



DEPARTMENT of HEALTH and HUMAN SERVICES

Fiscal Year
2017

Centers for Disease Control
and Prevention

*Justification of
Estimates for
Appropriation Committees*

MESSAGE FROM THE DIRECTOR

The Centers for Disease Control and Prevention is the nation's health protection agency. We work 24/7 to protect Americans from health and safety threats, both foreign and domestic. Our programs promote quality of life and prevent the leading causes of disease, injury, disability, and death.

We are committed to maximizing the impact of every dollar entrusted to our agency. This budget request continues our critical work to increase public health capacity at local, state, national, and global levels. Our efforts align with the Administration's priorities and support the Department of Health and Human Service's goals to help people live healthy, safe, and productive lives.

Our FY 2017 budget request includes increased investment to:

- Attack the growing problem of antibiotic resistance
- Increase global public health capacity and security
- Promote health and wellness in Indian Country
- Reduce deaths due to prescription drug overdose
- Continue to improve our disease fighting tools through our laboratories and facilities

Performance improvement is a critical aspect of our work. We regularly measure how our programs serve the public and meet key public health goals. Unless otherwise noted, CDC's reported performance data are accurate, complete, and reliable.

This budget supports CDC's ability to carry out its critical mission and sustain key efforts to preserve and protect the lives of Americans.

Sincerely,



Thomas R. Frieden, MD, MPH

Director, Centers for Disease Control
and Prevention

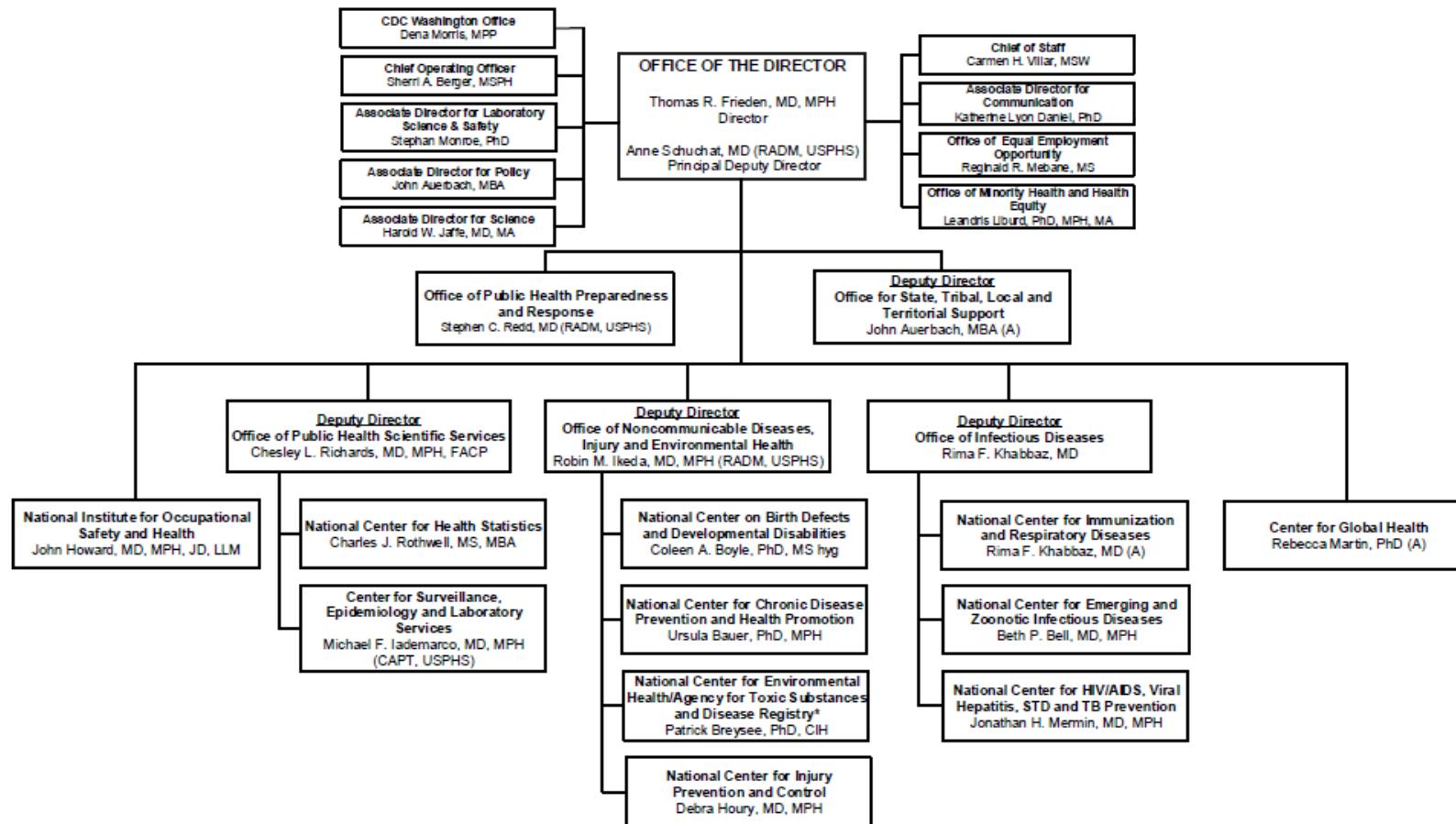
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CDC ORGANIZATIONAL CHART

DEPARTMENT OF HEALTH AND HUMAN SERVICES CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)



*ATSDR is an OPDIV within DHHS but is managed by a common director's office.

(A) serving as an acting official

APPROVED 09/11/2015

Names Updated 2/3/2016

INTRODUCTION AND MISSION

The Centers for Disease Control and Prevention is an operating division of the Department of Health and Human Services. Since 1946, CDC has worked to keep America safe from health, safety, and security threats, both foreign and domestic. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease, and supports communities and citizens to do the same. CDC is the nation's health protection agency — saving lives, protecting people from health threats, and saving money through prevention.

CDC's mission, simply put, is to keep Americans safe and healthy where they work, live and play. Our scientists and disease detectives work around the world to put proven prevention strategies to work, track diseases, research outbreaks, and respond to emergencies of all kinds.

CDC works with partners around the country and world to:

- Protect Americans from infectious diseases.
- Prevent the leading causes of disease, disability, and death.
- Ensure global disease protection.
- Keep Americans safe from environmental and work-related hazards.
- Protect Americans from natural and bioterrorism threats.
- Monitor health and ensuring laboratory excellence.

**CDC works 24-7
to save lives and
protect people
from health
threats**

These aims form the foundation of CDC's mission and each CDC program contributes through comprehensive public health activities. CDC programs provide partners and Americans with the essential health information and tools they need to make protect and advance their health. CDC's highly trained staff provide critical national leadership to increase the health security of our nation.

CDC is committed to reducing the health and economic consequences of the leading causes of death and disability and helping to ensure our nation's citizens are safer, healthier people.



www.cdc.gov/budget

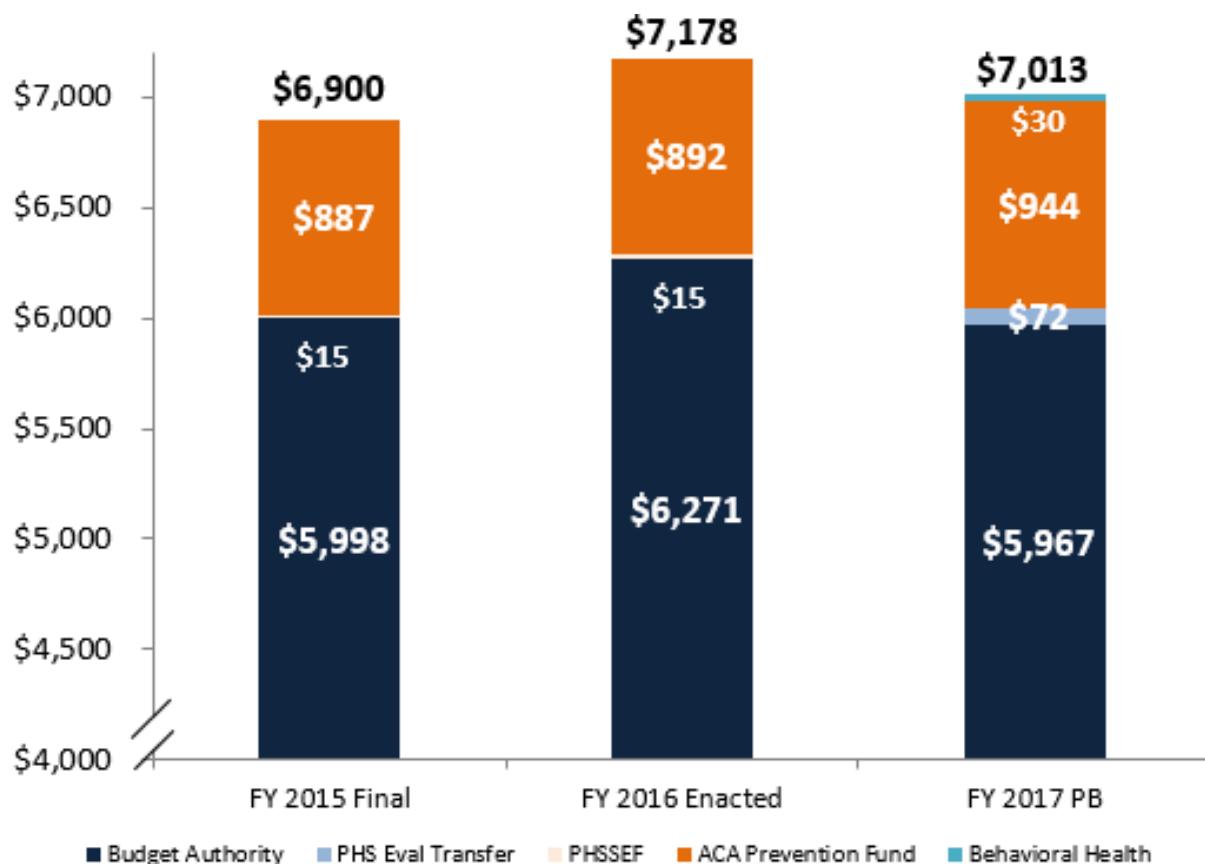
OVERVIEW OF THE BUDGET REQUEST

The fiscal year (FY) 2017 President's Budget request for CDC and ATSDR includes a total funding level of \$11,868,182,000 in discretionary budget authority, mandatory funding, and the Affordable Care Act Prevention and Public Health Fund (PPHF). This is an overall increase of \$87,302,000 above the FY 2016 Enacted level. The FY 2017 CDC program level request of \$7,013,846,000 (excluding mandatory programs except the Prevention Fund and new Mental Health Initiative) is a decrease of \$164,199 compared to the FY 2016 Enacted level.

The FY 2017 budget request builds on priorities set forth in CDC's FY 2016 President's Budget, proposing strategic new investments and identifying targeted reductions that will allow CDC to advance its core public health mission.

The funding amounts and programmatic approaches described below are changes compared to the FY 2016 Enacted level.

CDC Program Level FY 2015-FY 2017 President's Budget



Initiatives

Combating Antibiotic-Resistant Bacteria (+\$40.0 million)

The FY 2017 budget request includes an increase of \$40.0 million to expand the nation's ability to detect, respond to, and prevent antibiotic resistant (AR) infections across healthcare settings and in the community in up to 50 states, 6 large cities, and Puerto Rico. CDC's FY 2017 funding request aligns with the National Action Plan for Combating Antibiotic-Resistant Bacteria (CARB) and implements the recommendations made by the President's Council of Advisers for Science and Technology. These critical investments will protect patients and communities by implementing interventions that reduce the emergence and spread of AR pathogens.

In FY 2017, in addition to sustaining AR capacities started in FY 2016, CDC and HHS will build on existing critical investments to launch a department-wide response to all threats identified in CDC's Antibiotic Resistance Threat Report. The requested CARB initiative funding will allow full implementation of the surveillance, prevention, and stewardship activities outlined in the CARB National Strategy to reach the goals and prevention targets. HAI/AR Prevention Programs from 25 States in 2016 to up to all 50 states, the 6 largest local health departments, and Puerto Rico. The funds requested in FY 2017 will also expand programs reducing inappropriate antibiotic use and preventing the spread of AR threats across all healthcare settings, including inpatient, outpatient, and long-term care settings. In addition, programs will help prevent the spread of other AR threats included in [CDC's AR Threat Report](#)¹ such as: multidrug-resistant Acinetobacter, fluconazole-resistant Candida, extended-spectrum β-lactamase (ESBL)-producing Enterbacteriaceae, and vancomycin-resistant Enterococcus.

In addition, the request will allow CDC to expand state public health laboratory capacity from 10 States in FY 2016 to all 50 states, 6 large cities, and Puerto Rico to rapidly screen enteric bacteria for resistance. This expansion will ensure the nation's ability to rapidly detect and investigate AR across the country and in more enteric pathogens, specifically Campylobacter and Shiga toxin-producing E. coli. CDC will also expand the Emerging Infections Program (EIP), both in the scope of AR activities in current sites and by potentially adding 1-2 additional EIP sites to the network.

Good Health and Wellness in Indian Country (+\$15.0 million)

American Indians and Alaska Natives (AI/ANs) bear a disproportionate burden of death, disease, disability, and injury compared to other racial and ethnic groups in the United States. Currently, CDC supports a five-year, \$14 million per year cooperative agreement that aims to prevent diabetes, heart disease and stroke, and associated risk factors through a holistic approach to population health and wellness with funding from several areas of the Chronic Disease Prevention and Health Promotion budget. In FY 2017, CDC requests \$15,000,000 in dedicated funding to expand its current investment. The expansion will build on the existing program by more comprehensively addressing the leading causes of death and their associated risk factors, and further incorporating the culturally driven wellness practices that build resilience and strengthen social and emotional well-being. This investment will allow CDC to more effectively address chronic diseases, as well as depression and mental health, suicide, substance use, and alcohol-related motor vehicle injuries.

Prescription Drug Overdose (+\$10.0 million)

The FY 2017 budget request includes an increase of \$10.0 million to fully expand its efforts to promote opioid prescribing guideline dissemination and uptake. These funds will be used to further support, pilot test, evaluate and adapt the comprehensive translation and dissemination of prescribing guidelines into succinct, usable formats accessible to providers across the country. CDC will also be able to fully develop, evaluate, and publicly disseminate clinical decision support tools derived from the opioid prescribing guidelines. Training modules—

¹<http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf>

including online modules available for continuing medical education credit and maintenance of certification—will be one means for partnering with professional societies and health systems to spur uptake of guidelines. CDC will coordinate with Office of the National Coordinator for Health Information Technology to ensure guidelines are effectively disseminated and translated into clinical support tools for integration into clinical workflow.

Mental Health - Mandatory Funding --Evaluation of Suicide Programs (+\$30.0 million)

The FY 2017 budget request includes \$30.0 million as part of a new HHS-wide initiative for the expansion of mental health services. The Administration is proposing a new \$500 million investment to help engage individuals with serious mental illness in care, improve access to care by increasing service capacity and the behavioral health workforce, and ensure that behavioral health care systems work for everyone. This effort would increase access to mental health services to protect the health of children and communities, prevent suicide, and promote mental health as a top priority. CDC's portion of this funding will support the implementation and evaluation of comprehensive suicide prevention programs in partnership with the Injury Control Research Centers and state health departments. This work will focus on addressing key risk factors for suicidal behavior, including substance abuse and mental illness, and reducing the likelihood that suicidal ideation will progress to a suicide attempt, and that a suicide attempt will lead to death.

Increases

MANDATORY FUNDING

Vaccines for Children – Mandatory Funding (+\$225.9 million)

The FY 2017 budget request includes an increase of \$225.9 million in mandatory funding for the Vaccines for Children (VFC) Program. This estimate includes an increase for vaccine purchase contract costs and additional quality assurance and quality improvement site visits to VFC-enrolled providers. Taken together with CDC's discretionary immunization activities, these programs provide vaccines and the necessary program support to reach uninsured and underinsured populations. These resources will help support a comprehensive immunization program, based on strong science—from establishing and implementing vaccine policy to monitoring the effectiveness, impact, coverage, and safety of routinely recommended vaccines.

ENSURE GLOBAL DISEASE PROTECTION

Global Health (+\$10.0 million)

The FY 2017 budget request includes an increase of \$10.0 million for global health protection. Of the \$10,000,000 increase, \$5,000,000 will be used to support countries' institutional and organizational capacity through efforts such as Global Disease Detection, Field Epidemiology Training Programs, and other capacity building programs. These efforts enable rapid support to emerging health threats, such as Zika virus in South America. The other \$5,000,000 will be used to support implementation of the Global Health Security Agenda (GHSA) in the USG-identified Phase 2 countries. As evidenced by the 2014 Ebola outbreak in West Africa,

epidemic threats arise at unpredictable intervals and from unexpected sources. Because these threats do not recognize national borders, the health of people overseas directly affects America's safety and prosperity. Over the next five years, United States global health security partners commit to working with at least 30 partner countries (containing at least 4 billion people) to prevent, detect, and respond to infectious disease threats, whether naturally occurring or caused by accidental or intentional releases of dangerous pathogens. CDC works with countries at all stages of public health capacity development—from working to build basic national public health capabilities to collaborating with global public health leaders to address shared threats.

Polio Eradication (+\$5.0 million)

The FY 2017 budget request includes an increase of \$5.0 million for Polio Eradication, supporting the United States' critical commitment to the Global Polio Eradication Initiative's Polio Endgame Strategic Plan 2013-2018. This increase in global immunization will scale-up CDC's response to ongoing and new polio outbreaks, including the world-wide transition from oral polio vaccine (OPV) to inactivated polio vaccine (IPV), which carries no risk of vaccine-acquired infections. This increase will continue expansion of environmental surveillance for the detection of circulating polio viruses. Such environmental surveillance helps CDC and partners target programmatic efforts.

PROTECT AMERICANS FROM INFECTIOUS DISEASES

Quarantine (+\$15.0 million)

The FY 2017 budget request includes an increase of \$15.0 million to support public health activities related to refugee resettlement. Refugee resettlement is an important component in the multifaceted response to the global refugee crisis and the Budget supports the admission of at least 100,000 refugees to the United States. The United States remains deeply committed to safeguarding the American public from terrorists, just as we are committed to providing refuge to some of the world's most vulnerable people. This increase will provide necessary resources to expand the current cost-effective refugee vaccination and parasite treatment program of approximately 100,000 refugees, funding operational and programmatic costs associated with safe vaccine and drug storage, handling, transportation, and administration. These funds will also establish electronic health record documentation and tracking from the required overseas medical examination to receiving US health care providers to ensure timely medical follow-up of refugees upon arrival in the United States.

Viral Hepatitis (+\$5.0 million)

The FY 2017 budget request includes an increase of \$5.0 million for CDC's Viral Hepatitis Program. To place the nation on the path toward the elimination of viral hepatitis transmission and disease, CDC will direct capacity to reach people at greatest risk of infection. CDC will enhance vaccination-based strategies to eliminate Hepatitis B (HBV) transmission among populations at risk, particularly newborns of HBV infected mothers. For Hepatitis C (HCV), CDC's priorities are to detect, investigate, and respond to new infections, particularly among young persons and others at risk. CDC plans to expand adoption of CDC/USPSTF recommendations for HBV and HCV testing and linkage to medical care to prevent disease and premature death.

PREVENT THE LEADING CAUSES OF DISEASE, DISABILITY, AND DEATH

Gun Violence Prevention Research (+\$10.0 million)

The FY 2017 budget request includes \$10.0 million for gun violence prevention research on the causes and prevention of gun violence, focusing on those questions with the greatest potential public health impact. This activity is in alignment with Now is the Time, which calls for research on gun violence prevention to equip Americans with needed information about this public health issue. These activities will be informed by the research agenda Consensus Report developed by the Institute of Medicine and the National Research Council in 2013 (Priorities for Research to Reduce the Threat of Firearm-Related Violence).

National Violent Death Reporting System (NVDRS) (+\$7.6 million)

The FY 2017 budget request includes an additional \$7.6 million to improve the National Violent Death Reporting System (NVDRS) by promoting greater functionality and improved access to data. In FY 2017, the NVDRS program will support all 50 states and Washington, D.C. to collect data as part of the NVDRS system and to provide technical assistance to help grantees monitor and report their state data. CDC will also ensure NVDRS data are integrated into violence prevention activities by increasing dissemination and use nationally. States will use data to produce standard analyses on a range of topics, including intimate partner homicides, homicides followed by suicide, and suicides of specific groups such as veterans. CDC will also link NVDRS data with other data sources, such as child fatality review reports and adult protective services reports.

Concussion Surveillance (+\$5.0 million)

The FY 2017 budget request includes \$5.0 million to support CDC's efforts to establish and oversee a national surveillance system to accurately determine the incidence of sports- and recreation-related concussions among youth ages 5-21 years.

