennsylvania	\$18,660,923		\$128,128,564		\$247,806,280	\$19.36	46
Rhode Island	\$5,444,083	\$130,000	\$12,576,328		\$45,008,932	\$42.49	4
South Carolina	\$9,914,408		\$70,312,464		\$124,837,575	\$24.25	27
South Dakota	\$5,075,000	\$130,855	\$10,749,095		\$33,975,024	\$38.40	5
Tennessee	\$11,059,158	\$483,122	\$90,500,324		\$159,811,736	\$23.40	31
Texas	\$39,847,398	\$122,561	\$482,382,366		\$647,606,306	\$22.33	35
Utah	\$7,196,106	\$807,441	\$26,871,336		\$74,250,461	\$23.16	32
Vermont	\$5,444,083	\$243,347	\$7,197,627		\$30,491,774	\$48.87	3
Virginia	\$16,736,167	\$4,487,404	\$70,372,278		\$164,323,728	\$19.25	48
Washington	\$12,754,098	\$189,129	\$94,680,565		\$183,248,991	\$24.06	29
West Virginia	\$5,492,798		\$21,788,790		\$52,057,669	\$29.05	16
Wisconsin	\$11,139,316	\$88,000	\$48,063,445		\$112,496,274	\$19.32	47
Wyoming	\$4,915,116		\$5,524,242		\$20,426,564	\$35.29	8
United States	\$622,438,485	\$50,148,084	\$4,015,946,110	\$24,139,713	\$7,724,640,089	\$23.53	N/A**

Note: The District of Columbia was excluded from per capita state rankings. The U.S. total reflects grants and cooperative agreements to all 50 states and the District of Columbia, but does not include territories, for the purpose of comparability.

Source: CDC Grant Funding Profiles

THE NATION HAS A STRATEGY TO END HIV.

In his February 2019 State of the Union address, President Trump announced a strategy to stop the spread of HIV by 2030 by concentrating prevention resources in nationwide hot spots, where half of all new infections occur. At the president's behest, HHS proposed the *Ending the HIV Epidemic: A Plan for America Initiative* to reduce the number of new HIV infections in the U.S. by at least

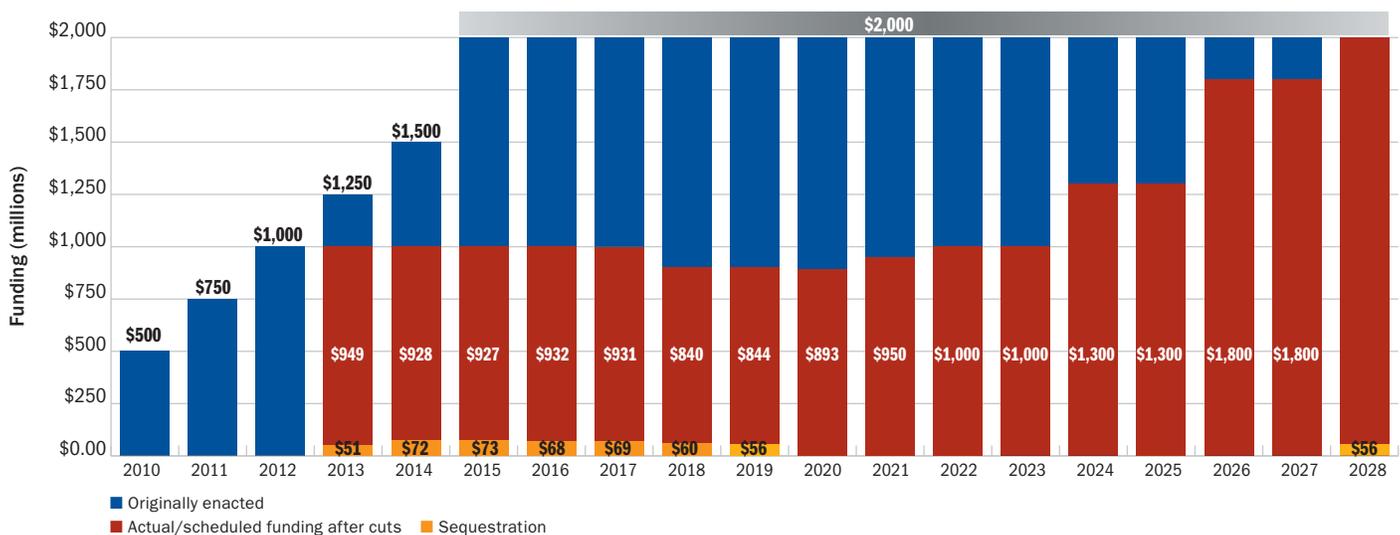
90 percent within 10 years. To achieve maximum impact, the first phase of the initiative will focus on geographic areas that are hardest hit by HIV.³⁸ In December 2019, Congress approved the largest increase to domestic HIV/AIDS programs from multiple federal sources, including CDC, in decades,³⁹ bringing federal funding in FY 2020 for HIV/AIDS (across multiple programs) to just over \$28 billion.⁴⁰

The Prevention and Public Health Fund

The Prevention and Public Health Fund (PPHF), which was intended to support “an expanded and sustained national investment in prevention and public health programs” remains chronically underfunded.⁴¹ The Affordable Care Act allocated \$2 billion annually to the PPHF since FY 2015. Unfortunately, much of this PPHF funding was used as an offset to pay for other priorities,

such as the Middle Class Tax Relief and Job Creation Act of 2012 and the 21st Century Cures Act.⁴² Consequently, CDC and other public health agencies in the federal government have only \$892.95 million in FY 2020 to assist state and local governments and to ensure public safety in the wake of emerging public health crises.⁴³

Figure 2: Cuts to the Prevention Fund Since Creation
FY 2010 – 2028



Notes: The original allocations (blue bars) were established by the Patient Protection and Affordable Care Act (ACA) (PL. 110-48), while cuts (red bars) were established by the Bipartisan Budget Act of 2018 (PL. 115-123, Current Law).

Source: TFAH analysis of congressional committee reports

Funding for Key CDC initiatives

CDC funds specific health issues, like infectious disease, chronic disease and obesity, emergency preparedness, and injury control, including opioid addiction. Some of these programs have a special emphasis on addressing the health inequities that exist in communities across the country.

However, the impact of this support is limited by the amount of funding at CDC's disposal, and CDC targets relatively few funds for public health infrastructure or workforce development.

Despite increasing evidence for the efficacy of prevention efforts, CDC's core funding levels have remained relatively stagnant. The agency's current (and historical) levels of funding is insufficient to fund prevention programs in all states, territories, and tribal communities—despite the very real need for such funding in all of those jurisdictions. Because the federal government is the major source of public health funding in many states, these federal budget limitations have contributed to decreases in public health funding at the state level. In 2019, 11 states decreased state funding for public health compared with the year prior.⁴⁴

The lack of core CDC funding to states and localities have made them more vulnerable when an emergency situation occurs, such as the Ebola and Zika outbreaks and, most recently, the novel coronavirus pandemic. While Congress passed essential, specialized, short-term supplemental funding for these outbreaks, temporary measures cannot substitute for the necessary core funding of public health. Without day-in, day-out skilled staff and other resources, it isn't possible to ensure the protection of the American public from such threats.⁴⁵ Health departments cannot quickly hire and retain experts with the necessary skills and experience with short-term



funding. The president's newly released FY 2021 budget would further weaken this capacity with its proposed overall cut of CDC funding by 9 percent.⁴⁶

Community prevention

The communities where people work, live, and play affect their health and well-being.^{47,48,49} Social determinants of health—such as economic opportunity, accessible transportation, robust physical infrastructure, quality education, affordable housing, and public safety—all contribute to wellness and life expectancy.^{50,51} Despite the fact that these social determinants are estimated to account for between 80 - 90 percent of a community's health outcomes, many jurisdictions still struggle to provide these quality living conditions or economic opportunities.⁵² Yet, CDC has virtually no funding targeted to addressing social determinants and altering these conditions.

For example, the National Diabetes Prevention Program includes the Appalachian Diabetes Control and Translation Project⁵³ and the Native Diabetes Wellness Program.⁵⁴ Nearly 25 million people in Appalachia suffer from poor health outcomes because of the unique socioeconomic, geographical,

and cultural realities of the Appalachian region.⁵⁵ Meanwhile, Native Americans have the highest prevalence of type 2 diabetes among all U.S. racial groups.⁵⁶ Both projects utilize regional coalitions and community resources to deliver the education and lifestyle interventions of the National Diabetes Prevention Program to communities that need it most. But insufficient funding limits the number of communities in which these programs are in place.

Additionally, successful programs like 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, SPAN only has enough funding to support programs in 16 states in FY 2020.⁵⁷ Additional states could receive this support for an estimated \$1.2 million each. Compared with the estimated \$190 billion in obesity-related healthcare the United States spends annually,⁵⁸ increasing SPAN funding would be a small investment that could substantially reduce overall healthcare costs.

Two valuable and unique CDC initiatives that are focused exclusively on racial and ethnic minority populations at elevated risk of preventable illness, injury, and death are underfunded and, even worse, pitted against each other. CDC's *Racial and Ethnic Approaches to Community Health (REACH)* and *Good Health and Wellness in Indian Country* programs are funded by the same line item. Both have a solid track record of advancing culturally appropriate and effective interventions and could do more with additional funding.