Cancer Prevention and Control (+\$3.8 million)

The FY 2017 Budget includes \$3.8 million in CDC's cancer screening programs to complement changes in the health insurance market by implementing broad, population-based activities designed to increase screening rates for all age-appropriate individuals, while still providing direct screening or diagnostic services to people who remain uninsured or underinsured.

PROTECT AMERICANS FROM NATURAL AND BIOTERRORISM THREATS

CDC Preparedness and Response Capability (+\$5.4 million)

The FY 2017 budget request includes an increase of \$5.4 million to continue to upgrade CDC's Select Agent Program and to specifically implement the highest priority recommendations from a 90-day review conducted in July 2015 by a workgroup of CDC experts. Recommendations include improving inspections and upgrading and enhancing systems to improve analysis of inspection findings. The increase will improve inspector training, using innovative, interactive biosafety and security training. The requested funding level will increase frequency and number of inspections, expand preparedness for natural disasters and national events, and increase outreach to regulated entities, other stakeholders, and the public.

KEEP AMERICANS SAFE FROM ENVIRONMENTAL AND WORK-RELATED HAZARDS

Hearing Loss (+\$10.0 million)

The FY 2017 request includes an increase of \$10.0 million for a new hearing loss program to address the increasing rate of hearing loss in the United States as the population ages. These funds will support a prevention, awareness, and education program that targets children to older adults, low to moderate hearing loss, and various effects associated with hearing loss (social isolation, stigma, depression, inability to work). CDC will also conduct epidemiologic study of hearing loss, evaluate the effectiveness of the outreach programs, and identify prevention strategies.

MONITOR HEALTH AND ENSURE LABORATORY EXCELLENCE

Building and Facility Improvements (+\$21.2 million)

The FY 2017 budget request includes an increase of \$21.2 million for CDC's Buildings and Facilities for repair and improvement of CDC's existing facilities portfolio in Atlanta and other locations across the US. Funding for life safety and mission-support repair and improvement projects will ensure that CDC's facilities portfolio is safe and supports the public health mission needs.

The functional replacement value of CDC's 188 buildings and 22 support and infrastructure facilities is \$3.8 billion.

As many of CDC's non-Atlanta campuses are approaching or are beyond a half century or more in age—specifically the NIOSH Pittsburgh research campus— not only do requirements for routine R&I continue to increase, but so do demands for asset demolition and/or disposal to improve CDC's overall condition index at a level above or equal to 90.

Advancing CDC Laboratory Safety and Quality (+\$5.0 million)

The FY 2017 budget request includes an increase of \$5.0 million to continue laboratory science and safety enhancement at CDC. Recent reviews of CDC's laboratory programs highlighted the need for improvements in process and standard operating procedures, facilities, systems and software, and training and communication.

CDC is committed to continuous improvements in laboratory science and safety, as well as the quality of its public health laboratory services. The Office of the Associate Director for Laboratory Science and Safety was established to provide oversight of CDC's laboratory programs and will continue to implement the following enhancements to improve laboratory safety and quality:

- Standardized, electronic document tracking and control systems for efficient review of laboratory safety procedures;
- Enhanced software for reporting, tracking, and analysis of data related to laboratory incidents;
- Centralized calibration of laboratory equipment to meet quality standards and improve efficiencies and cost savings; and
- Updated tools for delivery and tracking of laboratory safety training for CDC staff.

Public Health Workforce Capacity (+\$5.0 million)

The FY 2017 budget request includes an increase of \$5.0 million for Public Health Workforce Capacity. With the increase, CDC will continue to focus on high-priority activities, such as the Epidemic Intelligence Service (EIS) and the Public Health Associate Program (PHAP). CDC will expand public health e-learning (which benefits state and

local partners) and will strengthen informatics and population health training, particularly at the intersection of public health and healthcare. CDC will place more CDC trainees in state and local health departments, ensure that trainees are gaining cutting-edge skills that will equip them to meet current challenges, and increase access to high-quality training for the current public health workforce.

Decreases and Eliminations

Preventive Health and Health Services Block Grants (-\$160.0 million)

The FY 2017 budget request eliminates the Preventive Health and Health Services Block Grant (PHHSBG). These activities may be more effectively and efficiently implemented through the State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health program, which provides resources to states to coordinate activities across categorical funding streams. When the PHHSBG was first authorized in 1981, there were minimal resources within CDC's budget allocated for categorical programs such as heart disease, diabetes, immunizations, and obesity, and many states did not receive funding from CDC to support prevention of chronic disease. However, since 1981, categorical programs at CDC have grown and can better address these public health threats. Elimination of this program provides an opportunity to find savings, while expanding core public health activities for other CDC priorities.

Immunization Program (-\$50.3 million)

The FY 2017 budget request includes a decrease of \$50.3 million for the Immunization Program. Health insurance expansion will further increase access to immunizations and is expected to decrease the number of uninsured and underinsured individuals in need of discretionary vaccine for routine immunizations. Since September 2010, new health plans are required to cover vaccines routinely recommended by the Advisory Committee on Immunization Practices (ACIP) without charging a deductible, copayment, or coinsurance. The Immunization Program request level includes up to \$8,000,000 to support the capacity of public health departments to bill health insurers for immunization services.

Cancer Screenings (-\$44.6 million)

The FY 2017 budget request reduces funding for Breast and Cervical Cancer activities by \$40.8 million and the Colorectal Cancer screening activities by \$3.8 million. As the Affordable Care Act (ACA) increases access to cancer screening services, which began in 2014, the public health need to provide these clinical services has diminished. The ACA has increased access to cancer screening services for many low-income, underserved women and men through expanded insurance coverage, similar to the populations covered by CDC's National Breast Cancer and Cervical Cancer Early Detection Program and Colorectal Cancer Control Program.

Occupational Safety and Health – Education and Research Centers (-\$28.5 million)

The FY 2017 budget request eliminates funding for Education and Research Centers (ERCs). Originally created almost 40 years ago, the ERC program has addressed the limited number of academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The ERCs' reach and impact have grown substantially across the nation since the program's inception, increasing awareness of the importance of coursework specializing in these areas. Although the budget does not include funding for the federal portion of these grants, CDC will continue to provide scientific and programmatic expertise to the ERCs as requested.

Occupational Safety and Health—Agriculture, Forestry, and Fishing (-\$25.0 million)

The FY 2017 Budget request eliminates funding for the National Occupational Research Agenda (NORA) Agriculture, Forestry, and Fishing (AgFF) sector. Although this program has made positive contributions, given the relation to CDC's mission and the ability to have a national impact on improved outcomes, the AgFF has been proposed for elimination in a limited-resource environment.

Racial and Ethnic Approaches to Community Health (-\$20.950 million)

The FY 2017 Budget request reduces funding for the Racial and Ethnic Approaches to Community Health (REACH) program by \$20.95 million. CDC is committed to supporting populations that experience the greatest disparities in health status. The request will fund the most effective and evidence based REACH programs. REACH will award a new cooperative agreement in FY 2017 that will incorporate lessons learned from prior community grant programs, resulting in a stronger, more robust REACH that builds on the growing evidence base. CDC will simultaneously launch a national evaluation of REACH 2017 to ensure standardization and consistency across communities. Components of this evaluation could include: economic analyses, clinical data extraction from electronic medical records, and the modification of existing BRFSS indicators.

Prostate Cancer (-\$13.2 million)

The FY 2017 budget request eliminates funding for prostate cancer activities. While the evidence on prostate cancer screening remains unclear, CDC has conducted extensive research and developed materials to help doctors better communicate with their patients about informed decision making related to prostate cancer screening and treatment. The proposed elimination will not impact CDC's ability to collect data on national prostate cancer incidence through the National Program of Cancer Registries.

Environmental and Health Outcome Tracking (-\$10.0 million)

The FY 2017 request includes a decrease of \$10.0 million for Environmental and Health Outcome Tracking activities. The FY 2017 budget request maintains core tracking network activities and functions, but funding and assistance to states will be reduced. CDC will focus on capacity building for existing grantees to ensure that public health actions based on these data continue.

Academic Centers for Public Health Preparedness (-\$8.2 million)

The FY 2017 budget request reflects the elimination of the Academic Centers for Public Health Preparedness. CDC will continue to support research and training for public health preparedness through the public health preparedness and response research agenda. Eliminating funding for these centers allows CDC to prioritize funding for state and local health departments through the Public Health Emergency Preparedness (PHEP) cooperative agreement.

Chronic Fatigue Syndrome (-\$5.4 million)

The FY 2017 budget request reflects the elimination for Chronic Fatigue Syndrome (CFS). The goal of CDC's current CFS program is to develop tools to gather and analyze surveillance data and to educate clinicians and the population based on the results of evidence-based studies. Over the past five years, NIH has been funded at a similar level to conduct biomedical research on CFS. CFS affects between one and four million people in the US, and this funding could be used to have a greater programmatic impact across CDC.

Key Programmatic Changes

HIV Pre-exposure Prophylaxis

The Budget includes \$20 million in additional grant resources for a new demonstration project to increase availability and improve utilization of pre-exposure prophylaxis ([PrEP](#)) in high-burden communities in FY 2017. This demonstration project will allow health departments to use up to 30 percent of these available funds to pay for PrEP medications as the payer of last resort. This is consistent with the updated National HIV/AIDS Strategy, which calls for providing more people with highly effective prevention services such as pre-exposure prophylaxis (PrEP) to reduce new HIV infections. PrEP has been shown to reduce the risk of HIV infection by greater than 90 percent when taken as prescribed.

OVERVIEW OF PERFORMANCE

As the nation's prevention agency and a leader in improving health around the world, CDC is committed to reducing the leading causes of death, disability and injury. CDC staff work 24/7 around the world to save lives, protect people, and save money through prevention. To achieve maximum public health impact, CDC conducts research; implements strategic, evidence-based programs; and monitors results through ongoing data collection.

CDC's priorities form the core of its public health programs. These programs require the scientific excellence and leadership of our highly trained staff, who are dedicated to high standards of quality and ethical practice. The agency's priorities are:

- Strengthen public health and clinical linkages.
- Protect Americans from infectious diseases.
- Prevent the leading causes of disease, disability, and death.
- Ensure global disease protection.
- Keep Americans safe from environmental and work-related hazards.
- Protect Americans from natural and bioterrorism threats.
- Monitor health and ensuring laboratory excellence.

Performance in each of these areas and in all of CDC's work is strengthened through the use of rigorous and ongoing performance metrics and program evaluation data to monitor program effectiveness and compare performance to established targets. The accomplishments described below highlight the importance of investing in public health, preventing disease, and protecting health.

Strengthen Public Health and Clinical Linkages and Protect Americans from Infectious Diseases

- Healthcare facilities monitor and prevent healthcare-associated infections (HAI) through CDC's National Healthcare Safety Network (NHSN). As of December 2015, over 18,000 healthcare facilities, including nearly all US hospitals, participate in NHSN for quality improvement. The number of acute care hospitals currently reporting antibiotic use data in NHSN increased from 64 (in FY 2014) to 130 facilities. In addition, 500 long-term acute care hospitals (LTACHs) began reporting Clostridium difficile and Methicillin-resistant Staphylococcus aureus (MRSA) infections this year. Since 2008, the combination of CDC data systems, guidelines and programs has contributed to significant reductions of HAIs in healthcare settings, including:
 - 50% reduction in central line-associated bloodstream infections (since 2008).
 - 13% reduction in laboratory identified healthcare-associated MRSA bloodstream infections (since 2011).
 - 11% reduction in catheter-associated urinary tract infections for LTACHs (since 2014).
- In January 2015, CDC added the Targeted Assessment for Prevention (TAP) report NHSN. TAP allows NHSN users to review data for the facilities and facility locations they have access to in order to identify where excess infections are occurring. Since being introduced, NHSN TAP reports for hospitals have been used on average every 20 minutes. TAP reports are currently available for central line-associated bloodstream infections (CLABSI), catheter-associated urinary tract infections (CAUTI), and Clostridium

As we continue to expand and strengthen our collection and use of data, we gain greater knowledge and insight about the extent of our biggest health problems, which populations are most affected by them, and what we need to do to solve them. Information is power — and this power makes it possible for us to implement programs that fulfill our promise to keep Americans healthy and our nation strong.

— Dr. Tom Frieden, Director, CDC

difficile infections. State health departments), and nine Centers for Medicare and Medicaid Services (CMS) Quality Improvement Networks (QIN) representing 26 states have already used these reports to reduce HAI infections and focus their Clostridium difficile prevention efforts.

- CDC has invested in practical interventions to counter the threat of untreatable antibiotic resistant infections. In 2014, the Chicago Prevention Epicenter completed a multicenter evaluation of a novel prevention package bundle in four long-term acute care hospitals, which demonstrated a 56% reduction in carbapenem-resistant Enterobacteriaceae (CRE) infections. An important antibiotic resistance prevention strategy, the prevention package included improved patient screening, CRE positive patient isolation, daily chlorhexidine bathing, and enhanced healthcare worker training and monitoring.
- CDC has expanded its HIV testing efforts, especially focusing on communities that have a high burden of HIV infection among African Americans and Latinos. CDC-supported health departments performed nearly 3.2 million HIV tests in 2014, with more than 12,000 people newly identified as HIV positive.
- In 2015, Indiana activated its emergency operations center to investigate and respond to an outbreak of HIV and hepatitis C infections among persons who inject drugs. Previous planning and exercising required by CDC's Public Health Emergency Preparedness (PHEP) cooperative agreement enabled the state health department to rapidly establish an Incident Command System structure to support the outbreak and leverage other state agencies to address transportation needs, Medicaid issues, and other healthcare concerns. This included integrating 49 Disease Intervention Specialists (DIS) from other state programs who identified infected persons, connected them to care, and contained the outbreak.
- CDC has improved its ability to detect large TB outbreaks in the U.S. by establishing surveillance for outbreaks of ≥10 genotype-matched TB cases related by recent transmission. CDC detected 18 suspected large outbreaks in the U.S. from April 2014-March 2015. Most (78%) of these suspected outbreaks were initially identified by CDC, instead of solely relying on CDC-funded TB programs. This novel surveillance system can provide data to better understand the epidemiology of large outbreaks, inform advocacy and policy initiatives, and lead to quicker and more efficient public health responses.

Ensure Global Disease Protection

- During FY 2015, 138 Epidemic Intelligence Service (EIS) officers had an EOC-coordinated deployment for CDC's Ebola response, either domestically or internationally. These 138 EIS officers deployed for a total of 5,798 days during FY 2015.
- CDC's direct technical assistance to PEPFAR-supported countries significantly contributed to 9.1 million voluntary medical male circumcision procedures performed in 14 PEPFAR countries in 2014. This represents a 22% increase in procedures from 2013 and a 750% increase from 2010. This one-time intervention has a lifelong benefit of reducing the risk of HIV infection to uninfected men.
- In 2015, CDC and its partners published [study results](#) on the efficacy and safety of strategies for prevention and treatment of malaria in pregnancy. These findings were critical in revising the [World Health Organization recommendations](#) on the use of intermittent preventative treatment in pregnancy (IPTp), which were released in November 2015. Since October 2014, PHEP awardees have actively monitored more than 21,500 travelers from countries in West Africa with widespread Ebola cases. This includes daily monitoring for a 21-day incubation period for every traveler. PHEP resources and guidance enabled the establishment of active monitoring procedures in only 10 days within the 62 PHEP jurisdictions. As an example, within one week, IT and epidemiology staff in one state collaborated to rapidly develop a novel electronic Ebola monitoring surveillance system, increased its call center capacity, and hired Ebola duty officers to work seven days a week to successfully monitor more than 125 travelers a day.
- CDC began a presumptive treatment and vaccination pilot program in 2013, partnering with the International Organization for Migration (IOM) and the bureau of Population, Refugees, and Migration

(PRM). After only two years of implementation in countries with high rates of U.S. bound refugees, 60% now receive at least one round of ACIP recommended vaccines, and 74 percent receive appropriate antiparasitic and antimalarial treatment. Current interventions in refugee groups have reduced imported malaria cases by 98 percent, and intestinal parasite infections by 81 percent.

Prevent the Leading Causes of Illness, Injury, Disability, and Death

- In 2015, CDC launched the Tips from Former Smokers national education campaign with a series of powerful new ads. The ads highlighted health conditions such as colorectal cancer and macular degeneration, the benefits of quitting for smokers' loved ones, and the importance of quitting smoking completely. This continues the long-running success of the Tips campaign, which has helped hundreds of thousands of Americans quit smoking for good. The campaign has proven to be a "best buy" in public health by costing just \$393 to save a year of life (well under the widely accepted limit for the cost-effectiveness of a public health program of \$50,000 per year of life saved).
- CDC's surveillance of emerging tobacco products and their use highlighted critical national trends—particularly the rapid increase in e-cigarettes use among youth. Hookah smoking roughly doubled for middle and high school students from 2013-2014; e-cigarette use now surpasses use of every other tobacco product overall, including conventional cigarettes.
- As of 2015, through the National Diabetes Prevention Program (DPP), evidence-based lifestyle change programs have been delivered to approximately 32,000 people at high risk for type 2 diabetes in 49 states and the District of Columbia, and over 7,463 lifestyle coaches have been trained. The National DPP helped secure coverage for diabetes prevention for over 1 million employees in eight states.
- CDC's Breast and Cervical Cancer Early Detection Program provided breast and cervical cancer screening to 451,209 low-income, uninsured and underinsured women in 2014, diagnosing 5,312 women with breast cancer and 3,220 women with invasive cervical cancer or high-grade premalignant lesions.
- The 2014 Million Hearts® Hypertension Control Challenge recognized 30 public and private health care practices and systems for achieving blood pressure control for at least 70% of their patients with hypertension, reaching over 3.5 million adult patients in 19 different states. One 2014 Champion, the Peninsula Community Health Center in Bremerton, WA, increased their blood pressure control rate from 78% to 84% within one year.
- In 2013-2014, nearly 88,000 children received sealants through CDC-sponsored school-based sealant programs. Over nine years, school-based sealant programs prevented 8.5 cavities per every 10 children sealed.
- In 2014, several states, including Tennessee and Iowa, increased water access in schools by providing water bottle filling stations for students to use during the school day and at lunch, replacing less healthy beverage options, increasing students' overall water consumption, and maintaining hydration. Adequate hydration may improve cognitive function in children and adolescents.
- CDC investments assist U.S. hospitals in becoming Baby-Friendly, a designation based on adherence to the evidence-based Ten Steps to Successful Breastfeeding. As of November 2015, CDC's promotion of Baby-Friendly hospitals contributed to 14.8% of all U.S. births (~590,000 babies per year) occurring at Baby-Friendly hospitals (306 hospitals across 48 states), more than double the percent of 2012 births at Baby Friendly hospitals.
- CDC's Division of Reproductive Health supports state Perinatal Quality Collaboratives (PQC) to improve pregnancy outcomes for women and newborns using continuous quality improvement methods. Between 2010 and December 2013 the California PQC has shown a 57% decrease in the percentage of elective deliveries (37-38 weeks gestation); the New York PQC has shown a 92% decrease in elective deliveries (36-38 weeks gestation), including an 86% decrease in labor inductions and a 94% decrease in scheduled C-sections without a medical indication. From September 2008 to March 2014, the Ohio PQC

has seen an estimated cost savings of over \$27,789,000 associated with a shift of 48,400 births to 39 weeks gestation or greater and a 68% decline in the rate of deliveries less than 39 weeks without a medical indication.

- A large, regional healthcare provider began integrating CDC's Elderly fall's prevention initiative (STEADI) into its primary care practices in 2012, modifying its electronic health records (EHR) to incorporate STEADI and providing point-of-care clinical decision support. As of 2015, 17 of its primary care practices and 74 clinicians are presently using the EHR-based tools. Among practices that have implemented STEADI more than 70% of patients aged 65+ were screened for falls. Over 75% of those patients screened also underwent assessments.

Keep Americans safe from environmental and work-related hazards, and natural and bioterrorism threats

- In February 2015, PHEP-funded staff quickly responded to a train derailment in West Virginia that spilled 3 million gallons of crude oil, contaminating the area's primary water source. Public health response staff rapidly mobilized the public health emergency management system, enabling the health department to provide the 2,000 affected residents with clean, alternative sources of water and the information needed to appropriately treat the water once the water system was re-established.
- In FY 2015, the CDC-funded Louisiana Healthy Homes and Childhood Lead Poisoning Prevention Program piloted blood-lead testing at Women, Infants, and Children (WIC) clinics in four Louisiana parishes. The partnership with WIC demonstrated WIC clinics are an efficient place to screen children ages 12 to 24 months who are at risk for lead poisoning and who would not otherwise be tested. The program reached an additional 581 children, 79% of whom had never before been tested.
- CDC's National Institute of Occupational Safety and Health (NIOSH) conducted a Health Hazard Evaluation study that found a high rate of carpal tunnel syndrome in a poultry processing plant employing workers from an underserved population. The findings received national media attention and helped support OSHA activities, including expanded enforcement and updated guidelines for the industry.
- CDC distributed more than 1,189 radiation emergency tool kits in FY 2015 to public health professionals and clinicians. Recent evaluation research has found that the toolkits were valuable resources for planning (pre-event) and just-in-time (intra-event) use. Since the creation of the toolkits in 2005, CDC has provided more than 29,200 kits to professionals across the nation and internationally to assist clinicians in developing plans and response capacity for radiation emergencies.

Monitor health and ensuring laboratory excellence

- States continue to show progress in electronic lab reporting (ELR) implementation, which is vital to increasing notifiable disease reporting to health departments and improving disease surveillance. In FY 2015, over 40 jurisdictions (of 55 total) increased the volume of lab reports received electronically, with more than 20 jurisdictions increasing their volume of electronic reports by over 10%.
- In response to the Ebola outbreak, Laboratory Preparedness training courses saw a 151% increase in successful course completions among global public health and clinical laboratories in FY 2015. More than 4,200 laboratory professionals successfully completed training and qualified for mandated certification necessary to safely package and ship infectious agents such as Ebola.
- In 2015, CDC's STD lab discovered gonorrhea in vitro that is susceptible to a novel antibiotic inhibits DNA biosynthesis. This antibiotic demonstrated a high level of antimicrobial activity against gonorrhea, including isolates with decreased susceptibility or resistance to currently available agents.
- CDC recently identified two novel viruses, Heartland and Bourbon, which were isolated from fatal human cases. Evidence suggests that ticks transmit these viruses. To support surveillance and diagnosis

of these pathogens, CDC produced diagnostic reagents and designed assays to test for the viruses. With CDC reagents, cases that would have remained undiagnosed are now being confirmed.

- CDC now has almost two years of data on the impact of Advanced Molecular Detection (AMD) technologies (specifically, whole genome sequencing, or WGS) on foodborne listeriosis. Since the adoption of WGS, the number of outbreaks detected has increased by 50% while the number of cases per outbreak has decreased by 50%. Outbreaks are being detected earlier and the number of cases linked to specific food sources has increased 15-fold.
- From 2014-2015, CDC Enhanced EHR-Immunization Information System interoperability at 8,400 practice sites through standardized data transport protocols, tools to aid HL7 messaging, and patient-level de-duplication best practices and test cases.

Other CDC Accomplishments

- In June 2015, CDC released the first federal estimates of 2014 health insurance coverage for the civilian noninstitutionalized U.S. population using the National Health Interview Survey (NHIS). For the first time, the NHIS produced estimates for 50 states and the District of Columbia, allowing for comparisons of coverage before and after implementation of the Health Insurance Marketplaces and Medicaid expansion. Typically, the NHIS produces health insurance coverage estimates for about 20 states; a sample increase of nearly 10,000 made it possible to expand the number of states for which reliable estimates could be made.
- In FY 2015, CDC Vital Signs electronic media reach was 6.6 million potential viewings, almost doubling the annual year-end goal of 3.9 million. The significant increase in reach was driven by increased traffic to the [CDC Vital Signs website](#), which readers use to access information about each monthly release. During FY 2015, CDC published over 250 MMWR Weekly and Serial publications and increased total electronic media reach by eight percent since FY 2013 from 21.4 million to 23.0 million during FY 2015. During the year, MMWR Weekly was also ranked as the number one epidemiology journal by [Google Scholar](#), based on citations, with multiple Vital Signs publications represented among the most often cited MMWR reports.
- CDC supported health departments in increasing the capacity and performance of the public health system:
 - Currently 45% of the US population is being served by an accredited health department. As of November 2015, 84 local and 12 state health departments have achieved public health accreditation, and another 250 health departments have formally applied. Eighty-six percent (86%) of states and 45% of local health departments indicate they have applied or are preparing to apply for accreditation.
 - Among 79 local and tribal health departments funded through Accreditation Support Initiatives 60% have applied for accreditation and 19% have since been accredited. Results indicate that even small investments (\$4,000-\$40,000) can have significant impact and accelerate a health department's ability to meet these national consensus standards. As of December 2015, CDC funded an additional 33 local, tribal and territorial health departments for accreditation readiness activities.
- As of November 2015, CDC.gov's satisfaction score of 82 continues its rank as a "top performer" among 100 participating federal websites, maintaining high customer satisfaction scores as measured by the American Customer Satisfaction Index.
- CDC completed its Roybal Campus Water Study in May of 2015. Since completion of the study and its remediation actions, CDC estimates a reduction of at least 85 million gallons of water use per year,

totaling almost 45% of water used on the Roybal campus. This has resulted in savings of over \$2,000,000.

Agency Performance Planning and Management

CDC conducts continuous quality improvement through priority and goal setting, performance measurement, and program evaluation. CDC collects information on program priorities, measurable outcomes, strategies, and progress through annual updates.

The CDC awards nearly 80 percent of its budget through grants and contracts to help accomplish its mission to promote health and quality of life by preventing and controlling disease, injury, and disability. Contracts procure goods and services used directly by the agency, and grants assist other health-related and research organizations that contribute to CDC's mission through health information dissemination, preparedness, prevention, research, and surveillance.

Many CDC grant announcements require applicants to assess the health burden of their region, state or community. CDC surveillance systems often serve as the basis for the data used in applications. Data systems at CDC provide data at various levels depending upon data collection methodology, including national, state, regional and county level data. While CDC strives to have more health burden data available at the county level, the methodology can be costly and as such, currently a subset of health burden data is available across the 3,100 counties in the United States. CDC has recently re-launched the Community Health Status Indicators website (<http://www.cdc.gov/CommunityHealth>) where community level health data can be accessed easily by grantees, health departments and the general public to be used in grant applications as well as for planning purposes. Users can examine health data for their county and compare their county with comparable counties around the nation matched on a variety of demographic and predictive factors (i.e. population, educational attainment, housing factors, income, poverty, urbanicity).

CDC considers all data submitted in grant applications during the application review process. Actual award amount may be based off of grantee burden levels in some CDC grants (i.e. higher burden=more money). Once funding is awarded, data submitted by a grantee is used to monitor finances and grantee performance throughout the life of the award period.

Agency use of evaluation and evidence

CDC fully supports the use of evidence and evaluation. CDC supports scientific advances and the use of evidence and data to support program design and budget decisions. CDC continues to focus on the development and use of evidence to enhance all aspects of the Agency's mission.

CDC builds evidence regarding effective programs through its own evaluation, through systematic reviews of existing literature (Community Guide), through the use of rigorous methods to develop vaccination recommendations (ACIP's GRADE), and by finding innovative ways to make data accessible for public health decision making (Data Warehouse, Sortable Stats, Prevention Status Reports, National Health Report).

CDC promotes evidence-based prevention interventions in our grant announcements, shares best practices through websites, searchable databases and other means, and is exploring additional strategies for promoting the use of evidence in practice such as performance-based grant making and recognition awards (Million Hearts).

CDC is increasing its internal capacity to oversee and conduct program evaluation by expanding and enhancing the evaluation training available to employees through CDC University, developing an evaluation fellowship to expand program evaluation expertise, recruiting external subject matter planning and evaluation experts to "coach" CDC programs on related challenges, and by putting standard program evaluation guidelines and

recommendations into place. CDC has also adapted an IOM framework to measure the impact of CDC science and gauge its scientific influence on subsequent events and actions that lead to health improvements.

Alignment to Administration Priorities and Initiatives

CDC is committed to supporting the national priorities set by the Administration. For example, CDC has supported the implementation of the President's National HIV/AIDS Strategy (NHAS) goals of reducing the number of new HIV infections, increasing access to care for people living with HIV, and reducing HIV-related health disparities through domestic HIV programs.

CDC is a key implementer of the Global Health Security (GHS) Agenda because of the agency's unmatched technical expertise, existing country platforms, and strong government-to-government relationships—unique assets critical for successful implementation. Through full implementation of the GHS Agenda, CDC can further accelerate and expand efforts with partner countries and other partners to accelerate progress toward a world safe and secure from infectious disease threats.

CDC is providing support for full implementation of its surveillance, prevention, and stewardship activities to advance the goals of the White House's National Strategy for Combating Antibiotic-Resistant Bacteria (CARB). Through its "detect and protect" strategy, CDC is building a more robust network to "detect" our most serious AR threats and "protect" patients and communities.

In alignment with the First Lady's Let's Move Initiative to combat the childhood obesity epidemic and the President's Task Force on Childhood Obesity, CDC funds school health programs to improve food and beverage options and increase physical activity.

CDC is committed to HHS Sustainability Efforts in construction of new facilities designed and built to meet Guiding Principles. Moreover, Guiding Principle compliance is embedded in Repairs & Improvements projects for existing facilities across CDC.

In support of the National Prevention, Public Health, and Health Promotion Council (National Prevention Council) chaired by the Surgeon General, CDC helped lead the implementation of the National Prevention Strategy by providing technical and content expertise, participating in stakeholder engagement, and assisting in the development and review of recommendations and actions.

CDC is a co-founding partner of The Million Hearts initiative, a national public-private initiative designed to prevent one million heart attacks and strokes by January 2017. CDC provides leadership and communications support for the initiative, which includes a number of complementing public and private strategies.

CDC also provides substantial support to Healthy People (HP) 2020. CDC is committed to the success of the Healthy People process and to assisting in prioritizing and achieving HP 2020 goals and objectives, as well as supplying the bulk of the data used to measure progress. Through engagement in the development process and CDC's integration of HP 2020 measures into our strategic and operational planning efforts, CDC is strategically aligned with and making major contributions to the health objectives for the nation.

CDC actively supports the HHS Action Plan to Reduce Racial and Ethnic Health Disparities by helping to eliminate persistent health disparities in the leading causes of death and disability through effective and scalable public health interventions.

CDC leads key activities for 19 measures in the FY 2017 HHS performance plan. These include:

- improving health care quality and patient safety
- strengthening public health surveillance and epidemiology
- enhancing support of the public health infrastructure at the state, tribal, local, and territorial levels

- addressing obesity through childhood nutrition, food labeling, and physical fitness
- protecting Americans in public health emergencies
- increasing impact in global health
- preventing and controlling tobacco use
- enhancing food safety
- mitigating and preventing infectious and chronic diseases

Building on CDC's contributions to prior Agency Priority Goals, CDC plays a significant role in four Agency Priority Goals for FY 2016–2017, contributing our expertise in surveillance and promotion of evidence-based practices in accomplishing these goals:

- preventing adult tobacco consumption
- combating antibiotic resistance bacteria
- improving food safety in the United States
- reducing opioid-related morbidity and mortality

ALL PURPOSE TABLE

	FY 2015 Final ¹	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016 PB
(dollars in thousands)				
Immunization and Respiratory Diseases	\$798,405	\$798,405	\$748,066	(\$50,339)
Budget Authority	\$573,105	\$459,055	\$411,716	(\$47,339)
ACA/PPHF	\$210,300	\$324,350	\$336,350	\$12,000
PHSSEF	\$15,000	\$15,000	\$0	(\$15,000)
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	\$1,117,609	\$1,122,278	\$1,127,278	\$5,000
Emerging and Zoonotic Infectious Diseases	\$404,990	\$579,885	\$629,485	\$49,600
Budget Authority	\$352,990	\$527,885	\$577,485	\$49,600
ACA/PPHF	\$52,000	\$52,000	\$52,000	\$0
Chronic Disease Prevention and Health Promotion	\$1,199,220	\$1,177,096	\$1,117,145	(\$59,951)
Budget Authority	\$747,220	\$838,146	\$679,745	(\$158,401)
ACA/PPHF	\$452,000	\$338,950	\$437,400	\$98,450
Birth Defects, Developmental Disabilities, Disability and Health	\$131,781	\$135,610	\$135,610	\$0
Budget Authority	\$131,781	\$135,610	\$67,644	(\$67,966)
ACA/PPHF	\$0	\$0	\$67,966	\$67,966
Environmental Health	\$179,404	\$182,303	\$182,303	\$0
Budget Authority	\$166,404	\$165,303	\$167,825	\$2,522
ACA/PPHF	\$13,000	\$17,000	\$14,478	(\$2,522)
Injury Prevention and Control	\$170,447	\$236,059	\$298,629	\$62,570
Budget Authority	\$170,447	\$236,059	\$268,629	\$32,570
Mental Health Mandatory Funding	N/A	N/A	\$30,000	\$30,000
Public Health Scientific Services	\$481,061	\$491,597	\$500,631	\$9,034
Budget Authority	\$481,061	\$491,597	\$464,355	(\$27,242)
ACA/PPHF	N/A	\$0	\$36,276	\$36,276
Occupational Safety and Health	\$334,863	\$339,121	\$285,621	(\$53,500)
Budget Authority	\$334,863	\$339,121	\$213,621	(\$125,500)
PHS Evaluation Transfer	\$0	\$0	\$72,000	\$72,000
Global Health¹	\$446,517	\$427,121	\$442,121	\$15,000
Public Health Preparedness and Response	\$1,352,551	\$1,405,000	\$1,402,166	(\$2,834)
Cross-Cutting Activities and Program Support	\$273,570	\$273,570	\$113,570	(\$160,000)
Budget Authority	\$113,570	\$113,570	\$113,570	\$0
ACA/PPHF	\$160,000	\$160,000	\$0	(\$160,000)
Buildings and Facilities	\$10,000	\$10,000	\$31,221	\$21,221
Total CDC – Budget Authority (BA)	\$5,998,118	\$6,270,745	\$5,967,376	(\$303,369)
Total CDC – BA and PHS Eval Transfers	\$5,998,118	\$6,270,745	\$6,039,376	(\$231,369)
Program Level - BA, PHS Eval, PHSSEF, PPHF, & Mental Health Mandatory Funding	\$6,900,418	\$7,178,045	\$7,013,846	(\$164,199)
Agency for Toxic Substances and Disease Registry	\$74,691	\$74,691	\$74,691	\$0
ATSDR Affordable Care Act (Mandatory) ²	\$18,540	\$0	\$0	-\$20,000
Affordable Care Act- Prevention and Public Health Fund Transfer	\$887,300	\$892,300	\$944,470	\$52,170
Childhood Obesity Research Demonstration (CORD), PL 114-10 ³	N/A	\$10,000	N/A	(\$10,000)
Mental Health (non-add)	N/A	N/A	\$30,000	\$30,000
Vaccines for Children ⁴	\$3,851,412	\$4,160,726	\$4,386,584	\$225,858
Energy Employees Occupational Illness Compensation Program Act (EEOICPA)	\$50,099	\$55,358	\$55,358	\$0
World Trade Center (Mandatory) ⁵	\$260,650	\$299,834	\$335,477	\$35,643
PHS Evaluation Transfers	\$0	\$0	\$72,000	\$72,000
Public Health and Social Services Emergency Fund (PHSSEF)	\$15,000	\$15,000	\$0	-\$15,000
Other User Fees	\$2,064	\$2,226	\$2,226	\$0
Total CDC/ATSDR	\$11,157,874	\$11,780,880	\$11,868,182	\$87,302

¹ FY 2015 includes \$30 million for CR Ebola Funding (PL 113-164) but does not reflect \$1.771 billion in one-time emergency funding appropriated in FY 2015 for the U.S. Government response to contain, treat, and prevent the spread of Ebola.

² FY 2015 ATSDR ACA resources are available through FY 2020.

³ FY 2016 CORD resources are available through FY 2017.

⁴ The FY 2015 amount reflects obligations while FY 2016 and FY 2017 are estimates that reflect anticipated transfers from Medicaid.

⁵ The FY 2015 represents actual Federal share obligations only. FY 2016 and FY 2017 amounts reflect the Federal share estimated obligations only. NYC share is not included.

BUDGET EXHIBITS

APPROPRIATIONS LANGUAGE

COMPARISON TO FY 2016 CONSOLIDATED APPROPRIATIONS ACT

CENTERS FOR DISEASE CONTROL AND PREVENTION

IMMUNIZATION AND RESPIRATORY DISEASES

For carrying out titles II, III, XVII, and XXI, and section 2821 of the PHS Act, titles II and IV of the Immigration and Nationality Act, and section 501 of the Refugee Education Assistance Act, with respect to immunization and respiratory diseases, [\$459,055,000] \$411,716,000.

HIV/AIDS, VIRAL HEPATITIS, SEXUALLY TRANSMITTED DISEASES, AND TUBERCULOSIS PREVENTION

For carrying out titles II, III, XVII, and XXIII of the PHS Act with respect to HIV/AIDS, viral hepatitis, sexually transmitted diseases, and tuberculosis prevention, [\$1,122,278,000] \$1,127,278,000.

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

For carrying out titles II, III, and XVII, and section 2821 of the PHS Act, titles II and IV of the Immigration and Nationality Act, and section 501 of the Refugee Education Assistance Act, with respect to emerging and zoonotic infectious diseases, [\$527,885,000] \$577,485,000: *Provided*, That of the amounts available to pay for the transportation, medical care, treatment, and other related costs of persons quarantined or isolated under federal or state quarantine law, up to \$1,000,000 shall remain available until expended.

CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

For carrying out titles II, III, XI, XV, XVII, and XIX of the PHS Act with respect to chronic disease prevention and health promotion, [\$838,146,000] \$679,745,000: *Provided*, That funds appropriated under this account may be available for making grants under section 1509 of the PHS Act for not less than 21 States, tribes, or tribal organizations: *[Provided further*, That of the funds available under this heading, \$10,000,000 shall be available to continue and expand community specific extension and outreach programs to combat obesity in counties with the highest levels of obesity:] *Provided further*, That the proportional funding requirements under section 1503(a) of the PHS Act shall not apply to funds made available under this heading.

BIRTH DEFECTS, DEVELOPMENTAL DISABILITIES, DISABILITIES AND HEALTH

For carrying out titles II, III, XI, and XVII of the PHS Act with respect to birth defects, developmental disabilities, disabilities and health, [\$135,610,000] \$67,644,000.

PUBLIC HEALTH SCIENTIFIC SERVICES

For carrying out titles II, III, and XVII of the PHS Act with respect to health statistics, surveillance, health informatics, and workforce development, [\$491,597,000] \$464,355,000.

ENVIRONMENTAL HEALTH

For carrying out titles II, III, and XVII of the PHS Act with respect to environmental health, [\$165,303,000] \$167,825,000.

INJURY PREVENTION AND CONTROL

For carrying out titles II, III, and XVII of the PHS Act with respect to injury prevention and control, [\$236,059,000]: *Provided*, That of the funds provided under this heading, \$70,000,000 shall be available for an evidence-based opioid drug overdose prevention program] \$268,629,000.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

For carrying out titles II, III, and XVII of the PHS Act, sections 101, 102, 103, 201, 202, 203, 301, and 501 of the Federal Mine Safety and Health Act, section 13 of the Mine Improvement and New Emergency Response Act, and sections 20, 21, and 22 of the Occupational Safety and Health Act, with respect to occupational safety and health, [\$339,121,000] \$213,621,000: *Provided*, That in addition to the amounts provided herein, \$72,000,000 shall be available from amounts available under section 241 of the PHS Act.

ENERGY EMPLOYEES OCCUPATIONAL ILLNESS COMPENSATION PROGRAM

For necessary expenses to administer the Energy Employees Occupational Illness Compensation Program Act, \$55,358,000, to remain available until expended: *Provided*, That this amount shall be available consistent with the provision regarding administrative expenses in section 151(b) of division B, title I of Public Law 106–554.

GLOBAL HEALTH

For carrying out titles II, III, and XVII of the PHS Act with respect to global health, [\$427,121,000] \$442,121,000, of which \$128,421,000 for international HIV/AIDS shall remain available through September 30, [2017] 2018: *Provided*, That funds may be used for purchase and insurance of official motor vehicles in foreign countries.

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

For carrying out titles II, III, and XVII of the PHS Act with respect to public health preparedness and response, and for expenses necessary to support activities related to countering potential biological, nuclear, radiological, and chemical threats to civilian populations, [\$1,405,000,000] \$1,402,166,000, of which [\$575,000,000] \$575,000,000 shall remain available until expended for the Strategic National Stockpile: *Provided*, That [in the event the Director of the CDC activates the Emergency Operations Center,] the Director of the Centers for Disease Control and Prevention (CDC) or the Administrator of the Agency for Toxic Substances and Disease Registry may detail [CDC] staff without reimbursement for up to [90] 180 days to support [the work] an activation of the CDC Emergency Operations Center [, so long as the Director provides a notice to the Committees on Appropriations of the House of Representatives and the Senate within 15 days of the use of this authority and a full report within 30 days after use of this authority which includes the number of staff and funding level broken down by the originating center and number of days detailed: *Provided further*, That funds appropriated under this heading may be used to support a contract for the operation and maintenance of an

aircraft in direct support of activities throughout CDC to ensure the agency is prepared to address public health preparedness emergencies].

BUILDINGS AND FACILITIES (INCLUDING TRANSFER OF FUNDS)

For [acquisition of real property,] equipment, construction, demolition, and renovation of facilities, [\$10,000,000] \$31,221,000, [which shall] to remain available until September 30, [2020 : Provided, That funds previously set-aside by CDC for repair and upgrade of the Lake Lynn Experimental Mine and Laboratory shall be used to acquire a replacement mine safety research facility: *Provided further,* That in addition, the prior year unobligated balance of any amounts assigned to former employees in accounts of CDC made available for Individual Learning Accounts shall be credited to and merged with the amounts made available under this heading to support the replacement of the mine safety research facility] 2021.

CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT

For carrying out titles II, III, XVII and XIX, and section 2821 of the PHS Act and for cross-cutting activities and program support for activities funded in other appropriations included in this Act for the Centers for Disease Control and Prevention, \$113,570,000: *Provided,* That paragraphs (1) through (3) of subsection (b) of section 2821 of the PHS Act shall not apply to funds appropriated under this heading and in all other accounts of the CDC: *Provided further,* That funds appropriated under this heading and in all other accounts of CDC may be used to support the purchase, hire, maintenance, and operation of aircraft for use and support of the activities of CDC: *Provided further,* That employees of CDC or the Public Health Service, both civilian and commissioned officers, detailed to States, municipalities, or other organizations under authority of section 214 of the PHS Act, or in overseas assignments, shall be treated as non-Federal employees for reporting purposes only and shall not be included within any personnel ceiling applicable to the Agency, Service, or HHS during the period of detail or assignment: *Provided further,* That CDC may use up to \$10,000 from amounts appropriated to CDC in this Act for official reception and representation expenses when specifically approved by the Director of CDC: *Provided further,* That in addition, such sums as may be derived from authorized user fees, which shall be credited to the appropriation charged with the cost thereof: *Provided further,* That with respect to the previous proviso, authorized user fees from the Vessel Sanitation Program and the Respirator Certification Program shall be available through September 30, [2017] 2018: *Provided further,* That of the funds made available under this heading and in all other accounts of CDC, up to \$1,000 per eligible employee of CDC shall be made available until expended for Individual Learning Accounts: *Provided further,* That the Director may transfer discretionary funds (pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985) which are appropriated for the current fiscal year for CDC in this Act between any of the accounts of CDC with notification to the Committees on Appropriations of both Houses of Congress at least 15 days in advance of any transfer, but no such account shall be decreased by more than 3 percent by any such transfer.

APPROPRIATIONS LANGUAGE ANALYSIS – COMPARISON TO FY 2016 CONSOLIDATED APPROPRIATIONS ACT

Language Provision	Explanation
Emerging and Zoonotic Infectious Disease	
<i>Provided</i> , That of the amounts available to pay for the transportation, medical care, treatment, and other related costs of persons quarantined or isolated under federal or state quarantine law, up to \$1,000,000 shall remain available until expended.	Isolating and quarantining travelers with highly contagious diseases such as multi-drug resistant tuberculosis protects the health security of travelers and U.S. communities. Under its regulatory authority, CDC issues federal isolation orders under Title III of the Public Health Service Act. To ensure prompt and effective isolation when necessary, CDC has Memorandums of Agreement with 182 hospitals for transportation, evaluation, diagnosis, care, and treatment of travelers who pose a significant risk to public health. The availability of \$1,000,000, as an initial set-aside, until expended, will ensure resources to address state and local expenditures for federal isolation orders. It can take several months to years to receive the final invoices for review and negotiation to ensure the government makes fiscally-responsible payments to these partners. Cases are extremely variable in terms of frequency (five in the past five years) and cost (from \$2,000 to over \$500,000 per case).
CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION	
[<i>Provided further</i> , That of the funds available under this heading, \$10,000,000 shall be available to continue and expand community specific extension and outreach programs to combat obesity in counties with the highest levels of obesity:]	Language is not necessary in FY 2017.
INJURY PREVENTION AND CONTROL	
<i>Provided</i> , That of the funds provided under this heading, \$70,000,000 shall be available for an evidence-based opioid drug overdose prevention program]	Language is not necessary in FY 2017.
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH	
<i>Provided</i> , That in addition to the amounts provided herein, \$72,000,000 shall be available from amounts available under section 241 of the PHS Act.	Language reflects PHS Evaluation transfer.
PUBLIC HEALTH PREPAREDNESS AND RESPONSE	
Provided, That [in the event the Director of the CDC activates the Emergency Operations Center,] the Director of the Centers for Disease Control and Prevention (CDC) or the Administrator of the Agency	CDC works year-round to ensure the security, safety, and health of the United States from foreign and domestic threats, whether man-made or naturally-occurring. CDC participates with international, state,

Language Provision	Explanation
<p>for Toxic Substances and Disease Registry may detail [CDC] staff without reimbursement for up to [90] 180 days to support [the work] <i>an activation</i> of the CDC Emergency Operations Center [, so long as the Director provides a notice to the Committees on Appropriations of the House of Representatives and the Senate within 15 days of the use of this authority and a full report within 30 days after use of this authority which includes the number of staff and funding level broken down by the originating center and number of days detailed:</p>	<p>and local partners to respond to urgent and emergent public health issues, including those outside of nationally-declared emergencies, by providing life-saving responses to chemical, biological, radiological, and nuclear threats, as well as other disasters, outbreaks, and epidemics. To achieve this goal during an activation of the Emergency Operations Center, CDC relies on all employees, including Agency for Toxic Substances and Disease Registry employees, to potentially assist in responding to urgent and emergent public health issues, such as the Ebola outbreak in West Africa. To best meet this goal, CDC requests authority to deploy or otherwise utilize CDC staff to support such responses, regardless of appropriation line from which those staff are resourced. There will be a time limit of 180 days per employee to work on the emergency.</p>
BUILDINGS AND FACILITIES (INCLUDING TRANSFER OF FUNDS)	
<p><i>Provided</i>, That funds previously set-aside by CDC for repair and upgrade of the Lake Lynn Experimental Mine and Laboratory shall be used to acquire a replacement mine safety research facility:</p> <p><i>Provided further</i>, That in addition, the prior year unobligated balance of any amounts assigned to former employees in accounts of CDC made available for Individual Learning Accounts shall be credited to and merged with the amounts made available under this heading to support the replacement of the mine safety research facility]</p>	<p>Language is not necessary for 2017.</p>
CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT	
<p><i>Provided further</i>, That funds appropriated under this heading and in all other accounts of CDC may be used to support the purchase, hire, maintenance, and operation of aircraft for use and support of the activities of CDC:</p>	<p>CDC must maintain the ability to purchase or hire aircraft for deployment of the Strategic National Stockpile or other emergency response operations; testing of new insecticides and formulations; and for applying the insecticides when outbreaks of mosquito-borne disease, such as encephalitis, occur in populous areas where no other method can be used to control the spread of the disease</p>
<p><i>Provided further, That of the funds made available under this heading and in all other accounts of CDC, up to \$1,000 per eligible employee of CDC shall be made available until expended for Individual Learning Accounts:</i></p>	<p>Reinstates CDC's Individual Learning Accounts to ensure equitable access to training for all employees.</p>

Language Provision	Explanation
<p><i>Provided further,</i> That the Director may transfer discretionary funds (pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985) which are appropriated for the current fiscal year for CDC in this Act between any of the accounts of CDC with notification to the Committees on Appropriations of both Houses of Congress at least 15 days in advance of any transfer, but no such account shall be decreased by more than 3 percent by any such transfer.</p>	<p>In limited circumstances, CDC requests this transfer in order to improve the provision of services and activities between accounts following Congressional notification. When immediate health threats either domestically or internationally arise, this authority will give CDC the necessary resources and flexibility from across the agency to provide the timeliest response.</p>
CDC-RELATED HHS GENERAL PROVISIONS	
<p>Sec. [212]210. In order for HHS to carry out international health activities, including HIV/AIDS and other infectious disease, chronic and environmental disease, and other health activities abroad during fiscal year [2016]2017:</p> <p>(1) The Secretary may exercise authority equivalent to that available to the Secretary of State in section 2(c) of the State Department Basic Authorities Act of 1956. The Secretary shall consult with the Secretary of State and relevant Chief of Mission to ensure that the authority provided in this section is exercised in a manner consistent with section 207 of the Foreign Service Act of 1980 and other applicable statutes administered by the Department of State.</p> <p>(2) The Secretary is authorized to provide such funds by advance or reimbursement to the Secretary of State as may be necessary to pay the costs of acquisition, lease, alteration, renovation, and management of facilities outside of the United States for the use of HHS. The Department of State shall cooperate fully with the Secretary to ensure that HHS has secure, safe, functional facilities that comply with applicable regulation governing location, setback, and other facilities requirements and serve the purposes established by this Act. The Secretary is authorized, in consultation with the Secretary of State, through grant or cooperative agreement, to make available to public or nonprofit private institutions or agencies in participating foreign countries, funds to acquire, lease, alter, or renovate facilities in those countries as necessary to conduct programs of assistance for international health activities, including activities relating to HIV/AIDS and other infectious diseases,</p>	<p>The date change updates a FY 2016 provision so that it applies in FY 2017. The new paragraph (3) language permits the Secretary of HHS to purchase, lease, construct, or renovate facilities outside of the United States without going through the Department of State. The language also extends such authorities to using funds for space for public or nonprofit entities with which HHS is working in those countries. This authority would most commonly be used for co-location with staff from the host nation's Ministry of Health.</p>

Language Provision	Explanation
<p>chronic and environmental diseases, and other health activities abroad.</p> <p><i>(3) The Secretary may acquire, lease, construct, alter, renovate, equip, furnish, or manage facilities outside of the United States, as necessary to conduct such programs, in consultation with the Secretary of State, either directly for the use of the United States Government or for the use, pursuant to grants, direct assistance, or cooperative agreements, of public or nonprofit private institutions or agencies in participating foreign countries.</i></p> <p><i>The Centers for Disease Control and Prevention may acquire, lease, construct, alter, renovate, equip, furnish, or manage facilities outside of the United States, as necessary to conduct such programs, in consultation with the Secretary of State, either directly for the use of the United States Government or for the use, pursuant to grants, direct assistance, or cooperative agreements, of public or nonprofit private institutions or agencies in participating foreign countries.</i></p> <p>([3]4) The Secretary is authorized to provide to personnel appointed or assigned by the Secretary to serve abroad, allowances and benefits similar to those provided under chapter 9 of title I of the Foreign Service Act of 1980, and 22 U.S.C. 4081 through 4086 and subject to such regulations prescribed by the Secretary. The Secretary is further authorized to provide locality-based comparability payments (stated as a percentage) up to the amount of the locality-based comparability payment (stated as a percentage) that would be payable to such personnel under section 5304 of title 5, United States Code if such personnel's official duty station were in the District of Columbia. Leaves of absence for personnel under this subsection shall be on the same basis as that provided under subchapter I of chapter 63 of title 5, United States Code, or section 903 of the Foreign Service Act of 1980, to individuals serving in the Foreign Service.</p>	
<p><i>Sec. 220. Funds which are available for Individual Learning Accounts for employees of CDC and the Agency for Toxic Substances and Disease Registry</i></p>	<p>This provision provides the Centers for Disease Control with operational flexibility in the</p>

Language Provision	Explanation
<p><i>(“ATSDR”) may be transferred between appropriate accounts of CDC, to be available only for Individual Learning Accounts: Provided, That such funds may be used for any individual full-time equivalent employee while such employee is employed either by CDC or ATSDR.</i></p>	<p>management of their employees’ Individual Learning Accounts.</p>

AMOUNTS AVAILABLE FOR OBLIGATION ^{1,2,3}

(dollars in thousands)	FY 2015 Final ⁴	FY 2016 Enacted	FY 2017 President's Budget
Discretionary Appropriation:			
Enacted	\$5,998,118,000	\$6,270,745,000	\$5,967,376,000
Permissive Transfer	\$15,000,000	\$0	\$0
Subtotal, adjusted Appropriation	\$6,014,118,000	\$6,270,745,000	\$5,967,376,000
Mandatory and Other Appropriations:			
Transfers from Other Accounts ³	\$887,300,000	\$907,300,000	\$944,470,000
Receipts from User Fees	\$2,226,000	\$2,226,000	\$2,226,000
Receipts from CRADA ⁵	\$1,721,149	\$1,721,149	\$1,721,149
Receipts from Royalties ⁵	\$2,173,035	\$2,173,035	\$2,173,035
Appropriation (EEOICPA)	\$50,099,000	\$55,358,000	\$55,358,000
Mental Health Initiative (Mandatory Funding)	N/A	N/A	\$30,000,000
Subtotal, adjusted Mandatory and Other Appropriations	\$942,519,184	\$968,778,184	\$1,035,948,184
Recovery of prior year Obligations	\$12,221,591	\$0	\$0
Unobligated balance start of year	\$120,067,772	\$155,706,337	\$162,434,198
Unobligated balance expiring	\$8,380,924	\$0	\$0
Unobligated balance end of year	(\$155,706,337)	(\$162,104,727)	(\$157,393,927)
Total Obligations	\$6,941,601,134	\$7,232,124,794	\$7,008,364,455

¹ Excludes Vaccine for Children and World Trade Center Health Program.

² Excludes the following amounts for reimbursements: FY 2015 \$516.322M; FY 2016 \$516.322M; and FY 2017 \$516.322M.

³ Includes Prevention and Public Health Fund and Flu Balances in FY 2016 Enacted Level.

⁴ FY 2015 includes \$30 million for CR Ebola Funding (PL 113-164) but does not reflect \$1.771 billion in one-time emergency funding appropriated in FY 2015 for the U.S. Government response to contain, treat and prevent the spread of Ebola.

⁵ FY 2015 amount represents actual collections. FY 2016 and FY 2017 amounts are estimates assuming level receipts. FY 2016 and FY 2017 actual may vary.

SUMMARY OF CHANGES

(dollars in thousands)	Dollars	FTEs
FY 2016 Enacted (Program Level)	\$7,178,045	10,886
FY 2017 President's Budget (Program Level)	\$7,013,846	10,886
Net Change	(\$164,199)	0

Increases: (dollars in thousands)	FY 2016 FTE ^{1,2}	FY 2016 Enacted	FTE Change	FY 2017 +/- FY 2016
Increases:				
HIV/AIDS, Viral Hepatitis, STI and TB Prevention				
Viral Hepatitis	---	\$34,000	---	\$5,000
Emerging and Zoonotic Infectious Diseases				
Core Infectious Diseases (includes Combating Antibiotic Resistance and Lab Safety)	---	\$427,913	---	\$40,000
Quarantine	---	\$31,572	---	\$15,000
Chronic Disease Prevention and Health Promotion				
Good Health and Wellness in Indian Country	---	N/A	---	\$15,000
All Other Cancer	---	N/A	---	\$3,789
Environmental Health				
Hearing Loss	---	N/A	---	\$10,000
Injury Prevention and Control				
Mental Health Initiative (Mandatory Funding)	---	N/A	---	\$30,000
Prescription Drug Overdose	---	\$70,000	---	\$10,000
Gun Violence Prevention Research	---	N/A	---	\$10,000
National Violent Death Reporting System (NVDRS)	---	\$16,000	---	\$7,570
Sports Related Concussion Surveillance	---	N/A	---	\$5,000
Public Health Scientific Services				
Surveillance, Epidemiology, and PH Informatics	---	\$279,000	---	\$4,008
<i>Lab Safety and Training (non-add)</i>	---	\$5,000	---	\$5,000
Public Health Workforce Capacity (PPHF)	---	\$52,200	---	\$5,026
Global Health				
Global Health Protection	---	\$55,200	---	\$10,000
Polio Eradication	---	\$169,000	---	\$5,000
Public Health Preparedness and Response				
CDC Preparedness and Response Capability (includes Select Agent increase)	---	\$161,800	---	\$5,366
Buildings and Facilities				
Buildings and Facilities	---	\$10,000	---	\$21,221
Total Increases	N/A	\$1,028,051	N/A	\$202,972

Decreases: (dollars in thousands)	FY 2016 FTE ^{1,2}	FY 2016 Enacted	FTE Change	FY 2017 +/- FY 2016
Immunization & Respiratory Diseases				
Immunization Program Level	---	\$610,847	---	-\$50,339
Emerging and Zoonotic Infectious Diseases				
Core Infectious Diseases (Includes Chronic Fatigue Syndrome)	---	\$427,913	---	-\$5,400
Chronic Disease Prevention, Health Promotion, & Genomics				
Racial and Ethnic Approaches to Community Health (REACH)	---	\$50,950	---	-\$20,950
Breast and Cervical Cancer	---	\$210,000	---	-\$40,796

Prostate Cancer	---	\$13,205	---	-\$13,205
Colorectal Cancer	---	\$43,294	---	-\$3,789
Environmental Health	---			
Environmental and Health Outcome Tracking Network	---	\$34,000	---	-\$10,000
Occupational Safety & Health	---			
Educational and Research Centers	---	\$28,500	---	-\$28,500
Agriculture, Forestry, Fishing (AgFF)	---	\$25,000	---	-\$25,000
Public Health Preparedness & Response	---			
Academic Centers for Public Health Preparedness	---	\$8,200	---	-\$8,200
Cross-Cutting Activities and Program Support	---			
Preventive Health and Health Services Block Grants	---	\$160,000	---	-\$160,000
All Other Decreases	---		---	-\$992
	Total Decreases	N/A	\$1,611,909	N/A (\$367,171)
Transfers	---	\$0	---	\$0
Built-In:				
1. Annualization of Jan - 2016 Pay Raise	---	---	---	\$4,032
2. FY 2017 Pay Increases	---	---	---	\$12,014
3. Changes in Day of Pay	---	---	---	\$0
4. Rental Payments to GSA and Others	---	---	---	\$569
Total Built-In	10,886	\$0	0	\$16,615
1. Absorption of Current Services	---	---	---	(\$16,615)
	Total	---	---	---
				(\$16,615)
	Total Increases (Program Level)	10,886	\$1,028,051	0 \$202,972
	Total Decreases (Program Level)	N/A	\$1,611,909	0 (\$367,171)
	NET CHANGE - L/HHS/ED Program Level	10,886	\$7,178,045	0 (\$164,199)
Other Program Level Changes				
1. Vaccines for Children	---	\$4,160,726	---	\$225,858
2. World Trade Center	---	\$299,834	---	\$35,643
3. Energy Employees Occupational Illness Compensation Act (EEOICPA)	---	\$55,358	---	\$0
4. User Fees	---	\$2,226	---	\$0
5. Childhood Obesity Research Demonstration Project (CORD, PL 114-10)	---	\$10,000	---	-\$10,000
	Total - Program Level Net Increase	10,886	\$4,528,144	0 \$251,501
	NET CHANGE: CDC BUDGET AUTHORITY & PROGRAM LEVEL	10,886	\$11,706,189	0 \$87,302

¹ FTE total is for CDC only. ATSDR FTE total is not included.

² The FY 2017 Congressional Justification reflects 10,886 FTEs versus 10,876 in MAX. The above estimates are accurate.

BUDGET AUTHORITY BY ACTIVITY

(dollars in thousands)	FY 2015 Final ¹	FY 2016 Enacted	FY 2017 President's Budget
Budget Activity/Description			
Immunization and Respiratory Diseases - BA	\$573,105	\$459,055	\$411,716
HIV/AIDS, Viral Hepatitis, STI and TB Prevention - BA	\$1,117,609	\$1,122,278	\$1,127,278
Emerging and Zoonotic Infectious Diseases - BA	\$352,990	\$527,885	\$577,485
Chronic Disease Prevention and Health Promotion - BA	\$747,220	\$838,146	\$679,745
Birth Defects, Developmental Disabilities, Disability and Health – BA	\$131,781	\$135,610	\$67,644
Environmental Health – BA	\$166,404	\$165,303	\$167,825
Injury Prevention and Control – BA	\$170,447	\$236,059	\$268,629
Public Health Scientific Services - BA	\$481,061	\$491,597	\$464,355
Occupational Safety and Health - BA	\$334,863	\$339,121	\$213,621
Global Health – BA	\$446,517	\$427,121	\$442,121
Public Health Preparedness and Response - BA	\$1,352,551	\$1,405,000	\$1,402,166
Cross-Cutting Activities and Program Support - BA	\$113,570	\$113,570	\$113,570
Buildings and Facilities - BA	\$10,000	\$10,000	\$31,221
Total CDC, Budget Authority -	\$5,998,118	\$6,270,745	\$5,967,376
Total CDC, FTEs^{2,3}	10,864	10,886	10,886

¹ FY 2015 Enacted includes \$30 million for CR Ebola Funding (PL 113-164) but does not reflect \$1.771 billion in one-time emergency funding appropriated in FY 2015 for the U.S. Government response to contain, treat, and prevent the spread of Ebola.

² CDC FTEs only. Does not include ATSDR.

³ The FY 2017 Congressional Justification reflects 10,886 FTEs versus 10,876 in MAX. The above estimates are accurate.