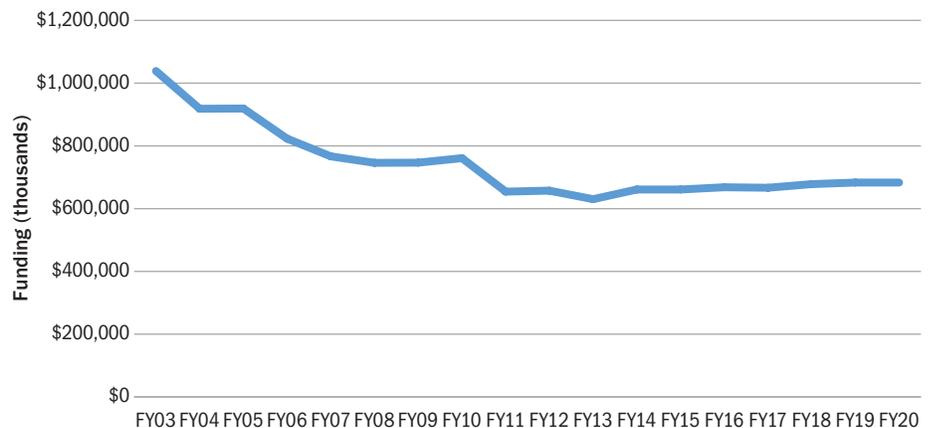
These and other community prevention efforts can also effectively address a wide variety of negative health outcomes, such as chronic disease, substance misuse, injury, and violence.^{59,60} As a result of their ability to reduce adverse health outcomes and, by extension, acute healthcare spending, such interventions often produce a substantial return on investment. For example, school-based substance misuse screening, brief intervention, and

referral to treatment programs have produced returns on investment as high as \$20 for every \$1 spent.^{61,62}

Public health emergency preparedness and response

In 2019, Congress passed the Pandemic and All-Hazards Preparedness and Advancing Innovation Act reauthorizing CDC's Public Health Emergency Preparedness (PHEP) Cooperative Agreement through FY2023. Despite being the primary source of federal support for state and local public health emergency preparedness and response, this funding was cut by hundreds of millions of dollars over the past two decades. Following recent small increases, including \$11.5 million in FY2018 and \$5 million in FY2019, PHEP funding remained flat in FY2020. Funding was already insufficient to restore lost resources, making the United States less prepared for public health emergencies, which are becoming more frequent and increasingly severe. (See Figure 3.)

Figure 3: Public Health Emergency Preparedness Funding Cut Over Time
CDC funding for state and local preparedness and response, FY 2003-20



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 2020 reflects the sum of funding for "Public Health Emergency Preparedness Cooperative Agreement" and "Academic Centers for Public Health Preparedness." This difference was owed to a change in the CDC's reporting practice in its annual operating plans.

Source: CDC annual operating plans

CDC's PHEP Cooperative Agreement provides funding directly to 50 states, four cities, and eight U.S. territories and freely associated states to improve response readiness. CDC intends for PHEP to address "all hazards," including infectious diseases, such as COVID-19 and measles, and seasonal flu, weather-related emergencies, environmental disasters, and water contamination.^{63,64}

In FY2020, \$623 million provided through the PHEP Cooperative Agreement enabled states to fund epidemiologists, laboratory staff, health educators, health professionals, and field staff to investigate and address public health threats in their state or locality.⁶⁵

The federal government's continued investments in preparedness and response are essential to health departments' readiness to respond to many types of emergencies. In response to the 9/11 terrorist attacks, Congress created the Hospital Preparedness Program (HPP) to mobilize healthcare organizations and hospitals with significant federal support in the event of a regional or national emergency. Since 2002, the HPP has supported public health emergencies, including Hurricane Katrina (which exposed longstanding critical underfunding and unpreparedness in emergency response), the H1N1 pandemic, the Boston Marathon bombings, and more recently, Hurricanes Harvey, Maria, and Irma.⁶⁶ Administered and run through HHS's Office of the Assistant Secretary for Preparedness and Response, the HPP and the 360 healthcare coalitions involved in the program (each coalition comprises at least one hospital, a local health department, an emergency management organization, and an emergency medical service) have received more than \$5.9 billion since 2002.⁶⁷ Yet this important work has been crippled by a 50 percent reduction made over the course of the past 16 years.



When extraordinary or novel outbreaks or disasters occur, they often require supplemental funding. There are different mechanisms for accessing such funding. The most frequent approach is for Congress to vote to approve a supplemental budget (*see COVID-19 Supplement Funding side-bar, pg. 5*). However, this process may result in significant delays, as was the case in the Zika outbreak. Other mechanisms that can potentially accelerate the availability of resources are:

- The FY 2019 Labor-HHS-Education appropriations bill established the Infectious Diseases Rapid Response Reserve Fund (IDRRRF), which can be tapped to prevent, prepare for, or respond to a declared infectious disease emergency.⁶⁸ Congress also added an additional \$85 million in FY 2020 and additional funding in the COVID response packages. Under the direction of the HHS secretary, funds may be transferred to other Public Health Service Act programs, as necessary. This mechanism can target money to efforts to help health departments respond quickly to emergencies. However, the demands of addressing major outbreaks far exceed funding currently in the IDRRF, especially if medical countermeasures are required. For example, HHS tapped \$105 million from the fund for the novel coronavirus outbreak within days of the federal public health emergency declaration, and HHS

notified Congress that much more would be needed to fund efforts to counter COVID-19.⁶⁹

- An additional federal mechanism is the Public Health Emergency Rapid Response Fund, which can also be tapped during a declared public health emergency. However, at press time, this fund is virtually 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.⁷⁰ Unlike the IDRRRF, the Public Health Emergency Rapid Response Fund can be used for non-infectious disease emergencies.
- The secretary of HHS may also use limited authority to transfer funds between HHS accounts, up to a 1 percent cut. During the COVID-19 response, for example, HHS Secretary Alex Azar transferred up to \$136 million between HHS programs as a stop-gap measure until supplemental funding (passed by Congress on March 5, 2020) became available.⁷¹ Transfers can have major harms on public health programs, as was evident during the Zika response, when states lost \$44 million in their PHEP grants as CDC awaited supplemental funds.⁷² Even when Congress back-fills these transfers, the harm has often already been done, as grantees cannot easily hire back a lost workforce.

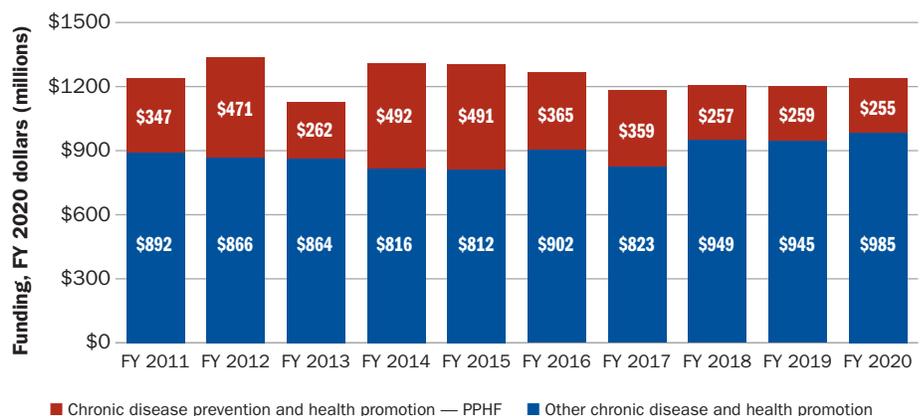
Chronic disease prevention

According to CDC, roughly 60 percent of adults⁷³ and 25 percent of children ages two through eight in the United States suffer from chronic diseases such as heart disease, diabetes, cancer, obesity and/or asthma.⁷⁴ Together, chronic diseases represent the most significant cause of morbidity and mortality in the United States and, along with mental health conditions, are responsible for 90 percent of the country's \$3.5 trillion in annual healthcare expenditures.⁷⁵ While genetic risk factors may play a role in the development and progression of chronic disease, behavior such as smoking, alcohol consumption, poor nutrition, and lack of exercise are major factors that influence the rate and severity of chronic disease.⁷⁶ Just one behavioral risk factor—sedentary lifestyle—contributes to an estimated 10 percent of premature deaths. Yet, at least 15 percent of adults in every state and territory in the country are physically inactive.⁷⁷ CDC estimates

that physical inactivity alone costs the healthcare system \$117 billion annually.⁷⁸

The key to reducing healthcare expenditures related to treating chronic diseases is increased investment in effective and proven prevention programs. As compared with the \$3.5 trillion in annual healthcare expenditures, CDC is scheduled to spend only \$1.24 billion on chronic disease prevention and health promotion in FY 2020,⁷⁹ a small increase over FY 2019. CDC has a number of evidence-based obesity prevention and physical activity promotion programs ready for states to implement, including the *SPAN* program, the *High Obesity Program*, and the *Childhood Obesity Research Demonstration Project*. But a lack of funding limits those programs' growth. Further, these funds have been targeted for additional cuts under the president's proposed budget for FY 2021.⁸⁰

Figure 4: Chronic Disease Prevention Funding Trails Need
Chronic disease funding, adjusted for inflation, FY 2011 – 2020



Note: Data were adjusted for inflation using the Bureau of Economic Analysis's implicit price deflators for gross domestic product.

Source: CDC annual operating plans

Substance misuse and suicide prevention

“Deaths of despair,” including from substance misuse, overdose, and suicide, have received increased attention and investment as rates of these deaths nearly doubled over the last decade.⁸¹ Substance misuse, overdose, and suicide share common risk and protective factors. However, few federally funded programs target the underlying causes of substance misuse, overdose, and suicide, and the trauma and adversity that often precedes these health concerns. Drug overdose death rates decreased by one percentage point in 2018 but coincided with increases in suicide deaths and non-fatal overdoses.⁸²



Current efforts to combat the opioid epidemic and related public health concerns largely center on stemming access to illicit drugs and offering emergency clinical services. CDC funding for opioid overdose prevention and surveillance increased by \$350 million from \$125.4 million in FY2017⁸³ to \$476 million in each of the past three years.⁸⁴ The agency leverages this funding to provide grants to states and large local health agencies to implement and strengthen prescription drug monitoring programs, expand the surveillance of substance-related overdoses, and promote appropriate prescribing.

To facilitate multifaceted prevention efforts, CDC’s National Center for Injury Prevention and Control 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. It is unclear how much funding will be allocated toward each purpose; however, the program has awarded eight states and localities grants ranging from \$2.4 million to \$7.1 million.⁸⁵

It is essential that these efforts be sufficiently funded so that they may expand to more states and localities and support innovative prevention practices.

The National Center for Injury Prevention and Control has also identified suicide and adversity (namely, adverse childhood experiences, or “ACEs”) as key priorities. Addressing ACEs and suicide requires socially focused efforts, including strengthening economic support for families, intervening early to lessen harm when children are being mistreated, and promoting safe and supportive school environments. Among the programs funded to address these issues are:

- **Injury Control Research Centers.** To better understand opportunities to prevent suicide and other injury, CDC funds nine Injury Control Research Centers (ICRCs), which are currently funded at approximately \$833,000 per center each year for five years.⁸⁶ Four of the ICRCs currently 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, CDC’s *Core State Violence and Injury Prevention Program* (Core SVIPP) currently funds and provides technical assistance to 23 states.⁸⁷ 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.⁸⁸ 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 ACE Aware Initiative, which reimburses Medical providers for screening for ACE risk factors.⁸⁹ FY 2020 included new funding for CDC to research and address suicide prevention and ACEs.

The broader federal funding landscape is also vital to the nation's public health.