AUTHORIZING LEGISLATION

(dollars in thousands)	Enabling Legislation Citation ²	Enabling Legislation Status	Allocation Methods	FY 2016 Appropriations Act	FY 2017 President's Budget
Immunization and Respiratory Diseases					
PHSA Title II, §§ 301, 307, 310, 311, 317, 317N, 317S, 319, 319C, 319E, 319F, 322, 325, 327, 340C, 352, Title XVII*, 2102(a)(6), 2102(a)(7), 2125, 2126, 2127, 2821; Immigration and Nationality Act §§ 212 (8 U.S.C. 1182), 232 (8 U.S.C. 1222); Social Security Act § 1928 (42 U.S.C. 1396s)	Permanent Indefinite	Direct Federal/Intramural; Competitive Cooperative Agreements/Grants, including Formula Grants; Contracts; and Other	\$798,405	\$748,066	
HIV/AIDS, Viral Hepatitis, STD, and TB Prevention					
PHSA Title II, §§ 301, 306(a-l), 306(n)*, 307, 308(d), 310, 311, 317, 317E(a-f)*, 317E(g)*, 317N(a-b), 317N(c)*, 317P(a-c), 318(a-d), 318(e)*, 318(f), 318B*, 322, 325, 327, 352, Title XVII*, 2315, 2320, 2341; Title II of P.L. 103-333;	Permanent Indefinite	Direct Federal/Intramural, Competitive Grant/Cooperative Agreements, Formula Grants/Cooperative Agreements, Contracts, and Other	\$1,122,278	\$1,127,278	
Emerging and Zoonotic Infectious Diseases					
PHSA §§ 252, 264, 301, 304, 307, 308(d), 310, 311, 317, 317P, 317R, 317S, 319, 319D, 319E*, 319F, 319G, 321, 322, 325, 327, 352, 353, 361–369, 1102, Title XVII*, 2821*; P.L. 96–517; P.L. 111-5; Immigration and Nationality Act §§ 212, 232 (8 U.S.C. 1182, 8 U.S.C. 1222, 8 U.S.C. 1252)	Permanent Indefinite	Direct Federal/Intramural, Contracts, and Competitive Grants/Cooperative Agreements	\$579,885	\$629,485	
Chronic Disease Prevention and Health Promotion					
PHSA Title II §§ 301, 307, 310, 311, 317*, 317D*, 317H, 317K*, 317L*, 317M*, 317P*, 330E, 399B*-399D, 399E, 399NN*, 399Q*, 399V-3*-399Z*, 1501–1509*, Title XVII*; Fertility Clinic Success Rate And Certification Act of 1992 (P.L. 102-493); Comprehensive Smoking Education Act of 1984, P.L. 98-474 (15 U.S.C. 1335(a) and 15 U.S.C. 1341); Comprehensive Smokeless Tobacco Health Education Act of 1986 (P.L. 99-252); The Patient	Permanent Indefinite	Direct Federal Intramural; Competitive Cooperative Agreements/Grants, including Formula Grants; and Competitive Contracts	\$1,177,096	\$1,117,145	

(dollars in thousands)	Enabling Legislation Citation ²	Enabling Legislation Status	Allocation Methods	FY 2016 Appropriations Act	FY 2017 President's Budget
Protection and Affordable Care Act of 2010, § 4201* (P.L. 111-148)					
Birth Defects and Developmental Disabilities					
PHSA Title II §§ 301, 304, 307, 308(d), 310, 311, 317, 317C(a)*, 317J*, 317K*, 317L*, 317Q, 327, 352, 399M, 399Q*, 399S, 399T, 399V-2*, 399AA*, 399BB, 399CC; 1102, 1110, 1112-1114, Title XI, Title XVII*; The Prematurity Research Expansion And Education For Mothers Who Deliver Infants Early Act §§ 3,5 (42 U.S.C. 247b-4f* and 42 U.S.C. 247b-4g)					
Environmental Health					
PHSA Title II §§ 301, 307, 310, 311, 317*, 317A*, 317B*, 317I*, 327, 352, 361, 366, 1102; Title XVII*	Permanent Indefinite	Direct Federal/Intramural, Competitive Grants, Cooperative Agreements and Contracts	PHSA Title II §§ 301, 307, 310, 311, 317*, 317A*, 317B*, 317I*, 327, 352, 361, 366, 1102; Title XVII*	\$182,303	\$182,303
Injury Prevention and Control					
PHSA Title II §§ 214, 215, 301, 304, 307, 308, 310, 311, 317, 319, 319D*, 327, 352, 391*, 392*, 393*, 393A*, 393B*, 393C*, 393D*, 394*, 394A*, 399P*, 1102; Title XVII*, Bayh-Dole Act of 1980 (P.L. 96-517); Safety of Seniors Act of 2007 (P.L. 110-202); Traumatic Brain Injury Reauthorization Act of 2014 (P.L. 113-196); Family Violence Prevention and Services Act §§ 303 (42 U.S.C. 10403)*, 314 (42 U.S.C. 10414)*	Permanent Indefinite	Direct Federal/Intramural; Competitive Cooperative Agreements/Grants, including Formula Grants; and Competitive Contracts		\$236,059	\$268,629
Public Health Scientific Services					
PHSA Title II §§ 241, Title III 301, 304, 306*, 307, 308, 310, 317, 317G, 318, 319, 319A, 353, 391, 399V, 778*, 1102, Title XVII*, 2315, 2341, 2521*; P.L. 107-347, Title V (44 U.S.C. 3501 note); Intelligence Reform and Terrorism Prevention Act of 2004 § 7211* (P.L. 108-458); Food, Conservation, And Energy Act of 2008 § 4403 (7 U.S.C. 5311a); P.L. 101-445 § 5341 (7 U.S.C. 5341); The Patient Protection and Affordable Care Act of 2010 (P.L. 111-148)	Permanent Indefinite	Direct Federal/Intramural, Competitive Grants/Cooperative Agreements, Contracts		\$491,597	\$500,631

(dollars in thousands)	Enabling Legislation Citation ²	Enabling Legislation Status	Allocation Methods	FY 2016 Appropriations Act	FY 2017 President's Budget
Occupational Safety and Health					
PHSA Title II §§ 301, 304, 306, 307, 308(d), 310, 311, 317, 317A, 317B, 319, 327, 352, 399MM, 1102, Title XVII, 2695; Occupational Safety and Health Act of 1970 §§20–22, P.L. 91-596 as amended by P.L. 107-188 and 109-236 (29 U.S.C. 669–671); Federal Mine Safety and Health Act of 1977, P.L. 91-173 as amended by P.L. 95-164 and P.L. 109-236 (30 U.S.C. 811–813, 842, 843–846, 861, 951–952, 957, 962, 963, 964); Black Lung Benefits Reform Act of 1977 § 19, P.L. 95-239 (30 U.S.C. 902); Bureau of Mine Act, as amended by P.L. 104-208 (30 U.S.C. 1 note, 3, 5); Radiation Exposure Compensation Act, §§ 6 and 12 (42 U.S.C. 2210 note); Energy Employees Occupational Illness Compensation Program Act of 2000, as amended (42 U.S.C. §§7384, et seq.); Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 §§ 3611, 3612, 3623, 3624, 3625, 3626, 3633 of P.L. 106-398; National Defense Authorization Act for Fiscal Year 2006, P.L. 109-163; Toxic Substances Control Act, P.L. 94-469 as amended by 102-550, (15 U.S.C. 2682, 2685); Ryan White HIV/AIDS Treatment Extension Act of 2009 § 2695, P.L. 111-87 (42 U.S.C. 300ff-131); James Zadroga 9/11 Health And Compensation Reauthorization Act (2015), Division O, Title iii, P.L 114-113.	Permanent Indefinite	Direct Federal/Intramural, Competitive Grant/Cooperative Agreements, Contracts, Other	\$339,121	\$285,621	
Global Health					
PHSA Title II §§ 301, 304, 307, 310, 319*, 327, 340C, 361–369*, Title VII*, 2315, 2341; Foreign Assistance Act of 1961 §§ 104, 627, 628; Federal Employees International Organization Service Act § 3 (5 USC 3343); International Health Research Act of 1960 § 5; Agriculture Trade Development and Assistance Act of 1954 § 104; 38 U.S.C. § 3968; Foreign	Permanent Indefinite	Direct Federal/Intramural, Competitive Grants/Cooperative Agreements, Direct Contracts, Interagency Agreements	\$427,121	\$442,121	

(dollars in thousands)	Enabling Legislation Status	Allocation Methods	FY 2016 Appropriations Act	FY 2017 President's Budget
Enabling Legislation Citation²				
Employees Compensation Program (22 U.S.C. 3968); Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008 (P.L.110-293); PEPFAR Stewardship & Oversight Act of 2013 (P.L. 113-56); Section 212 of the Consolidated Appropriations Act, 2016 (P.L. 114-113, Division H)				
Public Health Preparedness and Response				
PHSA Title II §§ 301, 307, 310, 311, 319, 319C-1, 319D, 319F, 319F-2, 319G*, 351A*, 361, Title XVII*, 2801, 2812	Permanent Indefinite	Direct, Federal Intramural, Cooperative Agreements, including Formula Grants/Cooperative Agreements; and Contracts	\$1,405,000	\$1,402,166
Buildings and Facilities				
Consolidated Appropriations Act of 2016, PL 114-113	Permanent Indefinite	Direct Federal/Intramural, Contracts	\$10,000	\$31,221
CDC-Wide Activities and Program Support				
PHSA Title II §§ 301, 304, 306*, 307, 308, 310, 311, 317, 317F*, 319, 319A, 319D, 322, 325, 327, 352, 361–369, 391*,Title XVII*, 2821	Permanent Indefinite	Direct Federal/Intramural, Contracts, Competitive Grants/Cooperative Agreements	\$273,570	\$113,570

¹ Expired/Expiring noted with *

APPROPRIATIONS HISTORY TABLE¹

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2008	5,741,651,000	6,138,253,000	6,156,169,000	6,156,541,000
2008 Rescission	--	--	--	(106,567,000)
2009	5,618,009,000	6,202,631,000	6,313,674,000	6,283,350,000
2009 American Reinvestment & Recovery Act ²				300,000,000
2009 H1N1 Influenza Supplemental, HHS ³	473,000,000	--	--	473,000,000
2010 H1N1 Influenza Supplemental, CDC ³	200,000,000	--	--	200,000,000
2010 Public Health Prevention Fund ⁴	--	--	--	191,800,000
2010	6,312,608,000	6,313,032,000	6,733,377,000	6,390,387,000
2011	6,265,806,000	--	6,527,235,000	5,648,970,000
2011 Public Health Prevention Fund	610,900,000	--	--	610,900,000
2012	5,817,412,000	--	5,765,915,000	5,655,670,000
2012 Public Health Prevention Fund	752,500,000	--	848,000,000	809,000,000
2013 Enacted	4,991,523,000	--	5,713,698,000	5,657,023,000
2013 OMB 0.2% Rescission				(\$11,314,000)
2013 Sequestration	--	--	--	(284,581,000)
2013 Public Health Prevention Fund	903,210,000	--	858,000,000	462,916,000
2014	5,216,509,000	--	5,757,052,000	5,792,542,000
2014 Public Health Prevention Fund	755,110,000	0	839,000,000	831,300,000
2015	5,399,706,000	--	5,999,348,000	5,968,118,000
2015 Public Health Prevention Fund	809,510,000	--	887,300,000	886,300,000
2015 CR Ebola Funding (PL 113-164)	--	--	--	30,000,000
2015 Ebola Response and Preparedness ⁵	--	--	--	1,771,000,000
2016	6,095,803,000	6,095,803,000	5,747,306,000	6,270,745,000
2016 Public Health Prevention Fund	914,300,000	914,300,000	892,950,000	892,300,000
2017	5,967,376,000	--	--	--
2017 Public Health Prevention Fund	944,470,000	--	--	--

¹ Does not include funding for ATSDR

² FY 2009 Appropriation amount displays \$300M Section 317 funds for American Reinvestment & Recovery Act (P.L. 111-5)

³ FY 2009 H1N1 influenza supplemental, Supplemental Appropriations Act, 2009 (P.L. 111-32). \$473M transferred from HHS's Public Health and Social Services Emergency Fund to CDC; \$200M directly appropriated to CDC.

⁴ The Affordable Care Act passed on March 23, 2010, after the FY 2010 appropriation. The amounts here reflect CDC's request and final amount allotted from the PPH Fund to CDC from HHS.

⁵ Ebola Response and Preparedness is one-time emergency funding appropriated in FY 2015 for the U.S. Government response to contain, treat, and prevent the spread of Ebola.

APPROPRIATIONS NOT AUTHORIZED BY LAW

(dollars in millions)	Last Year of Authorization	Authorization Level	Appropriations in Last Year of Authorization	Appropriations in FY 2016 ¹
Program				
Sexually Transmitted Diseases Grants (PHSA 318)	FY 1998	Such Sums...	\$113.671	\$157.310
National Cancer Registries (PHSA 399B)	FY 2003	Such Sums...	N/A	\$49.440
National Center for Health Statistics (PHSA 306)	FY 2003	Such Sums...	\$125.899	\$160.397
WISEWOMAN (PHSA 1509)	FY 2003	Such Sums...	\$12.419	\$21.120
Asthma Surveillance & Grants (PHSA 317I, 399L)	FY 2005	Such Sums...	\$32.422	\$29.000
Folic Acid (PHSA 317J)	FY 2005	Such sums...	\$2.188	\$3.150
Injury Prevention and Control (PHSA 391–394A)	FY 2005	Such Sums...	\$138.237	\$236.059
Oral Health Promotion (PHSA 317M)	FY 2005	Such Sums...	\$11.204	\$18.000
Safe Motherhood/Infant Health Promotion (PHSA 317K, 317L)	FY 2005	Such Sums...	\$44.738	\$46.000
Birth Defects, Developmental Disability, Disability and Health (PHSA 317C)	FY 2007	Such Sums...	\$122.242	\$135.610
Developmental Disabilities Surveillance and Research Program (Autism) (PHSA 399AA)	FY 2011	\$21.000 in FY 2011	\$21.380	\$23.100
Breast and Cervical Cancer ¹ (PHSA 1501-10)	FY 2012	\$275.000 in FY 2012	\$204.779	\$210.000
Johanna's Law (PHSA 317P)	FY 2012	\$18.000 in FY 2012	\$4.972	\$5.500
Epidemiology Laboratory Capacity Grants (PHSA 2821)	FY 2013	\$190.000 in FY 2013	\$32.424	\$40.000
National TB Strategy/Grants (PHSA 317E)	FY 2013	\$243.101 In FY 2013	\$132.997	\$142.256
CDC Public Health Workforce and Career Development (PHSA 778)	FY 2013	\$39.500 in FY 2013	\$64.000m	\$57.226
National Diabetes Prevention Program (PHSA 399V-3)	FY 2014	Such sums...	\$10.000	\$20.000
Section 317 Immunization (PHSA 317)	FY 2014	Such sums...	\$610.847	\$610.847
Young Women's Breast Health Awareness (PHSA 399NN)	FY 2014	\$9.000	\$4.951	\$4.960
Congenital Heart Disease Programs (PHSA 399V-2)	FY 2015	Such sums	\$4.000	\$4.000

¹ Breast and Cervical Cancer appropriation includes WISEWOMAN funding

NARRATIVES BY ACTIVITY

IMMUNIZATION AND RESPIRATORY DISEASES

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$573.105	\$459.055	\$411.716	-\$47.339
ACA/PPHF	\$210.300	\$324.350	\$336.350	+\$12.000
PHSSEF	\$15.000	\$15.000	\$0.000	-\$15.000
Total Request	\$798.405	\$798.405	\$748.066	-\$50.339
FTEs	652	652	652	0
Immunization Program Level	\$610.847	\$610.847	\$560.508	-\$50.339
-Immunization Program - BA	\$387.683	\$273.633 ¹	\$211.294	-\$75.203
-National Immunization Survey - BA	\$12.864	12.864	\$12.864	+\$12.864
-Immunization Program - PPHF	\$210.300	\$324.350	\$336.350	+\$12.000
Influenza/Influenza Planning and Response	\$187.558	\$187.558	\$187.558	\$0.000
-Influenza Planning and Response - BA	\$172.558	\$172.558	\$187.558	+15.000
-Influenza Planning and Response -PHSSEF (non-add)	\$15.000	\$15.000	\$0.000	-\$15.000

¹ FY 2016 is comparably adjusted to reflect FY 2017 proposed Immunization budget structure.

Summary

CDC prevents disease, disability, and death of children, adolescents, and adults through immunization and control of respiratory and related diseases. These activities are key to CDC's goal to protect Americans from infectious diseases.

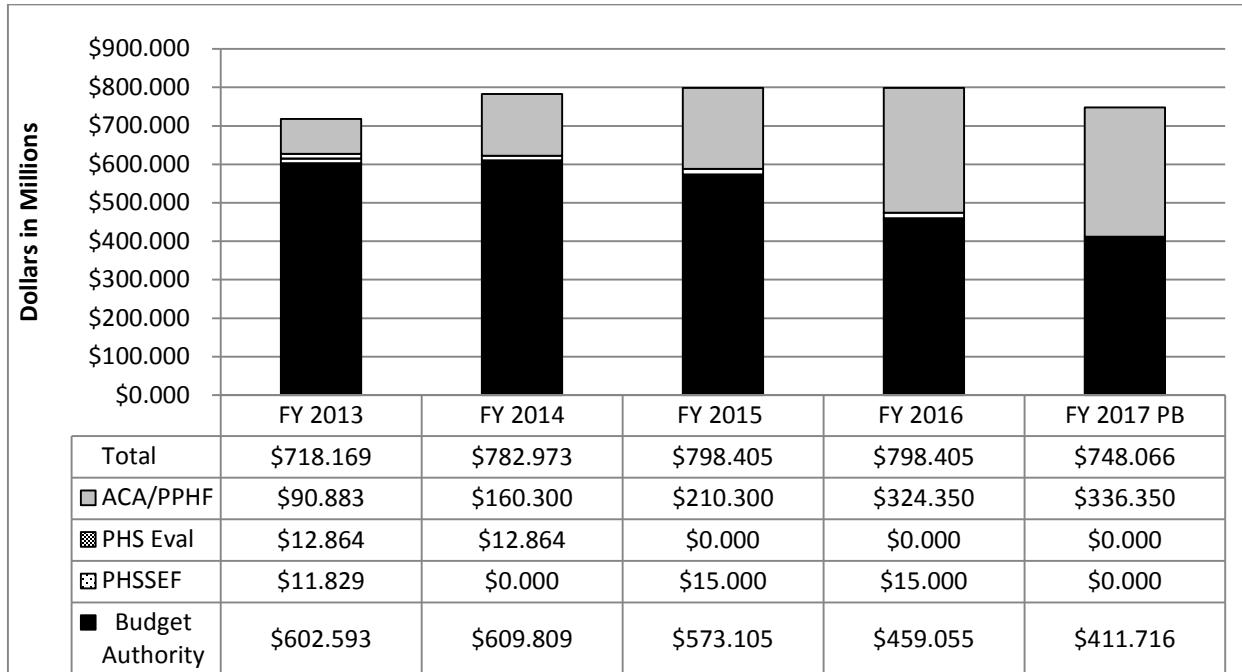
Through the discretionary Immunization Program and mandatory Vaccines for Children (VFC) Program, CDC improves access to immunization services for uninsured and underinsured populations in the United States and supports the scientific evidence base for vaccine policy and practices. CDC also provides critical epidemiology and laboratory capacity to detect, prevent, and respond to vaccine-preventable, respiratory, and related infectious disease threats as well as preparedness planning for pandemic influenza.

CDC's FY 2017 request of **\$748,066,000** for immunization and respiratory diseases, including \$336,350,000 from the Affordable Care Act Prevention and Public Health Fund, is \$50,339,000 below the FY 2016 Enacted level. The reduction to the 317 Immunization Program reflects increased insurance coverage for immunization services through public and private health insurance expansion.