While CDC's main mission is to serve as the nation's primary public health protection agency, its work is complemented and supported by many other federal agencies both within and outside HHS. Like CDC, these agencies require adequate resources to support their public health activities and improve nationwide health and well-being.

Within HHS, a number of agencies are responsible for activities related to public health protection. The **Food and Drug Administration (FDA)** protects the safety of food, drugs, medical devices, cosmetics, and tobacco products. The **Health Resources and Services Administration (HRSA)** augments healthcare services for geographically, economically, and medically vulnerable Americans. The **Substance Abuse and Mental Health Services Administration (SAMHSA)** spearheads the public health response to behavioral health conditions at the federal level and supports state efforts to prevent and treat these conditions. Together, these agencies help support the physical and mental health of all Americans. All three agencies saw modest increases in operating budgets in FY 2020 (FDA: \$5.6 billion to \$5.94 billion;⁹⁰ HRSA: \$6.83 billion to \$7.05 billion;⁹¹ and SAMHSA: \$5.74 billion to \$5.88 billion⁹²). Considering the scope of their jurisdictions—case in point, the FDA approved the labeling, manufacturing, efficacy, or formulation of 167 drugs during the first two weeks of February 2020⁹³—modest increases in operating budgets still leave many public health priorities underfunded.

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 three to five) and the Early Head Start Program (for children under age three). 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 has a positive impact on immediate health outcomes like cognitive development and emotional development, as well as longer-term positive health outcomes associated with higher income, better employment, and higher educational attainment.⁹⁴ In FY 2020, Head Start and Early Head Start received \$10.6 billion,⁹⁵ an increase from FY 2019 but less funding than the National Head Start Association recommended.⁹⁶ Currently, Head Start funding does not adequately serve all the children who would stand to benefit from Head

Start and Early Head Start: nationally, only 36 percent of Head Start–eligible children and 11 percent of Early Head Start–eligible infants and toddlers have access to these programs due to limited funding.⁹⁷

Outside of HHS, many departments are assisting in public health protection by addressing the social determinants of health—that is, the conditions in a person's life that are outside healthcare but impact health, such as access to safe housing, adequate nutrition, and clean air and water.

The USDA also plays a role in public health promotion through the Supplemental Nutrition Assistance Program (SNAP). Addressing economic insecurity is core to the mission of the USDA's food nutrition programs serving low-income individuals and families.

With approximately 40 million Americans⁹⁸ struggling to consistently put food on their table, funding for SNAP is critical to the nation's public health. Decreased funding for SNAP (from \$73.4 billion in FY 2019 to \$67.9 billion in FY 2020) puts individuals at risk of poor nutrition and its associated negative health outcomes.⁹⁹ Congress rejected deeper White House proposed cuts to SNAP in the 2018 Farm Bill, but access to food for low-income families remains at risk in 2020.

Although unlikely to pass in Congress, the president's proposed FY 2021 budget would further reduce funding to SNAP by \$180 billion over the next 10 years.¹⁰⁰ Congress has resisted drastic cuts to SNAP funding in the past. However, before even considering the proposed cuts, the USDA does not have enough money to fully operate its nutrition programs at current funding levels.

At press time, there were several USDA rules being considered that could affect access to SNAP. One rule would enact stricter SNAP work requirements for able-bodied adults without dependents. This would limit SNAP eligibility for those who are unable to meet the stricter work requirements. It may also cause people to lose benefits who are otherwise eligible but unable to meet the high administrative requirements of the new rule.¹⁰¹ The rule was finalized in December 2019 and was expected to be implemented on April 1, 2020, but a federal court ruling issued on March 13, 2020 placed an injunction blocking the adoption of the rule change, pending the outcome of a lawsuit by 19 states plus the District of Columbia and New York City.

The USDA has also proposed to change how it measures utility costs (that is,

the cost of utilities in a household, which is considered in SNAP eligibility determinations) and categorical eligibility based on enrollment in other assistance programs (such as the National School Lunch Program). Together, these three proposed rule changes are projected to remove 3.7 million individuals from the program over the next 10 years.¹⁰² Low-income individuals with access to SNAP 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.^{103,104} Creating more barriers to SNAP access will likely negatively affect these positive health outcomes.

Similarly, many HUD activities have implications for public health. Poor ventilation and the presence of indoor air pollution, the existence of lead pipes, and a lack of electricity in one's home can all contribute to negative health outcomes.¹⁰⁵

HUD's FY 2020 budget is \$56.5 billion, which is \$2.7 billion more than its FY 2019 budget.¹⁰⁶ Programs such as the *Choice Neighborhoods Initiative* provide federal rental assistance to low-income individuals, while Community Development Block Grants and the *HOME Investment Partnerships Program* help revitalize deteriorating neighborhoods and housing. The president's FY 2021 budget eliminates these important housing programs and, if passed, would reduce overall HUD funding by 15 percent.¹⁰⁷ At a time when chronic homelessness is rising (up 9 percent between 2018 and 2019) and is disproportionately affecting already marginalized people of color (40 percent of people experiencing

homelessness in 2019 were Black), cuts to funding for healthy and affordable housing may have particularly devastating effects on public health.¹⁰⁸

Accessible, safe, low-cost transportation can make accessing healthcare easier, which can lead to better health outcomes,¹⁰⁹ so DOT has a role to play in health protection and promotion. Additionally, communities that are walkable, bikeable, and transit-oriented have higher rates of physical activity, lower rates of traffic injuries, and less air pollution.¹¹⁰ Programs like the *Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grant Program* (formerly known as Transportation Investment Generating Economic Recovery, or "TIGER," Discretionary Grants) provide funding for states and localities to support the development of road, rail, transit, and port projects (which can be difficult to support through traditional DOT programs because of their multi-jurisdictional nature).¹¹¹ DOT recently released a notice of funding for \$1 billion in BUILD grants. DOT will award 50 percent of BUILD grants to rural communities, which have historically struggled with accessible transportation.¹¹²

DOT's budget remained steady between FY 2019 and FY 2020 at \$87 billion,^{113,114} but between 2003 and 2017, funding for transportation infrastructure decreased by more than 8 percent.¹¹⁵ According to a report by the American Society of Civil Engineers, the United States is likely to underinvest in its infrastructure by more than \$2 trillion between 2016 and 2025.¹¹⁶ Considering the impact that transportation has on health outcomes, it is imperative to invest adequately in agencies like DOT.

State and local public health agencies play a key role in protecting Americans' health.

The United States has a stratified public health system—federal, state, local, territorial, and tribal departments and agencies—all with responsibilities, expertise, and community knowledge flowing up and down and across the system. Public health financing, however, in large measure flows one way, from the federal government to state government to local government or local agencies and organizations. Federal funding is the backbone of the nation's public health system, and, because so much local public health activity is dependent on funding from state or federal sources, budget cuts at those levels have a trickle-down effect on local communities.

Total state expenditures of federal monies for public health activities was slightly over \$16 billion in FY 2016; it dipped to just over \$13 billion in FY 2017 and was \$12.8 billion in FY 2018.¹¹⁷

During FY 2018, on average, 55 percent of states' public health expenditures came from federal funding sources, up from 48 percent in FY 2015. In FY 2018, 29 states received 50 percent or more of their public health expenditures funding from the federal government.¹¹⁸

The two other sizeable state revenue sources were taxes and service charges.¹¹⁹ State public health agencies in turn often devote approximately one-fifth of their budgets, through grants and contracts, to public health programs at the local level, including tribal health agencies and nonprofit organizations.¹²⁰

The USDA provides 45 percent of the federal funding that flows to

state public health departments via the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Most of that funding pays for the cost of food to those enrolled in WIC. CDC provides 16 percent and Medicaid provides 14 percent of the federal funding given to state public health departments.¹²¹ The federal initiatives managed by nearly all state health agencies include: the Title V Maternal and Child Health Services Block Grant Program, Preventative Health and Health Services Block Grants, CDC Public Health Emergency Cooperative Agreements, immunization programs, and WIC.¹²²

The Great Recession of 2008 had a deep and lasting impact on funding for public health, an impact that still lingers. In its 2018 report, *The Forces of Change in America's Local Public Health System*, the National Association of County and City Health Officials (NACCHO) concluded:

*Local public health agencies are finally rebounding from the effect of the Great Recession, but economic forces continue to affect LHD [local health department] capacity and the provision of essential services. Changes in overall federal budget priorities pose challenges for some LHDs as federal, state, and local sources have cut funding and threaten the resiliency of communities nationwide.*¹²³

In the report, NACCHO found that 23 percent of local health departments reported budget increases in 2017, while 21 percent reported budget decreases.¹²⁴ According to NACCHO, there has been a degree of stabilization in local department

WHERE DO STATE PUBLIC DEPARTMENTS FOCUS THEIR WORK?

According to the Public Health Activities and Services Tracking project at the University of Washington, state public health programming and services span six core areas:¹³¹

1. Communicable disease control.

Public health services related to communicable disease epidemiology, hepatitis, HIV/AIDS, immunization, sexually transmitted diseases, tuberculosis, etc.

2. Chronic disease prevention.

Public health services related to asthma, cancer, cardiovascular disease, diabetes, obesity, tobacco, etc.

3. Injury prevention.

Public health services related to firearms, motor vehicles, occupational injuries, senior fall prevention, substance-use disorder, other intentional and unintentional injuries, etc.

4. Environmental public health.

Public health services related to air and water quality, fish and shellfish, food safety, hazardous substances and sites, lead, onsite wastewater, solid and hazardous waste, zoonotic diseases, etc.

5. Maternal, child, and family health.

Public health services related to the coordination of services; direct services; family planning; newborn screening; population-based maternal, child, and family health; supplemental nutrition; etc.

6. Access to and linkage with clinical care.

Public health services related to beneficiary eligibility determination, provider, or facility licensing, etc.

Table 2: FY 2019 State Public Health Funding Held Stable or Increased in 39 States and DC

	FY 2019 funding	Percentage change
Alabama	\$265,166,998	-5.0%
Alaska	\$72,227,400	1.2%
Arizona	\$109,177,363	2.2%
Arkansas	\$145,166,497	-2.9%
California	\$2,837,058,000	9.6%
Colorado	\$291,685,487	3.3%
Connecticut	\$115,959,201	4.5%
Delaware	\$33,124,900	1.8%
D.C.	\$254,785,684	10.1%
Florida	\$395,665,964	1.2%
Georgia	\$287,520,170	2.1%
Hawaii	\$180,931,126	6.2%
Idaho	\$149,245,700	-2.6%
Illinois	\$384,395,900	15.9%
Indiana	\$100,963,770	4.7%
Iowa	\$260,630,195	-1.1%
Kansas	\$37,885,620	8.8%
Kentucky	\$158,173,182	3.7%
Louisiana	\$115,592,126	3.2%
Maine	\$36,655,894	3.3%
Maryland	\$260,329,294	1.9%
Massachusetts	\$574,276,099	9.6%
Michigan	\$151,414,400	17.2%
Minnesota	\$222,217,002	6.9%
Mississippi	\$46,396,874	7.9%
Missouri	\$43,647,212	1.1%
Montana	\$23,051,401	-3.0%
Nebraska	\$74,111,142	-4.1%
Nevada	\$32,571,799	39.6%
New Hampshire	\$28,963,637	-6.1%
New Jersey	\$259,520,000	2.6%
New Mexico	\$292,148,900	3.1%
New York	\$1,625,139,100	-1.2%
North Carolina	\$154,985,218	-1.5%
North Dakota	\$44,422,101	8.7%
Ohio	\$163,582,909	6.8%
Oklahoma	\$171,819,045	12.1%
Oregon	\$147,411,583	26.8%
Pennsylvania	\$192,817,000	2.3%
Rhode Island	\$60,596,817	8.8%
South Carolina	\$137,420,532	4.7%
South Dakota	\$31,174,010	1.8%
Tennessee	\$346,948,100	4.4%
Texas	\$491,316,984	7.7%
Utah	\$104,136,100	0.4%
Vermont	\$30,717,067	3.7%
Virginia	\$336,619,537	4.4%
Washington	\$343,244,000	0.5%
West Virginia	\$105,983,620	-2.2%
Wisconsin	\$100,945,700	0.3%
Wyoming	\$29,136,976	-5.7%
51-state total	\$12,859,075,336	4.80%

Note: This table reports on states' funding for public health programs beyond any federal funding it receives for such programs. Nebraska's year-over-year change incorporates a modification to its accounting methodology—some funds were previously double-counted—that the state was unable to apply retroactively to FY 2018. North Dakota's FY 2019 funding combines funds for the Department of Health and the Department of Environmental Quality, which were separated beginning in fiscal 2019. Owing to differences in organizational responsibilities and budgeting, funding data are not necessarily comparable across states. See TFAH's *Ready or Not 2020* report, "Appendix A: Methodology," for a description of TFAH's data-collection process, including its definition of public health funding.

Source: TFAH analysis of states' public funding data.

Figure 5: Total State Expenditures of Federal Monies for Public Health Activities Down, FY 2016 – FY 2018



Note: spending data not received from Michigan and Tennessee

Source: Association of State and Territorial Health Officials, *Profile of State and Territorial Public Health*.

budgets and a slowing of job loss when compared with the cuts of the Great Recession. However, 19 percent of local departments reported expecting future budget cuts.¹²⁵

Over the last decade, local public health departments lost an estimated 56,360 staff positions due to funding issues.¹²⁶ In 2017, 51 percent of large local public health departments reported job losses. Because of where they are located, large public health departments serve a majority of the U.S. population; continued reductions in the size of those workforces could have a detrimental impact on the health of the entire population.¹²⁷

Fortunately, most states (39) and the District of Columbia maintained or increased public health funding in fiscal year 2019. (See Table 2.) But 11 states reduced the money they directed to these vital activities, increasing the likelihood that they will be less prepared and less responsive in the moments that matter most. Nevertheless, this was a notable improvement over FY 2018, when

public health funding was cut in 17 states and the District of Columbia.¹²⁸

At press time, with the novel coronavirus spreading, many state health officials are reflecting on their experience fighting the Zika virus. During the Zika outbreak, budget cuts had left many state and local health departments understaffed and potentially without the resources to deal with a major spread of the virus or the possibility of two disease outbreaks happening at the same time.¹²⁹ In February 2020, TFAH's President and CEO John Auerbach told NPR that while the nation's overall level of emergency preparedness has improved, a significant spreading of the novel coronavirus could seriously tax the system.¹³⁰ TFAH called on Congress to increase set-aside emergency response funding so dollars could quickly flow to states if they were needed to fight COVID-19. Preparation and adequate standing-ready funding is the key to saving lives during an emergency, TFAH officials said, and as has been demonstrated by the COVID-19 pandemic.

Recommendations for Policy Actions

Adequately protecting and improving the health of Americans requires greater federal investment in public health. Given bipartisan support among American voters for public health protections,¹³² and the proven cost-effectiveness of public health interventions and policies,¹³³ there needs to be increased investments in existing programs while also supporting public health innovations.

To protect and improve the health and well-being of all Americans, TFAH recommends that Congress and the president take the following actions for FY 2021 (which begins September 1, 2020).

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

Invest in cross-cutting public health foundational capabilities. Strong foundational capabilities would improve the protection of all communities and enable a more agile public health system able to address 21st-century health issues. However, a nationwide funding shortage prevents health departments from developing and maintaining these cross-cutting capabilities and the required workforce. Furthermore, health departments receive very little funding that is not tied to specific diseases or categories. The creation of a \$4.5 billion Public Health Infrastructure Annual Fund is critical to address health departments' infrastructure needs.¹³⁴ The Fund would provide grants to fill the critical gaps in foundational public health capabilities in state, local, territorial, and tribal governments. These additional resources would also support infrastructure modernization at CDC, as well as technical assistance, oversight, and evaluation.

Modernizing surveillance and data. The nation's public health surveillance infrastructure relies on antiquated, disconnected systems and methods for tracking and responding to diseases. Local, state, and federal data systems have not kept pace with current technologies and result in delayed detection and response to public health threats. Cross-cutting investments would revitalize CDC's data infrastructure, as well as shore up state and local public health surveillance capabilities. TFAH supports a campaign to advocate for \$1 billion over 10 years

to modernize the public health surveillance enterprise and to build secure, interoperable systems and a highly trained workforce.¹³⁵ TFAH supports a campaign to modernize the public health surveillance enterprise at CDC and to build secure, interoperable systems and a highly trained workforce. The FY 2020 spending bill included \$50 million as a down payment on public health data modernization, and the CARES Act included \$500 million toward this effort, available until FY2024 (see COVID-19 funding sidebar, page 5). Additionally, the data modernization initiative needs at least \$100 million in annual funding to continue to build this essential infrastructure.

Recruiting and retaining the public health workforce. The nation's 21st-century public health system, equipped to address emergencies and provide chief health strategies for communities, requires a 21st-century workforce. The most recent Public Health Workforce Interests and Needs Survey found that the governmental public health workforce faces major challenges in turnover and attrition, putting the public's health at risk.¹³⁶ 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. Over the last decade, local public health departments lost an estimated 56,360 staff positions due to federal, state, and local budget cuts.¹³⁷ Congress

should prioritize development of a public health workforce, including by issuing funding incentives to enter the public health workforce, such as offering loan repayments, recruiting and retaining a workforce with needed skills (such as informatics), and improving the training and curriculum for a modern public health workforce.

Provide full-year funding for federal agencies. Many federal agencies have a hand in protecting and improving public health. When the government is operating under a short-term continuing resolution—or worse, a shut-down—public health and other programs that promote health can be crippled. Temporary funding through emergency supplementals or short-term continuing resolutions, followed by stagnant or

diminished budgets, do not allow for the recruitment and retention of highly skilled, full-time workers. Congress should enact full-year appropriations measures that fund federal agencies for the entire fiscal year. This is essential for effective and efficient use of taxpayer dollars and for planning and maintaining the workforce, supplies, and other capacities necessary to support public health activities.

Restore and grow the Prevention and Public Health Fund. The Prevention and Public Health Fund (PPHF) 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

PPHF has been cut in order to pay for programs outside the realm of 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 2018.¹³⁸ 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 the largest investment in prevention, the government should protect the PPHF, restore cuts in future years, and ensure that funds are used for their authorized purpose of promoting public health and prevention.

Safeguard and Improve Americans’ Health.

Investing in community prevention of chronic disease. Community-level work to prevent illness and address social determinants of health, such as by changing street designs to improve pedestrian and bicyclist safety or by improving housing quality to reduce the risk of lead poisoning, asthma, and other health conditions, requires significant resources over the long term. Under current funding, 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 increasing funding for CDC’s community prevention programs and activities, including:

SPAN. Give an additional \$40.8 million¹³⁹ in FY2021 to the State Physical Activity and Nutrition (SPAN) program

to provide all states with the resources to combat the obesity epidemic. SPAN replaced State Public Health Action grants in 2018. While SPAN now provides funding to implement evidence-based strategies at state and local levels to improve nutrition and physical activity, the current funding level only supports 16 states.¹⁴⁰

REACH. Give a total of \$76.95 million to the Racial and Ethnic Approaches to Community Health (REACH) program to restore prior levels of funding to REACH grantees, while also maintaining the budget for the *Good Health and Wellness in Indian Country* program. The REACH program, which began in 1999, is one of the only CDC programs that explicitly focuses on improving chronic disease levels and outcomes for specific racial and ethnic groups in communities with high incidence rates for such diseases.

Prevent substance misuse and suicide epidemics. 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 CDC’s National Center for Injury Prevention and Control and its Division of Adolescent and School Health (DASH), with a renewed emphasis on upstream or primary prevention activities.

TFAH recommends increasing funding for CDC’s substance misuse and suicide prevention programs:

Opioid Overdose Prevention and Surveillance. Increase funding for the Opioid Overdose Prevention and Surveillance program at CDC’s Injury Center and increase funding for grants to build on state and local 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.¹⁴¹ FY 2021 funding should provide the program the flexibility to target substance use broadly and to prioritize prevention capacity at the state and local levels so that communities can identify and reduce upstream risk factors and promote protective factors to prevent substance misuse.

DASH and Healthy Schools Program.

Increase funding for CDC’s DASH program and its Healthy Schools Program under the Division of Population Health. Both programs offer 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.¹⁴² DASH’s programs reduce sexual risk behaviors, high-risk substance use, violence victimization, and suicide.¹⁴³

Intervention and suicide prevention efforts. Increase funding for early intervention and suicide prevention efforts at SAMHSA and CDC, 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.



Substance misuse and suicide research.

Expand investments in CDC-led research into the conditions that contribute to substance misuse and suicide, including ACEs and trauma, with a renewed focus on risk and protective factors. With additional funding, CDC could support state activities to prevent both suicide and ACEs.