Performance Highlights

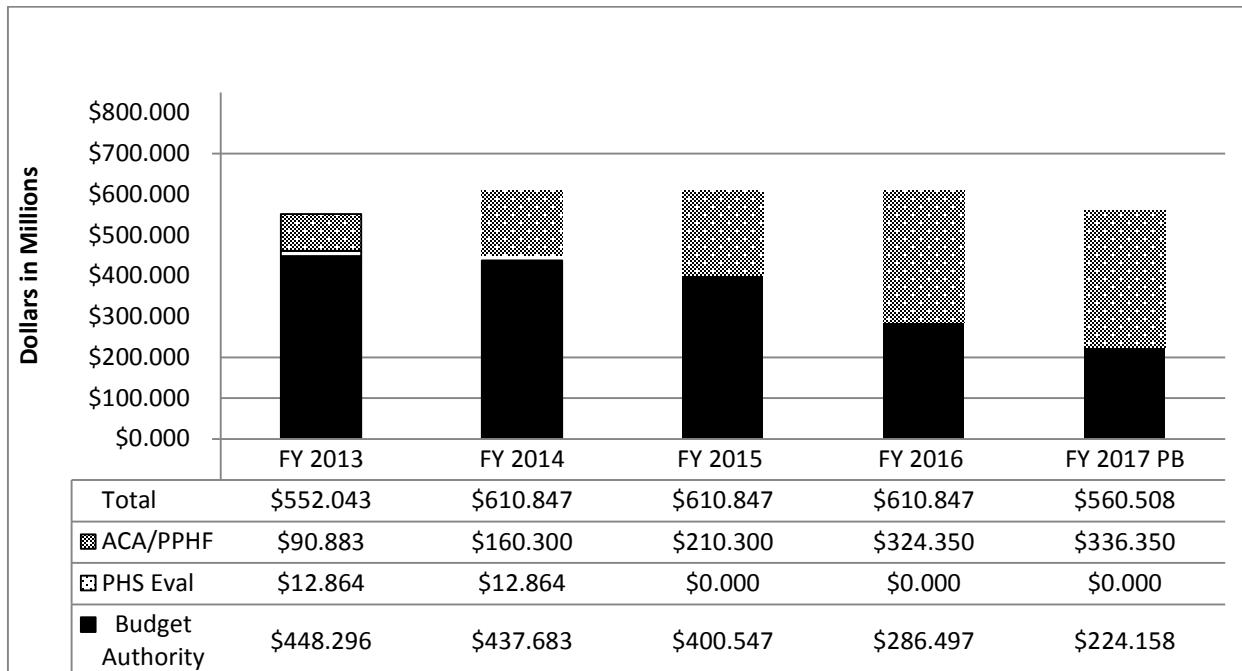
- CDC estimates that vaccination of children born between 1994 and 2013 will prevent 322 million illnesses; will help avoid 732,000 deaths; and will save nearly \$1.4 trillion in total societal costs.
- In August 2015, CDC developed and published new Advisory Committee on Immunization Practices (ACIP) recommendations for use of PCV13/PPSV23 pneumococcal vaccines for adults greater than 65 years of age in the United States.
- CDC achieved 24% zoster vaccine coverage in 2013 to avert an estimated 43,000 cases of herpes zoster.

Immunization and Respiratory Diseases Funding History¹



¹ FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Immunization Program Funding History¹



¹ FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Immunization Program Funding History^{1,2}

Immunization Program ^{1,2}	
Fiscal Year	Dollars (in millions)
2007	\$512.804
2008	\$527.359
2009	\$557.359
2009 (ARRA)	\$300.000
2010	\$561.459
2011	\$488.576
2011 (ACA/PPHF)	\$100.000
2012	\$452.215
2012 (ACA/PPHF)	\$190.000
2013	\$461.160
2013 (ACA/PPHF)	\$90.883
2014	\$450.547
2014 (ACA/PPHF)	\$160.300
2015	\$400.547
2015 (ACA/PPHF)	\$210.300
2016	\$286.497
2016 (ACA/PPHF)	\$324.350

¹ FY 2012 and FY 2013 are comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Immunization Program Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$387.683	273.633 ¹	\$211.294	-\$75.203
National Immunization Survey	\$12.864	12.864	\$12.864	+\$12.864
ACA/PPHF	\$210.300	\$324.350	\$336.350	+\$12.000
Total	\$610.847	\$610.847	\$560.508	-\$50.339

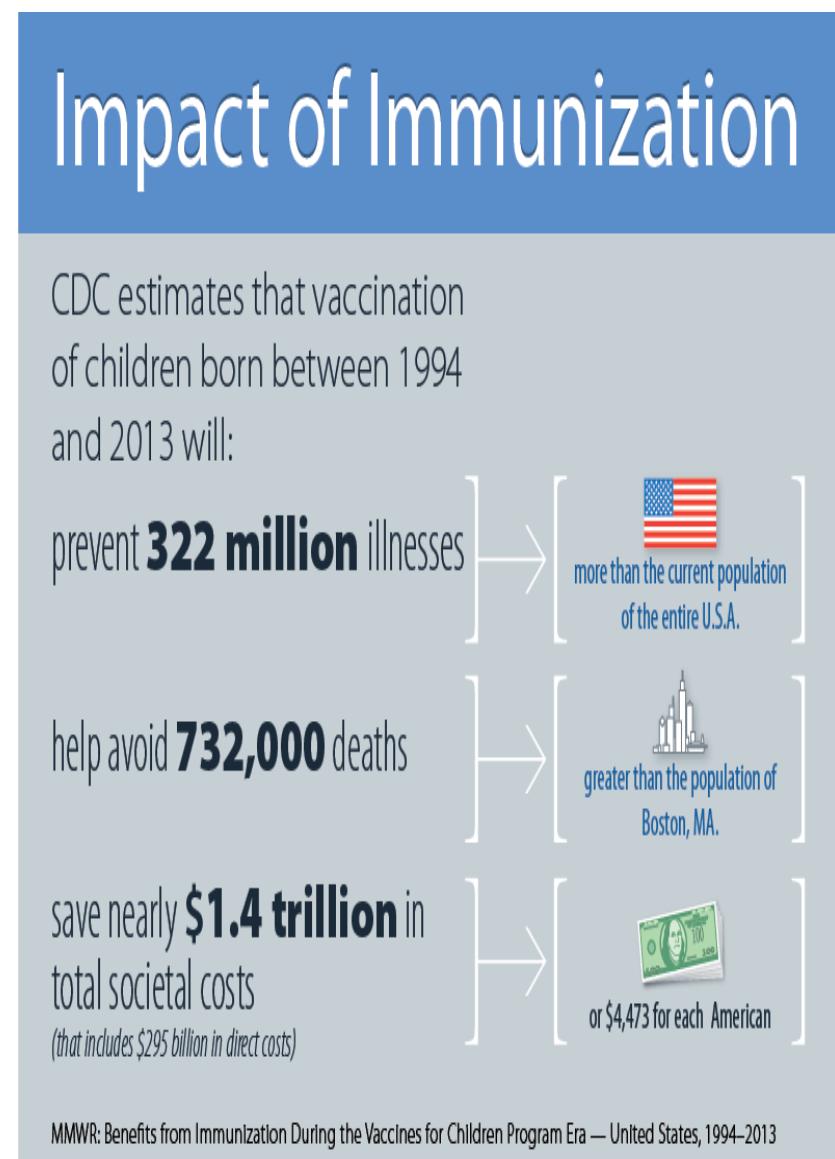
¹ FY 2016 is comparably adjusted to reflect FY 2017 proposed Immunization budget structure.

Overview

CDC's national immunization recommendations currently provide guidance for the prevention of 17 vaccine-preventable diseases (VPDs) across the lifespan. The discretionary Immunization Program plays a fundamental role in achieving national immunization goals and sustaining high vaccination coverage rates to prevent death and disability from VPDs.

The Immunization Program provides funds to support the essential public health functions and ensure program effectiveness and scientifically sound immunization policy. A strong public health infrastructure at the national, state, and local levels is vital to sustaining high vaccination coverage levels and low incidence of VPDs. Support also maintains public health preparedness for a response to a vaccine-preventable national emergency, such as a pandemic or biologic attack.

The Immunization Program purchases routinely recommended vaccines to protect at-risk and vulnerable populations not eligible for immunizations through the Vaccines for Children (VFC) Program and to meet urgent public health needs such as controlling VPD outbreaks. The flexibility of the Program is critical: The discretionary Immunization Program allows states to use their purchased vaccines to meet their unique needs and priorities in responding to VPD outbreaks. The Affordable Care Act health insurance-related provisions have improved access to immunization services by requiring new private health plans and most public insurance to cover routinely recommended vaccines without cost-sharing. However, these health insurance provisions do not



address the public health functions that must be in place to ensure safe and effective national immunization policies and programs, making the discretionary Immunization Program critical in FY 2017 and beyond. These public health functions include providing a safety net for those who cannot otherwise access immunization services, managing vaccine shortages, monitoring the safety and effectiveness of vaccines and vaccine policies, preventing disease outbreaks and responding early and rapidly should they occur, and preparing to respond quickly and comprehensively to other urgent vaccine emergencies, such as pandemics.

Budget Request

CDC's FY 2017 request of **\$560,508,000** for the Immunization Program, including \$336,350,000 from the Affordable Care Act Prevention and Public Health Fund, is \$50,339,000 below the FY 2016 Enacted level. This funding will be used to continue to support the immunization program priorities.

For FY 2017, CDC's priorities for the discretionary Immunization Program are to:

- Preserve core public health immunization infrastructure at the local, state, and federal levels
- Maintain an adequate amount of vaccine purchase to provide a vaccination safety net for uninsured adults, and for response to VPD outbreaks and other vaccine urgent needs
- Make strategic investments to enhance the immunization infrastructure and evidence base and to improve efficiency

Preserving Core Public Health Immunization Infrastructure

The discretionary Immunization Program is responsible for the essential public health workforce and systems at the national, state, and local levels that protect all Americans, regardless of health insurance status, from disability and death from VPDs.

CDC conducts scientific studies that provide the evidence base for national immunization policy, including assessing the burden of disease, vaccine effectiveness and safety, economic analyses, and program feasibility. For example, CDC's vaccine effectiveness research provided critical scientific evidence of waning immunity that informed the Advisory Committee on Immunization Practices' (ACIP) recommendation for a booster dose of meningococcal conjugate vaccine at age 16 to assure protection through the high-risk college years.

In addition, CDC collects, analyzes, and reports scientific data about vaccines as they are used in real-world settings and with larger populations to ensure the effectiveness and safety of our national vaccine programs and policies and to inform policy and program changes. This includes:

- Implementing vaccine safety priority studies by strengthening vaccine safety surveillance for rare vaccine adverse events
- Improving adverse-event reporting through electronic reporting
- Developing vaccine safety profiles for each newly licensed vaccine in collaboration with other federal agencies

CDC's National Immunization Survey (NIS) is essential to assessing national progress, documenting programmatic achievements, and identifying disparities in immunization coverage rates. The 2014 NIS-Teen data, for example, showed there were modest increases in vaccination coverage among U.S. adolescents between the ages of 13 and 17 years for all vaccines routinely recommended for preteens and teens. However, progress is occurring at an unacceptably slow pace for human papillomavirus (HPV) vaccination, identifying the need for targeted efforts to improve HPV vaccination coverage among adolescent girls.

Based on this information, CDC provided funding to support several activities focused on improving HPV vaccination coverage. These included: 22 immunization programs funded to use their Immunization Information

Systems (IIS) for reminder/recall for girls 11 to 18 years of age and to conduct a comprehensive communications campaign (one group of 11 in 2013 and another group of 11 in 2014); an organization funded to develop and maintain a national network comprised of cancer-prevention organizations that have the capacity to engage clinical and immunization partners at a national, regional, state, tribal, territorial, jurisdictional, and local level; and professional medical organizations funded to strengthen the clinician recommendation of HPV vaccine by direct outreach and education around HPV vaccine to their members and audiences. In FY 2017, CDC will continue to fund the NIS to monitor progress and inform programmatic strategies.

CDC supports science-based communication campaigns and other efforts to convey the benefits of vaccines to the public to aid individuals in making informed vaccine decisions to protect themselves and their loved ones. CDC also conducts outreach to educate healthcare providers about current immunization policy and clinical best practices to help them protect their patients and communities from VPDs. CDC developed and will maintain a [dynamic provider toolkit](#)² for conversations with parents about vaccination that includes evidence-based strategies, print materials, and web-based tools.

In FY 2017, CDC will implement health information technologies to give healthcare providers the necessary immunization information to ensure their patients receive the vaccines they need, when they need them, and will manage vaccine supply disruptions and shortages to ensure the best public health outcomes until vaccine supplies are restored. Funds will also be used to respond to disease outbreaks by:

- Rapidly identifying and investigating cases
- Conducting surveillance and laboratory testing
- Implementing targeted vaccination efforts and other measures to control the spread of disease and prevent future outbreaks

For example, from January 1 to July 24, 2015, CDC received reports of 183 measles cases from 24 states in the United States. On July 2, 2015, Washington State Department of Health confirmed a measles-related death. The last reported measles infection that resulted in death in the United States was in 2003. CDC provided epidemiology and laboratory support including advanced molecular diagnostic testing for measles. CDC is prioritizing activities to better define the locations and size of unvaccinated populations that pose high risks of sustaining large measles outbreaks that may threaten maintenance of measles elimination in the United States.

Maintaining an Adequate Amount of Vaccine Purchase

The Immunization Program is responsible for providing federally purchased vaccines to protect uninsured Americans from preventable diseases—and thus protect communities from the dangers of low vaccination rates. These populations have decreased as implementation of expanded health insurance coverage provisions continues; however, there continues to be a need for discretionary vaccines to serve uninsured adults and to provide rapid vaccination response to disease outbreaks and other urgent public health needs. It will be important to maintain a safety net for immunization services. The discretionary Immunization Program is also critical because, unlike the federal VFC Program which has very specific eligibility requirements, discretionary Immunization Program vaccine can be used to vaccinate non-VFC-eligible populations in a public health emergency. For example, 317 funds were used to purchase meningitis B vaccine doses under the Emergency Use Authorization in 2014. Additionally, 317 funds were used to purchase meningitis B vaccine doses for the stockpile in 2015.

In FY 2017, CDC will work collaboratively with its awardees and partners to sustain record-high childhood immunization coverage rates and increase immunization coverage rates for children and adults by improving access to immunizations. Specifically, CDC will work to establish access points at complementary venues such as

² <http://www.cdc.gov/vaccines/hcp.htm>

schools, pharmacies, and retail-based clinics; expand the network of VFC providers through recruitment efforts; purchase and deliver vaccine for at-risk populations; and ensure those with insurance have access to immunization services through an in-network provider.

Making Strategic Investments

In some communities, such as rural areas, health departments serve as a critical access point. Since 2009, CDC has invested funding to expand immunization infrastructure to assist public health clinics that serve fully-insured patients with billing for immunization services. This effort preserves access to life-saving immunizations for fully-insured populations. The purpose of billing is to expand access for fully-insured individuals in areas where there is not adequate in-network provider coverage. CDC has supported 38 awardees in developing and/or implementing billing systems in targeted areas within their jurisdictions through a separate FOA. CDC continues to support billing activities through routine cooperative agreement funds for all awardees. In FY 2017, the Immunization Program will collaborate with other areas of CDC interested in billing and other public health infrastructure improvements needed in the evolving health care environment. However, while expanded billing capacity in public health departments may help to maintain and improve access to immunization services for the fully-insured, it does not replace the need for discretionary Immunization Program vaccines that provide a critical public health safety net for vaccinating the uninsured and responding to VPD outbreaks and other public health emergencies.

Anticipating the evolving role of public health, CDC has strategically directed immunization resources to prepare for the new healthcare environment. CDC made investments in Immunization Information Systems (IIS) that inform and support clinical decision-making and allow interfacing with electronic health records (EHRs) and vaccine ordering systems through a competitive process that provided funds to 56 of the 64 immunization awardees. This helped more than 95% of these 56 CDC awardees reach full compliance with Health Level Seven (HL7) messaging standards for immunization data transactions. In FY 2017, the Immunization Program will provide funding to immunization awardees and support scientific and programmatic expertise to further develop, enhance, and maintain IIS capable of identifying individuals in need of immunization, measuring vaccination coverage rates, producing reminder and recall notices, and interfacing with EHRs. CDC's immunization services program and the public health informatics program collaborate to support Immunization Program awardees in enhancing their IIS to be compliant with standards and requirements set by the national Electronic Health Records – Meaningful Use (EHR-MU) Program.

Immunization Summary¹

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Immunization Infrastructure ¹	\$241.080	\$241.080	\$241.080	\$0.000
Vaccine Purchase ¹	\$123.480	\$123.480	\$85.980	-\$37.500
Extramural Program Operations	\$188.824	\$188.824	\$176.698	-\$12.126
Intramural Program Operations	\$57.463	\$57.463	\$56.750	-\$0.713
Total	\$610.847	\$610.847	\$560.508	-\$50.339

¹ See Immunization Grants for more information.

Advancing Public Health Immunization Priorities

Funding Category	FY 2017 Immunization Program Funding
Immunization Infrastructure	Will be awarded to support essential public health immunization workforce and systems at the state and local levels. Funds will be used to: recruit and educate networks of immunization providers; provide continual quality assurance; promote public awareness of new and expanded vaccine recommendations; manage vaccine shortages; and respond to VPD outbreaks. These awards include core infrastructure/operations funding that goes to all awardees.
Vaccine Purchase	Will be allocated through direct assistance to provide federally purchased vaccines to vaccinate non-VFC-eligible uninsured populations and to meet urgent public health needs such as controlling VPD outbreaks.
Extramural Program Operations	Will support national immunization policies and programs, including: disease surveillance; vaccine coverage assessment; post-marketing evaluation of vaccine effectiveness and safety; immunization information technologies; centralized vaccine ordering and distribution systems; payor of last resort; public awareness campaigns and resources; and provider education and tools.
Intramural Program Operations	Will provide national public health expertise in immunization and VPDs to support national, state, and local vaccination program efforts, including expertise in epidemiology and surveillance, laboratory methods and science, immunology, immunization policy, health communications science, vaccine management, and program implementation.

Supporting State and Territorial Immunization Programs

In FY 2017, CDC will provide infrastructure funding to 64 awardees—including all 50 states; Washington, D.C.; five large cities; five territories; and three Freely Associated States—through a non-competitive, formula-based, discretionary cooperative agreement program that provides financial assistance for state and local immunization operations. Through population-based awards and collaboration, the discretionary Immunization Program established a comprehensive immunization system providing:

- Public sector vaccine ordering and distribution
- Continual quality assurance
- Provider recruitment and enrollment in the VFC Program
- Provider education and public awareness focused on new and expanded vaccine recommendations
- Management of vaccine shortages

In addition, CDC will provide its 64 awardees with direct assistance for vaccine purchased from the federal contracts. As part of the new five-year funding cycle that began in FY 2013, CDC adopted a vaccine use policy that Immunization Program-purchased vaccines cannot be used for routine vaccination of fully insured individuals. Assuring that public funds are not subsidizing insured benefits allows CDC to target its resources more effectively to meet public health priorities. In alignment with the vaccine use policy and to assure that public funds are not subsidizing insured benefits, the FY 2017 Budget continues to allocate vaccine direct assistance based on the estimated number of uninsured adults within each awardee's jurisdiction. For each fiscal year's allocation of vaccine direct assistance to state and city awardees, CDC uses the most currently available U.S. Census data for uninsured adults ages 19 to 64 years as its base population and allocates vaccine to each awardee based on their proportion of the uninsured adult population, as done since FY 2014. The allocation to awardees is adjusted as necessary to minimize large fluctuations—supporting an orderly transition to the new vaccine allocation formula, limiting disruption to the Immunization Program, and ensuring that all awardees receive some amount of discretionary vaccine to provide a safety net. CDC monitors spend plans developed by awardees, and makes further adjustments as needed throughout the year so that no vaccine goes to waste. The allocation of vaccine to the five U.S. Territories and three Freely Associated States was not changed.

CDC provides national public health expertise in VPDs that supports the 64 awardees, including expertise in:

- Epidemiology and surveillance
- Laboratory methods and science
- Immunology
- Immunization policy
- Health communications science
- Vaccine management
- Program implementation

Immunization Cooperative Agreements^{1, 2, 3}

(dollars in millions)	FY 2017					
	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2016
Number of Awards	64	64	64	64	64	0
- New Awards	0	0	0	0	0	0
- Continuing Award	64	64	64	64	64	0
Average Award	\$5.315	\$4.350	\$5.778	\$5.778	\$4.991	\$0.000
Range of Awards			\$0.609–	\$0.609–	\$0.539–	N/A
	\$37.773	\$26.600	\$32.983	\$32.983	\$30.018	
Total Awards	\$340.138	\$278.402	\$369.767	\$369.767	\$319.428	-\$50.339

¹This table includes Immunization Program budget authority and Prevention and Public Health Funds. It does not include funds from the former program implementation line.

²Immunization operations awards and vaccine direct assistance are included in the table. In FY 2013, CDC awarded a new five-year cooperative agreement for Immunization Program funding.

³These funds are awarded by formula.