Support the Growing Population of Older Americans. Congress should fund a Healthy Aging program within CDC to build state and local public health department capacity to promote the health of older adults. Age-Friendly Public Health System interventions can optimize the well-being of adults age 65 and older, prolong their independence, and reduce their use of expensive healthcare services. Yet there is no program at CDC that supports local and state 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 Americans.¹⁴⁴

Improve Emergency Preparedness.

Strengthen public health emergency preparedness, including within the healthcare system. The public health emergencies of the past year— COVID-19, outbreaks of measles and other vaccine-preventable diseases, hepatitis A outbreaks,¹⁴⁵ record heat, foodborne illnesses, devastating hurricanes, lung injuries associated with vaping, wildfires, and months of cascading flooding¹⁴⁶ along the Missouri, Mississippi, and Arkansas rivers (which affected 15 states and nearly 14 million people)—all reinforce the need for every jurisdiction to be vigilant about preparing for emergencies in order to safeguard the public's health. Each of these events required a coordinated public health response.

TFAH recommends increasing funding for CDC's emergency preparedness programs:

PHEP. Congress should increase funding to \$824 million in FY 2021—the level authorized in 2006—to CDC's Public Health Emergency Preparedness (PHEP) cooperative agreement program to ensure states and localities have the core resources necessary to respond to an escalating number of emergencies. Funding for PHEP has been cut by more than 20 percent since FY 2010, adjusting for inflation.¹⁴⁷ This funding would help restore capacity at health departments impacted by cuts, expand readiness for emerging threats such as radiological events, and address gaps in preparedness.

HPP. Congress should provide at least \$474 million to the Hospital Preparedness Program (HPP), the only federal source of funding to help the healthcare delivery system prepare for and respond to disasters. HPP has been cut nearly in half since

2010, after adjusting for inflation.¹⁴⁸ 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 *Ready or Not 2020* report.)

Finance standing response funds for emergencies. To ensure a timely public health response to major crises, TFAH recommends significant no-year funding for one or both of the recently proposed response funds: the Infectious Diseases Rapid Response Reserve Fund (IDRRRF), established by the FY 2019 Labor-HHS-Education appropriations bill and the Public Health Emergency Fund (PHEF), and authorized and updated in the recent Pandemic and All-Hazards Preparedness and Advancing Innovation Act.¹⁴⁹ The IDRRRF dedicates funding to infectious disease emergencies, while the PHEF can be used for any declared public health emergency. Such funds should be temporary bridges until Congress approves supplemental emergency resources. Resources for the PHEF and IDRRRF should not supplant existing emergency preparedness activities. HHS Secretary Alex Azar used the IDRRRF for its intended purpose when he tapped the fund early in the 2019 novel coronavirus response, and Congress replenished it as part of the emergency supplemental funding. The Bipartisan Commission on Biodefense recommended no less than \$2 billion in the Public Health Emergency Rapid Response Fund.¹⁵⁰ TFAH believes no-year as well as annual investments are needed to maintain at least \$2 billion in available reserves.

Prevent Infectious Disease Outbreaks.

The COVID-19 crisis is a stark example of how infectious diseases can disrupt the lives of millions of Americans. Fortunately, vaccines and other measures can prevent many of these diseases. Nonetheless, because the U.S. vaccination rates are lower than they should be, unnecessary illness and even death occurs. In 2019, 49 percent of U.S. residents ages six months and older were vaccinated against seasonal flu; the target seasonal flu vaccination rate, established by Healthy People 2020 is 70 percent.¹⁵¹

TFAH recommends increasing funding to ensure that another outbreak of a vaccine-preventable disease does not occur:

Vaccine infrastructure, outbreak prevention, and outbreak response. Significantly increase support for CDC's vaccine infrastructure, outbreak prevention, and outbreak response. 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, as states have to spend immunization dollars to respond to outbreaks, which leads to increases in the numbers of those who lack health insurance and vaccines, such as for HPV, that are underused. Congress should significantly increase funding for CDC's immunization program.

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 provide needed resources to HHS to study the causes for vaccine resistance and to educate clinical providers on methods for improving vaccine acceptance.

Syringe Service Programs. Congress and states should fund comprehensive syringe service programs (SSPs), which are among the most effective and scientifically based methods for reducing the rate of infectious diseases like Hepatitis B, Hepatitis C, and HIV.¹⁵² 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.¹⁵³ Congress should lift restrictions on the use of federal funds for the purchase of syringes.

Slow the Spread of Antimicrobial Resistance. Combating antibiotic resistance requires a multipronged approach across healthcare, public health, agriculture, academia, and industry.

TFAH recommends increasing funding to support CDC's most urgent priorities:

ARSI. Significantly increase investments in public health initiatives to combat antimicrobial resistance. Congress should increase funding for innovative methods of detecting and containing outbreaks supported by CDC's Antibiotic Resistance Solutions Initiative (ARSI). 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. However, progress varies across states, and it will take investments of at least \$264 million to equip all states with the up-to-date tools to combat resistant bacteria.¹⁵⁴ Increases should also support global capacity to prevent and detect resistant infections to combat this national security risk.

BARDA. Create incentives for discovery of new products to fight infections. There should be robust public and private investment in antibiotic discovery science, diagnostics, early stage product development, and research through the Biomedical Advanced Research and Development Authority (BARDA) and other programs.

Prepare for the impact of climate change, including weather-related emergencies. The administration and Congress should increase funding to expand CDC's Climate and Health Program so that every state, large cities, and territories can become climate-ready. Only 16 states and two cities are grantees of CDC's climate program, which gives these communities the 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.¹⁵⁵

Make Funding Investments in Ways that Address Community-Wide Social Determinants of Health and Health Equity.

Address community-wide social determinants of health. Congress should authorize and fund a CDC program to support local and state public health agencies or other appropriate agencies to convene across sectors, gather data, identify priorities, establish plans, and take action steps to address unmet nonmedical social needs and underlying community conditions, such as those related to housing, food, utilities, safety, and transportation, in order to improve health outcomes and reduce health inequities.

TFAH recommends allocating \$50 million per year in new funding to CDC's National Center for Chronic Disease Prevention and Health Promotion to support the designation of a Social Determinants of Health Program to:

- improve health outcomes and reduce health inequities by coordinating social determinants of health activities across CDC;
- improve capacity of public health agencies and community organizations to address social

determinants of health in communities;

- award grants to state, local, territorial, or tribal public health agencies and other eligible entities to address social determinants of health in target communities; and
- award grants to nonprofit organizations and nonprofit institutions of higher education to conduct best practices research, provide technical assistance, and disseminate best practices.

Focus funding on populations at elevated risk due to the impact of racism, poverty and systemic discrimination and disinvestment.

Communities disadvantaged by systemic discrimination, including those with health disparities as a result, must be a first priority for funding and investment. Furthermore, CDC should consider current local capacity when determining eligibility criteria for grants. Funders should ensure that grantmaking criteria allow communities with the greatest need to be competitive applicants for grant

funding, including through technical assistance and local capacity building.

Increase funding for programs focused on reducing disparities, including REACH and Good Health and Wellness in Indian Country.

REACH currently funds 31 recipients to reduce health disparities among racial and ethnic minority populations with the highest burden of chronic disease (hypertension, heart disease, type 2 diabetes, and obesity) through culturally tailored interventions that address preventable risk behaviors (such as, tobacco use, poor nutrition, and physical inactivity). Local evaluations show that REACH recipients have been successful at changing local environments to support healthier behaviors among racial and ethnic minority populations. *Good Health and Wellness in Indian Country* works with American Indian tribes, Alaska 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.

22 BY 22 CAMPAIGN

TFAH is one of more than 100 public health organizations and advocates endorsing the 22 by 22 campaign, which urges Congress to increase CDC's budget by 22 percent by FY 2022.¹⁵⁶

CDC is the nation's public health officer and an international leader in safeguarding and promoting health. It is also the source of public health funding that flows to the states to support tailored public health interventions at the community level. Increasing CDC's budget is critical to protecting the health of all Americans and would allow

for increased investment in five key capabilities: (1) data, (2) laboratories, (3) workforce, (4) domestic preparedness, and (5) global preparedness. Budget growth would also allow CDC and its state and local partners to scale up evidence-based programs at the local level, including programs to prevent substance misuse and suicide; to address infectious and chronic disease; to prevent and remediate environmental health threats; to improve emergency preparedness, response, and recovery; and to address health inequities.

Endnotes

- 1 Climate Change Impacts. In *U.S. Environmental Protection Agency*. <https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health.html> (accessed March 14, 2020).
- 2 National Health Expenditures Accounts. In *Centers for Medicare & Medicaid Services*, 2018. <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical> (accessed March 14, 2020).
- 3 Himmelstein DU and Woolhandler S. "Public Health's Falling Share of US Health Spending." *American Journal of Public Health*, 106(1): 56-57, 2016. <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2015.302908> (accessed March 14, 2020).
- 4 Ibid.
- 5 H. Rept. 116-62. *Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Bill, 2020*. <https://www.congress.gov/congressional-report/116th-congress/house-report/62/1> (accessed March 14, 2020).
- 6 In FY 2008, CDC funding was \$6.375 billion (at the program level). FY 2020 funding is \$7.694 billion (program level, without the Agency for Toxic Substances and Disease Registry). Adjusted for inflation, the 2008 number would be \$7.5168 billion in 2020 dollars, meaning FY 2020 is slightly above FY 2008 levels when adjusted for inflation.
- 7 State Physical Activity and Nutrition (SPAN) Program. In *Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity*. <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/span-1807/index.html> (accessed March 14, 2020).
- 8 *Ready or Not: Protecting the Public's Health from Diseases, Disasters and Bioterrorism, 2020*. Washington: Trust for America's Health, February 2020. <https://www.tfah.org/report-details/readyornot2020/> (accessed March 14, 2020).
- 9 The Prevention and Public Health Fund: Preventing Disease and Reducing Long-Term Health Costs. In *Trust for America's Health*. <https://www.tfah.org/wp-content/uploads/2017/08/PPHF-Background.pdf> (accessed March 14, 2020).
- 10 Conversation with Robert Redfield, MD. Remarks: Aspen Ideas Festival, Aspen, CO, June 23, 2019. <https://www.aspenideas.org/> (accessed March 14, 2020).
- 11 *ASTHO Profile of State and Territorial Public Health*. Arlington, VA: Association of State and Territorial Health Officials, 2020 in press. www.astho.org/profile (accessed March 14, 2020).
- 12 *Public Health Interests and Needs Survey: 2017. Key Findings of Public Health Wins*. Bethesda, MD: de Beaumont Foundation, 2017. <https://www.debeaumont.org/most-recent-findings/> (accessed March 14, 2020).
- 13 2016 ASTHO Profile Survey: Top Findings. In *Association of State and Territorial Health Officials*, 2017. <https://www.astho.org/Profile/Volume-Four/2016-ASTHO-Profile-Top-Findings/> (accessed March 14, 2020).
- 14 The Nation's Healthcare Dollar, Calendar Year 2018: Where it Came From. In *Centers for Medicare and Medicaid Services, Office of Actuary, National Health Statistics Group*, 2018. <https://www.cms.gov/files/document/nations-health-dollar-where-it-came-where-it-went.pdf> (accessed March 14, 2020).
- 15 Percentage of U.S. Adults 55 and over with Chronic Conditions. In *Centers for Disease Control and Prevention, National Center for Health Statistics*, 2015. https://www.cdc.gov/nchs/health_policy/adult_chronic_conditions.htm (accessed March 14, 2020).
- 16 Richard P, West K, and Ku L. "The Return on Investment of a Medicaid Tobacco Cessation Program in Massachusetts." *PLoS ONE*, 7(1): e29665, 2012.
- 17 Zhou F, Santoli J, Messonnier ML, et al. "Economic Evaluation of the 7-Vaccine Routine Childhood Immunization Schedule in the United States, 2001." *Archives of Pediatrics & Adolescent Medicine*, 159(12):1136-1144, 2015.
- 18 McCullugh JM. "The Return on Investment of Public Health System Spending." *AcademyHealth*, June 2018. <https://www.academyhealth.org/publications/2018-06/return-investment-public-health-system-spending> (accessed March 14, 2020).
- 19 Masters R, Anwar E, Collins B, et al. "Return on Investment of Public Health Interventions: A Systemic Review." *Journal of Epidemiology and Community Health*, 71(8): 827-834. <https://jech.bmj.com/content/71/8/827> (accessed March 14, 2020).
- 20 Ibid.
- 21 McCullugh JM. "The Return on Investment of Public Health System Spending." *AcademyHealth*, June 2018. <https://www.academyhealth.org/publications/2018-06/return-investment-public-health-system-spending> (accessed March 14, 2020).
- 22 Kangovi S, Mitra N, Grande D, et al. "Evidence-Based Community Health Worker Program Addresses Unmet Social Needs and Generates Positive Return on Investment." *Health Affairs*, 39(2), February 2020. <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2019.00981> (accessed March 14, 2020).
- 23 Developing a Finance System to Support Public Health Infrastructure. In *Public Health Leadership Forum*. <https://www.resolve.ngo/site-healthleadershipforum/developing-a-financing-system-to-support-public-health-infrastructure.htm> (accessed March 14, 2020).
- 24 Statement of Policy: The Local Health Department as Community Chief Health Strategist. In *National Association of County & City Health Officials*, February 2016. <https://www.naccho.org/uploads/downloadable-resources/15-11-LHD-as-Community-Chief-Health-Strategist.pdf> (accessed March 14, 2020).
- 25 *Profile of Older Americans: 2017*. Washington: Administration on Aging & Administration for Community Living, 2018. <https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2017OlderAmericansProfile.pdf> (accessed March 14, 2020).
- 26 De Biasi A, Ilakuvan V, and Seiler N. *Promoting Effectiveness and Sustainability of Initiatives to Improve Health and Social Outcomes: Methods Federal Agencies Can Use to Facilitate Coordination and Integration of Funding Streams*. Washington: Trust for America's Health, September 2018. <https://www.tfah.org/wp-content/uploads/2018/01/TFAH-Braiding-Report-FINAL.pdf> (accessed March 14, 2020).
- 27 *Blended and Braided Funding: A Guide for Policymakers and Practitioners*. Alexandria, VA: Association of Government Accountants (2014). <https://www.agacgfm.org/Intergov/More-Tools/Blended-and-Braided-Funding-A-Guide-for-Policy-Ma.aspx> (accessed March 14, 2020).
- 28 Xu J, Murphy S, Kochanek KD, and Arias E. "Mortality in the United States, 2018." *NCHS Data Brief*, (355), January 2020. <https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf> (accessed March 14, 2020).
- 29 FY 2020 Operating Plan. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/budget/documents/fy2020/fy-2020-cdc-operating-plan.pdf> (accessed March 14, 2020).
- 30 Calculated using Census population data and CDC funding information provided by TFAH.
- 31 Health and Economic Costs of Chronic Diseases. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/chronicdisease/about/costs/index.htm> (accessed March 14, 2020).
- 32 FY 2020 Operating Plan. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/budget/documents/fy2020/fy-2020-cdc-operating-plan.pdf> (accessed March 14, 2020).

- 33 *Pain in the Nation*. Washington: Trust for America's Health, 2019. <https://www.tfah.org/report-details/pain-in-the-nation-update-while-deaths-from-alcohol-drugs-and-suicide-slowed-slightly-in-2017-rates-are-still-at-historic-highs/> (accessed March 14, 2020).
- 34 Billion-Dollar Weather and Climate Disasters: Overview. In *National Centers for Environmental Information*, NOAA, 2020. <https://www.ncdc.noaa.gov/billions/> (accessed March 14, 2020).
- 35 Ibid.
- 36 Developing a Financing System to Support Public Health Infrastructure. In *RESOLVE*, October 2018. <https://www.resolve.ngo/docs/developing-a-financing-system-to-support-foundational-public-health-capabilities-final-draft-10.2.pdf> (accessed March 14, 2020).
- 37 Ibid.
- 38 Ending the HIV Epidemic: A Plan for America. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/endhiv/index.html> (accessed March 14, 2020).
- 39 FY 2020 Appropriations. In *The AIDS Institute*. <http://www.theaidsinstitute.org/> (accessed March 14, 2020).
- 40 Budget. In *HIV.gov*. <https://www.hiv.gov/federal-response/funding/budget> (accessed March 14, 2020).
- 41 42 USC §300u-11(a).
- 42 Lister SA. "The ACA Prevention and Public Health Fund: In Brief." *Congressional Research Service*, June 2017. <https://fas.org/sgp/crs/misc/R44796.pdf> (accessed March 14, 2020).
- 43 Ibid.
- 44 *Ready or Not: Protecting the Public's Health from Disease, Disasters and Bioterrorism*. Washington: Trust for America's Health, February 2020. <https://www.tfah.org/report-details/readyornot2020/> (accessed March 14, 2020).
- 45 Westcott B, Renton A, Guy J, and Kottasova I. "Coronavirus Death Toll Rises Above 2,000 Worldwide." *CNN*, February 19, 2020. <https://www.cnn.com/asia/live-news/coronavirus-outbreak-02-19-20-intl-hnk/index.html> (accessed March 14, 2020).
- 46 Emma C and Scholtes J. "Trump Hits Medicaid, Food Stamps in Push to Slash Domestic Spending." *Politico*, February 2020. <https://www.politico.com/news/2020/02/09/trump-border-wall-cash-billions-112860> (accessed March 14, 2020).
- 47 Dorans KS, Wilker EH, Li W, et al. "Residential Proximity to Major Roads, Exposure to Fine Particulate Matter, and Coronary Artery Calcium." *Arteriosclerosis, Thrombosis, and Vascular Biology*, 36(8): 1679-1685, 2016. <https://www.ahajournals.org/doi/10.1161/ATVBAHA.116.307141> (accessed March 14, 2020).
- 48 Navathe AS, Zhong F, Lei VJ, et al. "Hospital Readmission and social Risk Factors Identified From Physician Notes." *Health Services Research*, 53(2): 1110-1136, 2018. <https://www.ncbi.nlm.nih.gov/pubmed/28295260> (accessed March 14, 2020).
- 49 Singh GK. "Social Determinants of Health in the United States: Addressing Major Health Inequality Trends for the Nation, 1935-2016." *International Journal of MCH and AIDS*, 6(2): 139-164, 2017.
- 50 McIntyre S and Ellaway A. "Ecological Approaches: Rediscovering the Role of the Physical and Social Environment." In: Berkman L and Kawachi I (eds.), *Social Epidemiology*. New York: Oxford University Press, 2000: 332-348.
- 51 *An Integrated Framework for Assessing the Value of Community-Based Prevention*. Committee on Valuing Community-Based, Non-Clinical Prevention. Washington: National Academies Press, 2012. <https://www.ncbi.nlm.nih.gov/books/NBK206935/> (accessed March 14, 2020).
- 52 Magnan S. "Social Determinants of Health 101 for Health Care: Five Plus Five." *National Academy of Medicine*, October 2017. <https://nam.edu/social-determinants-of-health-101-for-health-care-five-plus-five/> (accessed March 14, 2020).
- 53 Appalachian Diabetes Control and Translation Project. In *Centers for Disease Control and Prevention*, January 2017. <https://www.cdc.gov/diabetes/programs/appalachian.html> (accessed March 14, 2020).
- 54 Native Diabetes Wellness Program. In *Centers for Disease Control and Prevention*, April 2018. <https://www.cdc.gov/diabetes/ndwp/index.html> (accessed March 14, 2020).
- 55 *Creating a Culture of Health in Appalachia: Mortality*. Washington: Appalachian Regional Commission. https://www.arc.gov/assets/research_reports/Health_Disparities_in_Appalachia_Mortality_Domain.pdf (accessed March 14, 2020).
- 56 Native Americans with Diabetes. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/vitalsigns/aian-diabetes/index.html> (accessed March 14, 2020).
- 57 CDC, State Physical Activity and Nutrition (SPAN) Program. <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/span-1807/index.html>
- 58 Cawley J and Meyerhoefer C. "The Medical Care Costs of Obesity: An Instrumental Variables Approach." *Journal of Health Economics*, 31(1): 219-230, 2012.
- 59 Hi-5 Health Impact in 5 Years. In *Centers for Disease Control and Prevention*. <https://www.cdc.gov/policy/hst/hi5/aboutsummaries/index.html> (accessed March 14, 2020).
- 60 *A Compendium of Proven Community-Based Prevention Programs*. New York: The New York Academy of Medicine and Trust for America's Health, 2013. https://www.tfah.org/wp-content/uploads/archive/assets/files/Compendium_Report_1016_1131.pdf (accessed March 14, 2020).
- 61 Substance Use Disorder Findings. In *Minnesota Management and Budget*. <https://mn.gov/mmb/results-first/substance-use-disorder/> (accessed March 14, 2020).
- 62 Masters R, Anwar E, Collins B, et al. "Return on Investment of Public Health Interventions: A Systemic Review." *Journal of Epidemiology and Community Health*, 71(8): 827-834. <https://jech.bmj.com/content/71/8/827> (accessed March 14, 2020).
- 63 California. In *Center for Preparedness and Response, CDC*, July 2019. <https://www.cdc.gov/cpr/epf/california.htm> (accessed March 14, 2020).
- 64 Michigan. In *Center for Preparedness and Response, CDC*, July 2019. <https://www.cdc.gov/cpr/epf/michigan.htm> (accessed March 14, 2020).
- 65 Public Health Emergency Preparedness Cooperative Agreement (PHEP) Program. In *Centers for Disease Control and Prevention*, 2019. <https://www.cdc.gov/cpr/pubs-links/2019/documents/National2019.pdf> (accessed March 14, 2020).
- 66 HPP In Action: Stories from the Field. In *Public Health Emergency*, 2018. <https://www.phe.gov/Preparedness/planning/hpp/events/Pages/default.aspx> (accessed March 14, 2020).
- 67 Hospital Preparedness Program. In *Assistant Secretary for Preparedness and Response, HHS*, 2019. <https://www.phe.gov/Preparedness/planning/hpp/Documents/HPP-15-anniversary.pdf> (accessed March 14, 2020).
- 68 42 USC 247d-4a: Infectious Diseases Rapid Response Reserve Fund, 2020. <https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title42-section247d-4a&num=0&edition=prelim#sourccredit> (accessed March 14, 2020).
- 69 Abutaleb Y and Werner E. "HHS Notifies Congress that it May Tap Millions of Additional Dollars for Coronavirus Response." *The Washington Post*, February 3, 2020. <https://www.washingtonpost.com/health/2020/02/03/hhs-notifies-congress-it-may-tap-millions-additional-dollars-coronavirus-response/> (accessed March 14, 2020).
- 70 Pandemic and All-Hazards Preparedness and Advancing Innovation Act—Summary of Public Health Sections. In *Association of State and Territorial Health Officials*, 2020. <https://astho.informz.net/ASTHO/data/images/ASTHO%20PAHPAI%20Leg%20Alert%20Final.pdf> (accessed March 14, 2020).