Influenza Planning and Response Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$172.558	\$172.558	\$187.558	+\$15.000
PHSSEF	\$15.000	\$15.000	\$0.000	-\$15.000
Total	\$187.558	\$187.558	\$187.558	\$0.000

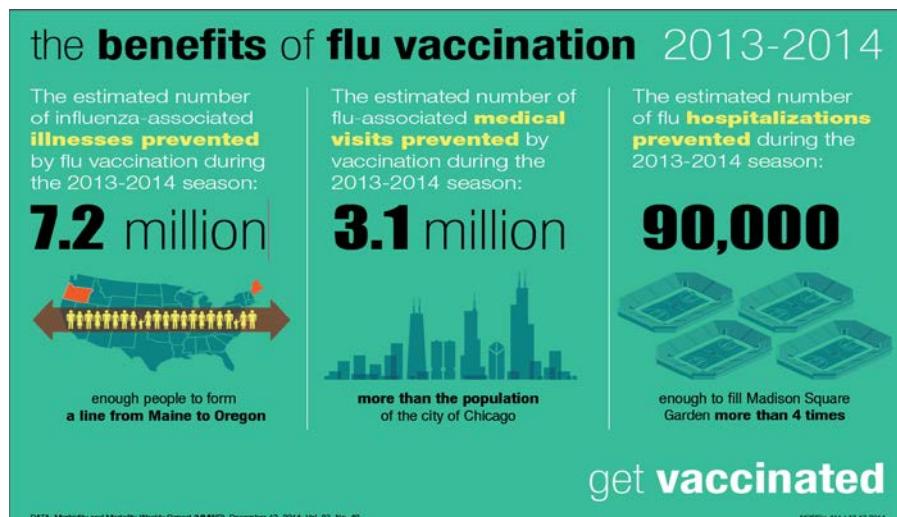
Overview

CDC's influenza planning and response activities ensure a comprehensive response for seasonal influenza as well as the ability to respond to an influenza pandemic. CDC's influenza program works to detect, respond to, and prevent influenza disease that can cause mild to severe illness, and at times, death. Some populations—such as older adults, young children, and people with certain health conditions—are at higher risk for serious influenza complications. Over a period of 30 years, between 1976 and 2006, annual estimates of influenza-associated deaths in the United States ranged from a low of 3,000 to a high of 49,000 people. On average, influenza causes more than 200,000 hospitalizations annually, and a [study](#)³ published in 2007 estimated direct medical costs for hospitalizations and outpatient visits from seasonal influenza-related complications at more than \$10 billion annually. Not only can influenza infections be severe, but influenza seasons are unpredictable—requiring constant vigilance from CDC and its domestic and international public health partners. CDC provides leadership and a cutting-edge scientific and programmatic foundation for the diagnosis, prevention, and control of influenza domestically and internationally. CDC's annual seasonal influenza activities improve preparedness by:

- Strengthening surveillance and diagnostic capacity
- Improving public awareness and provider knowledge about influenza and the importance of vaccination, other prevention measures, and early treatment
- Enhancing our international, federal, state, and local partnerships to respond quickly to influenza epidemics

Prevention of seasonal influenza requires an annual reassessment of virus strains contained in the vaccine—an assessment based on CDC surveillance data. The vaccine must be produced and administered annually to account for seasonal variations.

³ <http://www.ncbi.nlm.nih.gov/pubmed/17544181>



Since 2010, the Advisory Committee on Immunization Practices (ACIP) has recommended influenza vaccine for all Americans aged six months and older. To implement this recommendation, CDC works to educate providers and raise public awareness. CDC makes special efforts to reach high-risk individuals, such as pregnant women, and provides further outreach to subspecialty medical providers to increase vaccination of persons at especially high risk of severe illness or death from influenza. CDC also promotes vaccination at non-traditional venues—such as retail pharmacies—to increase access to vaccine services outside of clinic settings and hours.

Budget Request

CDC's FY 2017 request of **\$187,558,000** for Influenza Planning and Response is level with the FY 2016 Enacted level. FY 2017 funding will support the following activities:

- Influenza prevention
- Detection and monitoring of influenza
- State/Municipality/Territorial laboratory capacity support
- Response to influenza pandemics

Influenza Prevention

In FY 2017, CDC will support efforts to prevent influenza through vaccination. CDC focuses on increasing demand with healthcare providers for influenza vaccination each season through investments in health communication with providers and the general public, targeted outreach to high-risk populations, and partnerships with pharmacists as a means to extend the reach of influenza vaccination. Annual vaccination campaigns help reach the Healthy People 2020 influenza vaccination goals, including those for minority and high-risk populations, and they also help build capacity for vaccination efforts in the event of an influenza pandemic.

CDC studies published in [June 2013](#),³ [December 2013](#),⁴ and [December 2014](#)⁴ estimated influenza illness and hospitalizations averted by influenza vaccination in the [United States](#).^{5,6} A study published in [March 2015](#)⁶ showed that seasonal influenza vaccine prevented more than 40,000 flu-associated deaths in the United States during a nine-year period (between 2005 and [2014](#)).⁷ These studies showed that influenza vaccination programs

⁴ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6349a2.htm?s_cid=mm6349a2_w

⁵ <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0066312>

⁶ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6249a2.htm?s_cid=mm6249a2_w

⁷ <http://www.sciencedirect.com/science/article/pii/S0264410X15002315>

in the United States produce a substantial health benefit in terms of averted cases, clinic visits, hospitalizations, and deaths. However, opportunities for improvement were discovered. It was found that there was a potential for additional disease prevention through increased vaccination coverage, particularly among nonelderly adults, and increased vaccine effectiveness, particularly among the elderly. CDC will continue to examine the level of vaccination coverage. To complement national efforts, resources will be available to all 64 immunization awardees to increase demand for seasonal influenza—including school-located vaccination clinics—and to improve influenza coverage rates among priority populations (school-aged children, high-risk adults, and racial and ethnic groups). CDC will measure vaccination coverage, with particular attention to racial and ethnic minority populations with historically low coverage rates. These surveys guide outreach efforts that result in improvement of influenza vaccination rates, particularly among children.

The Partnership for Influenza Vaccine Introduction (PIVI) is a growing CDC-led collaboration between public and private partners. PIVI supplies donated influenza vaccine to low- and middle-income countries that are otherwise ready to establish or expand their influenza vaccination programs, and assists with vaccination program evaluation and sustainability planning.

Recent vaccination donation programs were launched for the first year in Morocco (FY 2014), Armenia (FY 2015), and Moldova (FY 2016).

Detection and Monitoring of Influenza

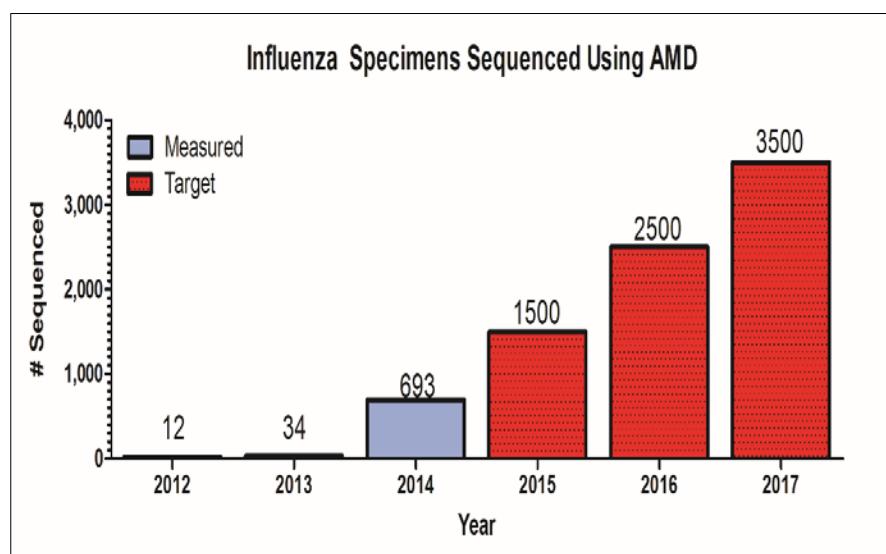
Detection and monitoring of influenza involves a network of laboratories at the state level and internationally that are routinely testing samples to:

- Determine severity of the [influenza season](#)⁸
- Identify viruses that are causing disease and may pose a pandemic threat
- Determine the effectiveness of the influenza vaccine and other interventions

Ongoing work to improve laboratory and surveillance methods ensures that CDC can adequately respond to unusual cases. To build capacity for influenza surveillance, CDC continues to train public health laboratory workers at state laboratories that have similar responsibilities during foodborne outbreaks.

In FY 2017, CDC will continue to serve as a World Health Organization (WHO) Collaborating Center to rapidly detect, identify, and characterize emerging influenza viruses so vaccine-candidate viruses used to produce vaccines for seasonal and novel viruses are rapidly selected. CDC receives and characterizes approximately 11,000 influenza virus specimens each year. During the 2014/2015 influenza season, CDC was able to

fully characterize 1237 virus specimens using a new deep sequencing method known as Advanced Molecular Detection (AMD). AMD uses advanced molecular sequencing tools along with cutting-edge information



⁸ <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

technologies and bioinformatics experts to enable faster and more effective infectious disease prevention and control. The number of influenza virus specimens received and characterized fluctuates by year depending on the severity and burden of the disease. Worldwide characterization of these specimens is essential to the production of each season's influenza vaccine. It also aids in informing vaccine policies and recommendations as well as decisions regarding potential vaccines for novel viruses with pandemic potential. Effective influenza control depends on shortening the time between identification of novel influenza viruses and delivery of effective vaccines.

CDC will work with domestic and international partners in the intersection of human and animal health to improve surveillance, conduct swift outbreak responses, and complete threat assessments for emerging influenza viruses with pandemic potential. Pandemics emerge when a virus that is predominantly transmitted among animals develops the ability to be transmitted among humans. Each human case of infection with an animal influenza virus represents the potential for a pandemic. CDC will conduct research to understand better the complex factors that determine how and when these novel influenza viruses develop the ability to be transmitted from person to person. With the emergence of H5N8 and H5N2 in birds in the United States, CDC has been working with its animal health partners as well as with state and local public health to ensure capacity to detect and respond to human infection with those strains should that occur.

Because novel influenza viruses can emerge anywhere in the world, CDC will support the international monitoring of influenza and evaluate countries' core capacities to conduct surveillance, perform laboratory testing, and prepare to respond to influenza pandemics.

CDC's influenza program funds WHO regional offices as well as partner nations through cooperative agreements. CDC will continue this support by funding more than 40 countries, with emphasis on countries that continue to experience animal outbreaks and human cases of H5N1 and H7N9 influenza. Core activities funded through these agreements include:

- Establishing, expanding, and maintaining influenza surveillance and laboratory capacity
- Developing global and local pandemic plans and influenza prevention policies
- Supporting targeted research projects to address critical needs
- Building the evidence base for decisions on influenza vaccine program expansion

CDC's international support resulted in the most significant increase in countries reporting to WHO FluNet since 2005 when 40% of its partner countries had this capability; as of 2015, 69% of CDC Influenza Partner countries routinely report to WHO FluNet. These increases continue as CDC adds partners to its portfolio. CDC will work on expanding virus sample sharing among countries so that vaccines and diagnostic tests for viruses with pandemic potential can be produced.

Domestically, CDC will support the capability of state and local health departments to conduct influenza laboratory testing. CDC will provide training and consultation to maintain the number of public health laboratories able to perform testing for resistance to antiviral medications and to participate in CDC evaluations of new influenza diagnostic tests.

Supporting State/Municipality/Territorial Laboratory Capacity

The Epidemiology and Laboratory Capacity for Infectious Diseases cooperative agreement (ELC) assists states and eligible local public health agencies—strengthening their basic epidemiologic and laboratory capacity to address infectious disease threats. CDC funds 50 states, five municipalities, and one territory through the ELC to conduct influenza surveillance and diagnostic activities with funding from the Influenza Planning and Response budget line.

In FY 2017, public health departments will be funded to improve detection of novel human influenza virus infections. Collaboration between the state and local health authorities and CDC is essential for risk assessment and response to similar novel viruses. In addition, these funds support seasonal influenza surveillance consisting of eight interrelated systems. This network of systems provides data on:

- Influenza viruses
- Outpatient influenza-like illness
- Influenza-associated hospitalizations
- Influenza-associated deaths
- Geographic distribution of the viruses

The network also forms the foundation for pandemic influenza surveillance.

CDC provides ELC awardees with the reporting websites and other materials necessary to report influenza surveillance data throughout the year from public health laboratories, outpatient influenza-like illness surveillance sites, and vital statistics offices. CDC updates awardees on the current influenza season and any pertinent developments in influenza surveillance during monthly conference calls, yearly in-person meetings, and individually as needed. Awardees also rely on CDC's epidemiologic, laboratory, and programmatic assistance during investigations of outbreaks or unusual cases of influenza (e.g., pediatric deaths, human infections with novel influenza A viruses, and antiviral resistant influenza infections or outbreaks).

Influenza Planning and Response ELC Grants^{1, 2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	56	56	56	56	56	0
- New Awards	0	0	0	0	0	0
- Continuing Awards	56	56	56	56	56	0
Award						
Average Award	\$0.107	\$0.107	\$0.107	\$0.107	\$0.107	\$0.000
Range of Awards	\$0.016– \$0.232	\$0.016– \$0.232	\$0.016– \$0.232	\$0.016– \$0.232	\$0.016– \$0.232	N/A
Total Grant Awards	\$6.000	\$6.000	\$6.000	\$6.000	\$6.000	\$0.000

¹ This table only reflects Influenza Planning and Response funding that goes out through the ELC, which also funds other infectious disease activities.

² These funds are not awarded by formula.

Response to Influenza Pandemics

In FY 2017, CDC will work to ensure the availability and effectiveness of medical countermeasures and equipment in the event of an influenza pandemic. Scientific experts will update or develop guidance that will inform purchasing countermeasure requirements. Examples of countermeasures include antiviral drugs, respirators or masks, and ventilators to assist patients with breathing. CDC also will develop and evaluate solutions to lessen the impact of an influenza pandemic through non-pharmaceutical interventions or actions that people and communities can take to help slow the spread of influenza. In addition, CDC is developing a nationwide system of triage call centers that would be activated during a severe pandemic to provide advice to ill individuals and thereby reduce the burden on hospitals, healthcare facilities, and public health departments. CDC also is collaborating with the National Association of County and City Health Officials (NACCHO), the Association of State and Territorial Health Officials (ASTHO), and national associations that represent pharmacies, pharmacists, and pharmaceutical distributors on efforts to improve antiviral distribution and dispensing at the local level during a pandemic.

CDC will sustain the nation's ability to respond to influenza pandemics by ensuring well-trained staff are in place for pandemic response. CDC will also provide scientific and programmatic expertise to help CDC's Public Health Emergency Preparedness (PHEP) cooperative agreement program and HHS' Hospital Preparedness Program (HPP) cooperative agreement awardees meet all hazard requirements of the Pandemic and All Hazards Preparedness Reauthorization Act of 2013. CDC collaborates with awardees to determine their jurisdictional priorities for capability development and sustainment, along with related performance measures. The pandemic influenza capabilities include Public Health Surveillance and Epidemiological Investigation, Public Health Laboratory Testing, Medical Countermeasure Dispensing, and Emergency Operations Coordination. In addition, CDC will support planning efforts among health departments, hospitals, and emergency responders. Coordination among these groups will result in more integrated emergency response plans prior to a public health disaster to ensure a rapid, efficient, and effective response at the community level. As was done in FY 2015, CDC will test its response capabilities with federal, state, and local partners in FY 2016 and FY 2017 with multiple exercises using techniques such as virtual tabletop and functional exercises to evaluate and improve its response plans based on lessons from previous responses and exercises.

Affordable Care Act Prevention and Public Health Fund

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
ACA/PPHF	\$210.300	\$324.350	\$336.350	+\$12.000

Budget Request

In FY 2017, CDC's request of **\$336,350,000** from the Affordable Care Act Prevention and Public Health Fund will be used in conjunction with requested budget authority to support immunization activities and advance modernization of CDC's immunization infrastructure and evidence base. CDC will also use these funds to support vaccine purchase, state operations, and communications.

In FY 2017, the Immunization Program will remain responsible for the essential public health workforce and systems at the national, state, and local levels that protect all Americans, regardless of health insurance status, from disability and death from vaccine-preventable diseases. CDC will conduct scientific studies that provide the evidence base for national immunization policy, including assessing burden of disease, vaccine effectiveness and safety, economic analyses, and program feasibility. The Immunization Program will continue to be responsible for providing federally purchased vaccines to protect uninsured Americans from preventable diseases and will also provide funding to immunization awardees and support scientific and programmatic expertise to further develop, enhance, and maintain Immunization Information Systems.

State Table: Discretionary (Section 317)^{1,2,3}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$5,610,013	\$5,610,013	\$4,843,407	-\$766,606
Alaska	\$1,655,882	\$1,655,882	\$1,500,509	-\$155,372
Arizona	\$7,219,254	\$7,219,254	\$6,425,255	-\$793,999
Arkansas	\$2,857,199	\$2,857,199	\$2,686,561	-\$170,639
California	\$32,983,425	\$32,983,425	\$30,018,106	-\$2,965,319
Colorado	\$5,856,363	\$5,856,363	\$5,070,161	-\$786,202
Connecticut	\$4,330,516	\$4,330,516	\$3,721,627	-\$608,889
Delaware	\$1,193,879	\$1,193,879	\$1,105,597	-\$88,283
District of Columbia (D.C.)	\$1,849,156	\$1,849,156	\$1,607,220	-\$241,936
Florida	\$19,078,243	\$19,078,243	\$16,333,165	-\$2,745,077
Georgia	\$10,335,698	\$10,335,698	\$9,001,385	-\$1,334,313
Hawaii	\$2,007,318	\$2,007,318	\$1,833,913	-\$173,405
Idaho	\$2,146,689	\$2,146,689	\$1,896,224	-\$250,466
Illinois	\$6,344,907	\$6,344,907	\$6,013,256	-\$331,651
Indiana	\$6,324,174	\$6,324,174	\$5,516,190	-\$807,985
Iowa	\$3,837,027	\$3,837,027	\$3,331,135	-\$505,892
Kansas	\$3,101,248	\$3,101,248	\$2,826,602	-\$274,645
Kentucky	\$4,722,140	\$4,722,140	\$4,122,127	-\$600,013
Louisiana	\$3,244,399	\$3,244,399	\$2,952,543	-\$291,855
Maine	\$2,038,174	\$2,038,174	\$1,911,799	-\$126,375
Maryland	\$4,899,550	\$4,899,550	\$4,429,415	-\$470,134
Massachusetts	\$7,800,711	\$7,800,711	\$6,569,583	-\$1,231,127
Michigan	\$11,500,465	\$11,500,465	\$9,754,458	-\$1,746,007
Minnesota	\$5,935,745	\$5,935,745	\$5,139,667	-\$796,077
Mississippi	\$3,954,412	\$3,954,412	\$3,461,137	-\$493,275
Missouri	\$6,135,257	\$6,135,257	\$5,276,464	-\$858,793
Montana	\$1,434,141	\$1,434,141	\$1,257,685	-\$176,456
Nebraska	\$2,371,803	\$2,371,803	\$2,096,390	-\$275,413
Nevada	\$3,073,710	\$3,073,710	\$2,691,816	-\$381,895
New Hampshire	\$1,840,794	\$1,840,794	\$1,621,729	-\$219,065
New Jersey	\$8,417,324	\$8,417,324	\$7,357,544	-\$1,059,781
New Mexico	\$3,012,755	\$3,012,755	\$2,649,557	-\$363,198
New York	\$10,179,752	\$10,179,752	\$9,082,051	-\$1,097,701
North Carolina	\$10,043,245	\$10,043,245	\$8,574,217	-\$1,469,028
North Dakota	\$1,233,390	\$1,233,390	\$1,079,921	-\$153,469
Ohio	\$11,753,835	\$11,753,835	\$10,071,171	-\$1,682,665
Oklahoma	\$5,025,036	\$5,025,036	\$4,274,913	-\$750,123
Oregon	\$4,250,551	\$4,250,551	\$3,733,070	-\$517,481
Pennsylvania	\$12,057,123	\$12,057,123	\$10,036,415	-\$2,020,709
Rhode Island	\$2,665,417	\$2,665,417	\$2,168,715	-\$496,701
South Carolina	\$5,236,146	\$5,236,146	\$4,544,607	-\$691,539
South Dakota	\$2,169,931	\$2,169,931	\$1,806,688	-\$363,244

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Tennessee	\$7,575,923	\$7,575,923	\$6,472,216	-\$1,103,707
Texas	\$28,064,495	\$28,064,495	\$23,761,993	-\$4,302,501
Utah	\$3,198,726	\$3,198,726	\$2,865,933	-\$332,793
Vermont	\$1,690,883	\$1,690,883	\$1,413,541	-\$277,342
Virginia	\$7,870,816	\$7,870,816	\$6,819,044	-\$1,051,772
Washington	\$12,341,317	\$12,341,317	\$9,756,996	-\$2,584,322
West Virginia	\$2,563,636	\$2,563,636	\$2,178,362	-\$385,274
Wisconsin	\$6,966,474	\$6,966,474	\$5,888,876	-\$1,077,599
Wyoming	\$1,082,416	\$1,082,416	\$959,504	-\$122,912
Cities				
Chicago	\$4,018,543	\$4,018,543	\$3,666,046	-\$352,497
Houston ⁴	\$2,393,097	\$2,393,097	\$2,268,344	-\$124,753
New York City	\$10,738,329	\$10,738,329	\$9,217,504	-\$1,520,825
Philadelphia	\$2,296,254	\$2,296,254	\$2,017,172	-\$279,083
San Antonio	\$1,773,855	\$1,773,855	\$1,681,384	-\$92,471
Territories				
American Samoa	\$608,580	\$608,580	\$567,243	-\$41,337
Guam	\$3,195,631	\$3,195,631	\$2,485,387	-\$710,245
Marshall Islands	\$3,871,840	\$3,871,840	\$2,999,059	-\$872,781
Micronesia	\$8,535,275	\$8,535,275	\$6,287,803	-\$2,247,472
Northern Mariana Islands	\$2,243,962	\$2,243,962	\$1,792,352	-\$451,610
Puerto Rico	\$5,298,558	\$5,298,558	\$4,418,975	-\$879,583
Republic Of Palau	\$679,087	\$679,087	\$539,161	-\$139,926
Virgin Islands	\$1,032,503	\$1,032,503	\$977,109	-\$55,394
Subtotal States	\$323,081,484	\$323,081,484	\$280,510,461	-\$42,571,023
Subtotal Cities	\$21,220,079	\$21,220,079	\$18,850,450	-\$2,369,629
Subtotal Territories	\$25,465,437	\$25,465,437	\$20,067,089	-\$5,398,348
Total States/Cities/Territories	\$369,767,000	\$369,767,000	\$319,428,000	-\$50,339,000
Total Resources	\$369,767,000	\$369,767,000	\$319,428,000	-\$50,339,000

¹ Includes vaccine direct assistance and immunization infrastructure/operations grant funding.² Immunization infrastructure/operations grant funding only; vaccine direct assistance for Houston is included with Texas.³ Other adjustments include vaccine that is in inventory at the centralized distribution center but has not been ordered by immunization providers, funds for centralized vaccine distribution activities, vaccine safety data link, PHS evaluation, special projects, and program support services.