- 71 FY 2020 Secretary's Transfer for Coronavirus Response. In *U.S. Department of Health and Human Services*, February 2, 2020. <https://aboutblaw.com/O5I> (accessed March 14, 2020).
- 72 *Impact of the Redirection of Public Health Emergency Preparedness (PHEP) Funding from State and Local Health Departments to Support National Zika Response*. Washington: National Association of County and City Health Officials, May 2016. <https://www.naccho.org/uploads/downloadable-resources/Impact-of-the-Redirection-of-PHEP-Funding-to-Support-Zika-Response.pdf> (accessed March 14, 2020).
- 73 About Chronic Diseases. In *National Center for Chronic Disease Prevention and Health Promotion, CDC*, 2019. <https://www.cdc.gov/chronicdisease/about/index.htm> (accessed March 14, 2020).
- 74 Managing Chronic Health Conditions. In *Healthy Schools, CDC*, 2019. <https://www.cdc.gov/healthyschools/chronicconditions.htm> (accessed March 14, 2020).
- 75 Health and Economic Costs of Chronic Diseases. In *Centers for Disease Control and Prevention*, October 2019. <https://www.cdc.gov/chronicdisease/about/costs/index.htm> (accessed March 14, 2020).
- 76 About Chronic Diseases. In *National Center for Chronic Disease Prevention and Health Promotion, CDC*, 2019. <https://www.cdc.gov/chronicdisease/about/index.htm> (accessed March 14, 2020).
- 77 Adult Physical Inactivity Prevalence Maps by Race/Ethnicity. In *Centers for Disease Control and Prevention*, January 2020. <https://www.cdc.gov/physicalactivity/data/inactivity-prevalence-maps/index.html> (accessed March 14, 2020).
- 78 Chakradhar S. "More Than 15% of US Adults Are Physically Inactive, New CDC Data Show." *STAT News*, January 2020. <https://www.statnews.com/2020/01/16/physical-inactivity-us-adults-cdc-data/> (accessed March 14, 2020).
- 79 Division A—Departments of Labor, Health, and Human Services, and Education, and Related Agencies Appropriations Act, 2020. In *U.S. House of Representatives*, 2020. <https://docs.house.gov/billsthisweek/20191216/BILLS-116HR1865SA-JES-DIVISION-A.pdf> (accessed March 14, 2020).
- 80 Sanger-Karz M. "What's in President Trump's Fiscal 2021 Budget?" *The New York Times*, February 2020. <https://www.nytimes.com/2020/02/10/business/economy/trump-budget-2021.html> (accessed March 14, 2020).
- 81 *Pain in the Nation: The Drug, Alcohol and Suicides Epidemics and the Need for a National Resilience Strategy*. Washington: Trust for America's Health, 2017. <http://www.paininthenation.org/> (accessed March 14, 2020).
- 82 New National Data Present a Mixed Picture: Some Drug Overdoses Down but Others are Up, and Suicides Rates are Increasing. In *Trust for America's Health*, January 30, 2020. <https://www.tfah.org/article/new-national-data-present-a-mixed-picture-some-drug-overdoses-down-but-others-are-up-and-suicides-rates-are-increasing/> (accessed March 14, 2020).
- 83 FY 2018 Operating Plan. In *Centers for Disease Control and Prevention*, 2018. <https://www.cdc.gov/budget/documents/fy2018/fy-2018-cdc-operating-plan.pdf> (accessed March 14, 2020).
- 84 FY 2019 Operating Plan. In *Centers for Disease Control and Prevention*, 2019. <https://www.cdc.gov/budget/documents/fy2019/fy-2019-cdc-operating-plan.pdf> (accessed March 14, 2020).
- 85 Overdose Data to Action. In *Centers for Disease Control and Prevention*, September 2019. <https://www.cdc.gov/drugoverdose/od2a/index.html> (accessed March 14, 2020).
- 86 Injury Control Research Centers. In *Centers for Disease Control and Prevention*, January 2020. <https://www.cdc.gov/injury/erpo/icrc/centers.html> (accessed March 14, 2020).
- 87 About the Core SVIPP Program. In *Centers for Disease Control and Prevention*, September 2019. <https://www.cdc.gov/injury/stateprograms/about.html> (accessed March 14, 2020).
- 88 States in Action. In *Centers for Disease Control and Prevention*, January 2020. https://www.cdc.gov/injury/stateprograms/stories.html#CAN_WI (accessed March 14, 2020).
- 89 Adverse Childhood Experiences (ACEs) and Toxic Stress Are a Public Health Crisis. We Can Take Action to Change and Save Lives. In *Aces Aware*. <https://www.acesaware.org/> (accessed March 14, 2020).
- 90 *Justification of Estimates for Appropriations Committees FY 2021*. Washington: Food and Drug Administration, HHS. <https://www.fda.gov/media/135078/download> (accessed March 14, 2020).
- 91 Operating Plan for FY 2020. In *Health Resources and Services Administration*. <https://www.hrsa.gov/sites/default/files/hrsa/about/budget/fy2020-hrsa-operating-plan.pdf> (accessed March 14, 2020).
- 92 Operating Plan for FY 2020. In *Substance Abuse and Mental Health Services Administration*. https://www.samhsa.gov/sites/default/files/about_us/budget/fy-2020-samhsa-operating-plan.pdf (accessed March 14, 2020).
- 93 Drugs@FDA: FDA-Approved Drugs. In *Food and Drug Administration*, February 2020. <https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=reportsSearch.process> (accessed March 14, 2020).
- 94 What is Early Childhood Education? In *Office of the Associate Director for Policy and Strategy, CDC*, August 2016. <https://www.cdc.gov/policy/hst/hi5/earlychildhoodeducation/index.html> (accessed March 14, 2020).
- 95 Head Start & Early Head Start. In *First Five Years Fund*, 2020. <https://www.ffyf.org/issues/head-start-early-head-start/> (accessed March 14, 2020).
- 96 Fiscal Year 2020 Head Start and Early Head Start Recommendations. In *National Head Start Association*, February 19, 2019. <https://fhsa.memberclicks.net/assets/NewsArticles/NHSA%20FY20%20Final%20Recommendation.pdf> (accessed March 14, 2020).
- 97 Access to Head Start in the United States of America. In *National Head Start Association*, 2020. <https://www.nhsa.org/national-head-start-fact-sheets> (accessed March 14, 2020).
- 98 Move For Hunger. <https://www.moveforhunger.org/about-us> (Accessed March 14, 2020).
- 99 2021 USDA Budget Summary. In *U.S. Department of Agriculture*. <https://www.usda.gov/sites/default/files/documents/usda-fy2021-budget-summary.pdf> (accessed March 14, 2020).
- 100 Rosenbaum D and Neuberger Z. "President's 2021 Budget Would Cut Food Assistance for Millions and Radically Restructure SNAP." *Center on Budget and Policy Priorities*, February 2020. <https://www.cbpp.org/research/food-assistance/presidents-2021-budget-would-cut-food-assistance-for-millions-and-radically> (accessed March 14, 2020).
- 101 Bolen E, Cai L, Dean S, et al. *House Farm Bill Would Increase Food Insecurity and Hardship*. Washington: Center for Budget and Policy Priorities, July 2018. <https://www.cbpp.org/research/food-assistance/house-farm-bill-would-increase-food-insecurity-and-hardship> (accessed March 14, 2020).
- 102 Wheaton L. *Estimated Effect of Recent Proposed Changes to SNAP Regulations*. Washington: Urban Institute, November 25, 2019. <https://www.urban.org/research/publication/estimated-effect-recent-proposed-changes-snap-regulations> (accessed March 14, 2020).
- 103 Hoynes H, Schanzenbach DW, and Almond D. "Long-Run Impacts of Childhood Access to the Safety Net." *American Economic Review*, 106(4): 903–934, 2016.
- 104 Berkowitz SA, Seligman HK, Ridgdon J, et al. "Supplemental Nutrition Assistance Program (SNAP) Participation and Health Care Expenditures Among Low-Income Adults." *JAMA Internal Medicine*, 177(11): 1642-1649, 2017.

- 105 Castro IE, Larsen DA, Hruska B, et al. "Variability in the Spatial Density of Vacant Properties Contributes to Background Lead (Pb) Exposure in Children." *Environmental Research*, 170: 463-471, March 2019. <https://www.ncbi.nlm.nih.gov/pubmed/30640080> (accessed March 14, 2020).
- 106 *Budget in Brief, FY 2021*. Washington: U.S. Department of Housing and Urban Development, 2020. https://www.hud.gov/sites/dfiles/CFO/documents/BudgetinBrief_2020-02_06_Online.pdf (accessed March 14, 2020).
- 107 O'Donnell K. "Trump Offers No New Funds for Homeless Even as He Pressures Cities." *Politico*, February 10, 2020. <https://www.politico.com/news/2020/02/10/trump-no-new-funds-homeless-113509> (accessed March 14, 2020).
- 108 Henry M, Watt R, Mahathey A, et al. *The 2019 Annual Homeless Assessment Report (AHAR) to Congress*. Washington: Office of Community Planning and Development, January 2020. <https://files.hudexchange.info/resources/documents/2019-AHAR-Part-1.pdf> (accessed March 14, 2020).
- 109 *Transportation and the Role of Hospitals*. Chicago: American Hospital Association, November 2017. <https://www.aha.org/system/files/hpoe/Reports-HPOE/2017/sdoh-transportation-role-of-hospitals.pdf> (accessed March 14, 2020).
- 110 How Does Transportation Impact Health? In *Robert Wood Johnson Foundation*, October 25, 2012. <https://www.rwjf.org/en/library/research/2012/10/how-does-transportation-impact-health.html> (accessed March 14, 2020).
- 111 About BUILD Grants. In *U.S. Department of Transportation*, February 2020. <https://www.transportation.gov/BUILDgrants/about> (accessed March 14, 2020).
- 112 U.S. Secretary of Transportation Elaine L. Chao Announces Availability of \$1 Billion to Upgrade American Infrastructure. In *U.S. Department of Transportation*, February 19, 2020. <https://www.transportation.gov/briefing-room/us-secretary-transportation-elaine-l-chao-announces-availability-1-billion-upgrade> (accessed March 14, 2020).
- 113 *Budget Highlights 2020*. Washington: U.S. Department of Transportation, 2019. <https://www.transportation.gov/sites/dot.gov/files/docs/mission/budget/333126/budgethighlightsfinal040519.pdf> (accessed March 14, 2020).
- 114 *Changing the Infrastructure Equation: Using Asset Management to Optimize Investments*. Reston, VA: American Society of Civil Engineers, 2019. https://www.asce.org/uploadedFiles/Issues_and_Advocacy/Infrastructure/Content_Pieces/changing-infrastructure-equation-report.pdf (accessed March 14, 2020).
- 115 Ibid.
- 116 Ibid.
- 117 *ASTHO Profile of State and Territorial Public Health*. Arlington, VA: Association of State and Territorial Health Officials, 2020, in press. www.astho.org/profile (accessed March 14, 2020).
- 118 Ibid.
- 119 *ASTHO Profile of State and Territorial Public Health, Volume Four*. Arlington, VA: Association of State and Territorial Health Officials, 2017. <https://www.astho.org/Profile/Volume-Four/2016-ASTHO-Profile-of-State-and-Territorial-Public-Health/> (accessed March 14, 2020).
- 120 Ibid.
- 121 Ibid.
- 122 Ibid.
- 123 *The Forces of Change in America's Local Public Health System*. Washington: National Association of County and City Health Officials, 2018. <http://nacchoprofilestudy.org/forces-of-change/> (accessed March 14, 2020).
- 124 Ibid.
- 125 Ibid.
- 126 Ibid.
- 127 Ibid.
- 128 *Ready or Not: Protecting the Public's Health from Diseases, Disasters and Bioterrorism*. Washington: Trust for America's Health, 2020. <https://www.tfah.org/report-details/readyornot2020/> (accessed March 14, 2020).
- 129 Ollove M. "Zika Virus Exposed Weaknesses in Public Health." *Pew Stateline*, February 23, 2016. <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/02/23/zika-virus-exposes-weaknesses-in-public-health> (accessed March 14, 2020).
- 130 Neighmond P. "Would the U.S. Health System be Ready for a Surge in Coronavirus?" *NPR*, February 13, 2020. <https://www.npr.org/sections/health-shots/2020/02/13/799534865/would-the-u-s-health-system-be-ready-for-a-surge-in-coronavirus-cases> (accessed March 14, 2020).
- 131 "About Us." In *Public Health Activities and Services Tracking*. <https://phastdata.org/about> (accessed March 14, 2020).
- 132 National Survey Reveals Strong Bipartisan Support for Public Health. In *de Beaumont Foundation*, October 30, 2018. <https://www.debeaumont.org/news/national-survey-2018/> (accessed March 14, 2020).
- 133 Masters R, Anwar E, Collins B, et al. "Return on Investment of Public Health Interventions: A Systemic Review." *Journal of Epidemiology and Community Health*, 71(8): 827-834. <https://jech.bmj.com/content/71/8/827> (accessed March 14, 2020).
- 134 Developing a Financing System to Support Public Health Infrastructure. In *RESOLVE*. <https://www.resolve.ngo/site-healthleadershipforum/developing-a-financing-system-to-support-public-health-infrastructure.htm> (accessed March 14, 2020).
- 135 Holubowich E. "Data: Elemental to Health Campaign Building Momentum—What Can You Do?" Council of State and Territorial Epidemiologists, April 25, 2019. https://cdn.ymaws.com/www.cste.org/resource/resmgr/pdfs/pdfs2/DSI_OnePager_FINAL.pdf (accessed March 14, 2020).
- 136 Key Findings of PH WINS Survey, 2017. In *de Beaumont Foundation*. <https://www.debeaumont.org/ph-wins/> (accessed March 14, 2020).
- 137 *The Forces of Change in America's Local Public Health System, 2018*. Washington: National Association of County and City Health Officials. <http://nacchoprofilestudy.org/forces-of-change/> (accessed March 14, 2020).
- 138 Yeager A. "Cuts to Prevention and Public Health Fund Puts CDC Programs at Risk." *The Scientist*, February 9, 2018. <https://www.the-scientist.com/daily-news/cuts-to-prevention-and-public-health-fund-puts-cdc-programs-at-risk-30298> (accessed March 14, 2020).
- 139 This total would extend the program to the remaining 34 states, assuming that states received \$1.2 million, on average.
- 140 CDC. State Physical Activity and Nutrition (SPAN) Program <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/span-1807/index.html>
- 141 Carroll JJ, Green TC, and Noonan RK. *Evidence-Based Strategies for Preventing Opioid Overdose: What's Working in the United States*. Atlanta: Centers for Disease Control and Prevention, 2018. <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-evidence-based-strategies.pdf> (accessed March 14, 2020).
- 142 Steiner, Riley, et al. Adolescent Connectedness and Adult Health Outcomes. *Pediatrics*. July 2019, 144 (1). Accessed March 14, 2020.
- 143 CDC. Adolescent and School Health: Success Stories. <https://www.cdc.gov/healthyyouth/stories/index.htm> (accessed March 14, 2020).
- 144 Age-Friendly Public Health Systems. In *Trust for America's Health*, 2020. <https://www.tfah.org/wp-content/uploads/2020/02/FY21-Age-Friendly-Public-Health.pdf> (accessed March 14, 2020).
- 145 Widespread Person-to-Person Outbreaks of Hepatitis A Across the United States. In *Centers for Disease Control and Prevention*, 2020. <https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm> (accessed March 14, 2020).

- 146 Almkhatar S, Migliozi B, Schwartz J, and Williams J. "The Great Flood of 2019: A Complete Picture of a Slow-Motion Disaster." *The New York Times*, September 11, 2019. <https://www.nytimes.com/interactive/2019/09/11/us/midwest-flooding.html> (accessed March 14, 2020).
- 147 Funding for PHEP was \$713.843 million in FY 2010. Adjusting for inflation, PHEP's FY 2010 funding was \$846.56 million in 2019 dollars. FY 2020 funding was \$675 million. $(848.56-675)/846.56 = 20.4$ percent.
- 148 Funding for HPP was \$417.4 million in FY 2010. Adjusting for inflation, HPP's FY 2010 funding was \$495 million in 2019 dollars. FY 2020 funding was \$275.555 million. $(495-275.555)/495 = 44.3$ percent. The increase provided in FY 2020 was to continue Ebola preparedness, rather than increase the main cooperative agreement.
- 149 S. 1379: Pandemic and All-Hazards Preparedness and Advancing Innovation Act of 2019. <https://www.congress.gov/116/bills/s1379/BILLS-116s1379enr.pdf> (accessed March 14, 2020).
- 150 *Holding the Line on Biodefense: Bipartisan Report of the Blue Ribbon Study Panel on Biodefense*. Washington: Bipartisan Commission on Biodefense, October 2018. <https://biodefensecommission.org/wp-content/uploads/2018/10/Holding-the-Line-on-Biodefense-04.pdf> (accessed March 14, 2020).
- 151 *Ready or Not: Protecting the Public's Health from Disease, Disasters and Bioterrorism*. Washington: Trust for America's Health, 2020. <https://www.tfah.org/report-details/readyornot2020/> (accessed March 14, 2020).
- 152 Aspinall EJ, Nambiar D, Goldberg DJ, et al. "Are Needle and Syringe Programmes Associated with a Reduction in HIV Transmission Among People Who Inject Drugs: A Systematic Review and Meta-Analysis." *International Journal of Epidemiology*, 43(1): 235-248, 2014. <https://www.ncbi.nlm.nih.gov/pubmed/24374889> (accessed March 14, 2020).
- 153 Summary of Information on The Safety and Effectiveness of Syringe Services Programs (SSPs). In *Centers for Disease Control and Prevention*, 2019. <https://www.cdc.gov/ssp/syringe-services-programs-summary.html> (accessed March 14, 2020).
- 154 *Antibiotic Resistance Threats in the United States, 2019*. Atlanta: Centers for Disease Control and Prevention, 2019. <https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf> (accessed March 14, 2020).
- 155 CDC's Climate-Ready States & Cities Initiative. In *Centers for Disease Control and Prevention*, 2019. https://www.cdc.gov/climateandhealth/climate_ready.htm (accessed March 14, 2020).
- 156 Congress Must Act to Increase Funding for CDC by 22% by 2022. In *Association of State and Territorial Health Officials*, February 2020. <https://www.astho.org/Advocacy-Materials/22-by-22/> (accessed March 14, 2020).



1730 M Street, NW, Suite 900
Washington, DC 20036
(t) 202-223-9870
(f) 202-223-9871