State Table: Vaccines for Children ^{1,2,3,4}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$65,051,102	\$70,029,495	\$73,310,271	+\$3,280,776
Alaska	\$13,250,460	\$14,505,425	\$15,746,277	+\$1,240,852
Arizona	\$91,478,193	\$98,585,192	\$103,428,719	+\$4,843,527
Arkansas	\$52,943,050	\$56,957,530	\$59,546,885	+\$2,589,355
California	\$478,052,923	\$514,338,559	\$537,798,651	+\$23,460,091
Colorado	\$50,849,033	\$54,958,154	\$57,994,151	+\$3,035,996
Connecticut	\$38,506,596	\$41,966,701	\$45,020,559	+\$3,053,858
Delaware	\$12,353,191	\$13,564,440	\$14,763,445	+\$1,199,005
District of Columbia (D.C.)	\$11,565,812	\$12,717,548	\$13,878,458	+\$1,160,910
Florida	\$235,490,317	\$253,089,291	\$264,049,045	+\$10,959,755
Georgia	\$135,089,209	\$145,517,053	\$152,523,811	+\$7,006,758
Hawaii	\$19,668,359	\$21,895,103	\$24,450,256	+\$2,555,153
Idaho	\$18,966,955	\$20,554,966	\$21,807,192	+\$1,252,226
Illinois	\$93,307,347	\$100,840,115	\$106,395,058	+\$5,554,943
Indiana	\$72,657,520	\$78,446,500	\$82,605,878	+\$4,159,377
Iowa	\$31,649,954	\$34,349,779	\$36,547,526	+\$2,197,747
Kansas	\$27,055,973	\$29,358,370	\$31,225,092	+\$1,866,722
Kentucky	\$50,085,866	\$53,928,989	\$56,476,733	+\$2,547,744
Louisiana	\$72,117,098	\$77,525,651	\$80,923,164	+\$3,397,513
Maine	\$15,918,780	\$17,602,622	\$19,414,148	+\$1,811,526
Maryland	\$74,002,360	\$79,628,742	\$83,280,683	+\$3,651,941
Massachusetts	\$65,310,889	\$70,760,635	\$75,032,649	+\$4,272,014
Michigan	\$98,472,482	\$106,428,717	\$112,305,204	+\$5,876,487
Minnesota	\$48,066,665	\$51,998,309	\$54,970,802	+\$2,972,493
Mississippi	\$43,992,058	\$47,381,975	\$49,650,891	+\$2,268,916
Missouri	\$60,511,584	\$65,233,076	\$68,481,003	+\$3,247,927
Montana	\$10,180,777	\$11,120,962	\$11,983,329	+\$862,367
Nebraska	\$20,425,956	\$22,138,220	\$23,491,315	+\$1,353,096
Nevada	\$35,071,438	\$38,042,893	\$40,434,393	+\$2,391,500
New Hampshire	\$11,415,886	\$12,581,998	\$13,791,349	+\$1,209,351
New Jersey	\$75,743,875	\$82,101,552	\$87,136,956	+\$5,035,404
New Mexico	\$39,768,826	\$43,105,124	\$45,745,121	+\$2,639,997
New York	\$98,045,786	\$106,848,067	\$114,606,787	+\$7,758,720
North Carolina	\$121,785,603	\$131,268,510	\$137,762,894	+\$6,494,384
North Dakota	\$7,489,797	\$8,217,629	\$8,930,391	+\$712,762
Ohio	\$116,308,889	\$124,928,150	\$130,183,266	+\$5,255,116
Oklahoma	\$62,882,814	\$67,968,387	\$71,731,537	+\$3,763,150
Oregon	\$36,120,482	\$39,279,174	\$41,955,300	+\$2,676,126
Pennsylvania	\$91,300,907	\$99,126,665	\$105,547,877	+\$6,421,212
Rhode Island	\$12,844,597	\$14,153,423	\$15,507,136	+\$1,353,714
South Carolina	\$64,426,511	\$69,653,587	\$73,545,208	+\$3,891,622
South Dakota	\$11,188,321	\$12,202,574	\$13,109,172	+\$906,598
Tennessee	\$79,291,220	\$85,338,298	\$89,291,505	+\$3,953,207

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Texas	\$408,954,344	\$439,773,297	\$459,361,678	+\$19,588,382
Utah	\$28,669,237	\$31,169,415	\$33,278,513	+\$2,109,098
Vermont	\$8,414,601	\$9,442,352	\$10,698,208	+\$1,255,856
Virginia	\$67,164,060	\$72,188,166	\$75,324,202	+\$3,136,036
Washington	\$89,860,649	\$97,776,101	\$104,557,808	+\$6,781,707
West Virginia	\$23,273,116	\$25,206,502	\$26,710,183	+\$1,503,681
Wisconsin	\$47,984,613	\$51,850,388	\$54,689,640	+\$2,839,252
Wyoming	\$7,072,404	\$7,778,003	\$8,490,754	+\$712,751
Cities				
Chicago	\$53,644,671	\$58,257,957	\$62,063,711	+\$3,805,754
Houston ³	\$2,613,517	\$3,243,404	\$4,306,556	+\$1,063,153
New York City	\$142,187,749	\$153,327,033	\$161,056,177	+\$7,729,144
Philadelphia	\$30,656,054	\$33,507,944	\$36,149,820	+\$2,641,876
San Antonio	\$2,246,412	\$2,787,823	\$3,701,641	+\$913,818
Territories				
American Samoa	\$1,860,778	\$2,023,442	\$2,163,305	+\$139,863
Guam	\$3,595,470	\$4,017,492	\$4,524,808	+\$507,316
Northern Mariana Islands	\$2,250,598	\$2,476,726	\$2,710,248	+\$233,522
Puerto Rico	\$56,143,626	\$60,800,651	\$64,412,854	+\$3,612,203
Virgin Islands	\$4,114,640	\$4,861,157	\$6,003,806	+\$1,142,649
Subtotal States	\$3,552,098,484	\$3,835,422,372	\$4,039,491,074	+\$204,068,702
Subtotal Cities	\$231,348,403	\$251,124,160	\$267,277,905	+\$16,153,745
Subtotal Territories	\$67,965,112	\$74,179,468	\$79,815,021	+\$5,635,553
Total States/Cities/Territories	\$3,851,412,000	\$4,160,726,000	\$4,386,584,000	+\$225,858,000
Other Adjustments	\$0	\$0	\$0	\$0
Total Resources⁴	\$3,851,412,000	\$4,160,726,000	\$4,386,584,000	\$309,314,000

¹ This state table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <https://www.cdc.gov/FUNDingProfiles/FundingProfilesRIA/>.

² Funding for Houston only includes funding for operations, not the cost of vaccines. Funding for Texas includes the cost of vaccines for Houston.

³ Other adjustments include vaccine that is in inventory at the centralized distribution center but has not been ordered by immunization providers, funds for centralized vaccine distribution activities, developing a new centralized vaccine ordering system, pediatric stockpile, influenza stockpile, stockpile storage and rotation, and program support services.

⁴ Total resources are based on the OMB-approved FY 2017 VFC PB 10 Year Table.

HIV/AIDS, VIRAL HEPATITIS, SEXUALLY TRANSMITTED INFECTIONS AND TUBERCULOSIS

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$1,117.609	\$1,122.278	\$1,127.278	+\$5.000
FTEs	1,150	1,150	1,150	0
- Domestic HIV/AIDS Prevention and Research	\$786.712	\$788.712	\$788.712	\$0.000
- Viral Hepatitis	\$31.331	\$34.000	\$39.000	+\$5.000
- Sexually Transmitted Infections	\$157.310	\$157.310	\$157.310	\$0.000
- Tuberculosis	\$142.256	\$142.256	\$142.256	\$0.000

Summary

CDC prevents and controls HIV, viral hepatitis, sexually transmitted infections (STIs or STDs), and tuberculosis (TB) in the United States to attain CDC's overarching goal of protecting Americans from infectious diseases. These efforts aim to achieve the objectives of *The National HIV/AIDS Strategy: Updated to 2020*⁹; the *HIV Continuum of Care Initiative*¹⁰; the *HHS Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis*¹¹; Healthy People 2020¹²; and the *National Prevention Strategy*.¹³ CDC focuses on the populations most affected, including racial and ethnic minorities such as African Americans and Latinos, men of all races who have sex with men (MSM), persons born outside the United States, and sexually active adolescents and young adults. CDC's strategic role is to monitor these infections and related risk factors; implement effective prevention and control programs; and conduct prevention research, demonstration projects, and evaluation efforts to refine prevention approaches; this role is accomplished in partnership with state, local, and territorial health departments and education agencies, and with other non-governmental organizations depending on the program and its needs. Because HIV, viral hepatitis, STIs, and TB share many social, environmental, behavioral, and biological determinants, CDC's programs open a broader dialogue that includes positive messages about prevention and wellness, rather than only disease incidence or avoidance. CDC also incorporates social determinants of health, which consider socioeconomic status, healthcare service access and quality, and key structural, contextual, and environmental factors in the planning of interventions and programs.

CDC's FY 2017 request of **\$1,127,278,000** for HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections, and Tuberculosis prevention, is \$5,000,000 above the FY 2016 Enacted level. The Budget includes \$20 million in additional grant resources for a new demonstration project to increase availability and improve utilization of pre-exposure prophylaxis (PrEP) in high-burden communities in FY 2017. This demonstration project will allow health departments to use up to 30 percent of these available funds to pay for PrEP medications as the payor of last resort. This is consistent with the updated National HIV/AIDS Strategy, which calls for providing more people with highly effective prevention services such as pre-exposure prophylaxis (PrEP) to reduce new HIV infections. PrEP has been shown to reduce the risk of HIV infection by greater than 90 percent when taken as prescribed.

⁹<https://www.aids.gov/federal-resources/national-hiv-aids-strategy/nhas-update.pdf>

¹⁰<http://aids.gov/federal-resources/policies/care-continuum/>

¹¹<http://www.cdc.gov/hepatitis/HHS-ActionPlan.htm>

¹²<https://www.healthypeople.gov/>

¹³<http://www.surgeongeneral.gov/priorities/prevention/strategy/index.html>

CDC will continue HIV/AIDS prevention targeted to those most at risk for acquiring HIV—including youth and high-risk HIV negative persons, and persons at risk for transmitting HIV, particularly those not engaged in care. CDC will continue to align prevention activities with *The National HIV/AIDS Strategy: Updated to 2020* and to promote high-impact prevention focusing resources on effective, scalable, and sustainable prevention strategies along the HIV continuum of care for persons living with HIV and populations at highest risk for HIV.

The FY 2017 budget also supports the development and implementation of new reporting metrics on linkage to services or uptake of PrEP, new HIV infections in youth, and co-infection with HCV, a significant cause of early death among persons with HIV.

In addition, the increase of \$5 million for viral hepatitis will enhance prevention efforts in highly affected states to prevent viral hepatitis deaths, stop the hepatitis C epidemic among young people, and reduce mother-to-child transmission of hepatitis B and hepatitis C—priorities of the *HHS Action Plan for the Prevention, Care and Treatment of Viral Hepatitis*. Specific actions will include: strengthening detection, investigation and response to new HBV and HCV infections; establishing a regional health training and technical assistance center; and accelerating adoption of HBV and HCV testing and treatment of persons living with viral hepatitis. In addition, CDC will support the development of up to two model projects for the elimination of HCV transmission and related mortality throughout an entire state, tribal area, or local community.

Other prevention efforts to reduce the transmission of sexually transmitted infections and to continue progress toward the elimination of tuberculosis will also continue.

To further improve the efficiency, outcome and impact of HIV, STD, TB, viral hepatitis and adolescent and school health prevention efforts, CDC has supported (1) expanding high-impact prevention, (2) maximizing opportunities in health care systems, (3) encouraging integrated services, and 4) strengthening modeling and the use of data to improve public health and health care performance. In 2017 CDC will continue to:

- Strengthen epidemic and economic modeling and the use of surveillance, program and other data. In FY 2015 CDC funded researchers from Harvard, Emory University, and the University of California-San Francisco who are currently working collaboratively with CDC to develop models that will provide critical information on the potential costs, benefits, and return on investment of specific intervention strategies that can have population-level impact. CDC has issued new national and state-level progress reports demonstrating progress on key objectives and substantial differences in outcomes between states. Training has already begun on data to impact (a five-step approach that provides practical, implementable ideas to help agencies use surveillance, performance and other data to increase program impact) for critical key staff to further improve how data are used to improve program performance.
- Support critical public health services at the state and local levels that complement those healthcare system services necessary to ensure overall population health. CDC will leverage the healthcare system to improve the prevention and control of HIV, viral hepatitis, STIs, and TB in the United States by investing in surveillance, monitoring, testing, partner services and contact investigations, laboratory services, provider training, operational research, and outreach to populations unlikely to access clinical care.
- Promote collaborative work across HIV, viral hepatitis, STIs, and TB to integrate services at the individual or client levels and to develop capacities that can be shared across programs. CDC has: 1) published information on best practices; 2) developed an online web-based tool, Atlas, to analyze, map and create tables using more than 10 years of HIV, STD, hepatitis, and TB data reported to CDC; 3) developed an online tool, the site visit calendar, to increase transparency of site visit planning and improve site visit coordination and 4) continues to support HIV, viral hepatitis, STI, and TB control activities in six Pacific Island jurisdictions through a single cooperative agreement with each jurisdiction to reduce administrative burden on these small areas.

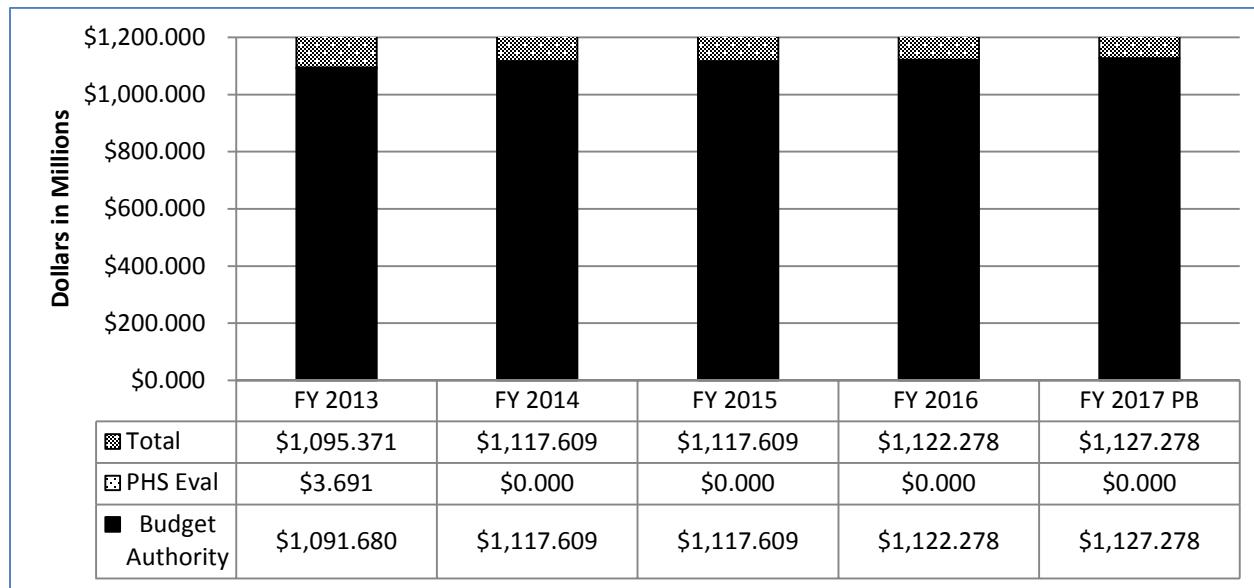
Performance Highlights

CDC has improved its ability to detect large TB outbreaks in the United States by establishing surveillance for outbreaks of ≥10 genotype-matched TB cases related by recent transmission. CDC detected 18 suspected large outbreaks in the United States from April 2014–March 2015. Most (78%) of these suspected outbreaks were initially identified by CDC. This novel surveillance system can provide data to better understand the epidemiology of large outbreaks, inform advocacy and policy initiatives, and lead to quicker and more efficient public health responses.

In 2015, CDC's STD lab discovered gonorrhea *in vitro* is susceptible to a novel antibiotic that inhibits DNA biosynthesis. This antibiotic demonstrated a high level of antimicrobial activity against gonorrhea, including isolates with decreased susceptibility or resistance to currently available agents.

In 2015, 49 STD Disease Intervention Specialists (DIS) from other state programs, including CDC STD field staff, and other subject matter experts from CDC and other federal agencies went to Indiana to respond to the HIV outbreak and related hepatitis C cluster among persons who inject drugs; DIS identified infected persons and connected them to care, containing the outbreak. As of December 4, 2015, a total of 184 persons were found to be infected with HIV in Scott County, more than 90% of whom were already infected with HCV. High rates of HCV in a community can serve as an early warning signal of increased drug use and transmission of other blood borne viruses, including HIV.

HIV, Viral Hepatitis, Sexually Transmitted Infections, and TB Funding History¹



¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

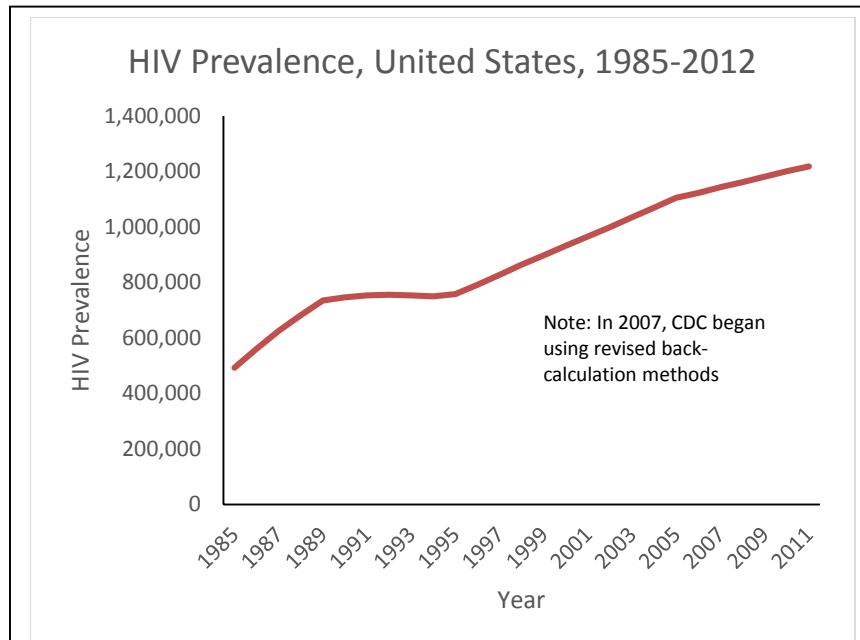
Domestic HIV/AIDS Prevention and Research Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
HIV Prevention by Health Department	\$397.161	\$397.161	\$397.161	\$0.000
HIV Surveillance	\$119.861	\$119.861	\$119.861	\$0.000
Activities to Improve Program Effectiveness	\$103.208	\$103.208	\$103.208	\$0.000
National, Regional, Local, Community and Other Organizations	\$135.401	\$135.401	\$135.401	\$0.000
School Health - HIV	\$31.081	\$33.081	\$33.081	\$0.000
Total	\$786.712	\$788.712	\$788.712	\$0.000

Overview

CDC is the nation's lead agency in the fight to prevent new HIV infections. More than 1.2 million Americans now live with HIV with some populations disproportionately affected, including men who have sex with men, African Americans, and Latinos. As the number of persons living with HIV increases due to better, life-prolonging treatments, so does the demand for CDC prevention activities.

HIV prevention and care efforts are driven by the *National HIV/AIDS Strategy*¹⁴ (NHAS), which was updated in 2015. The new NHAS Update sets the stage for more rapid progress toward ending the nation's AIDS epidemic by guiding federal agencies and other partners towards the most effective and efficient ways to implement recent advances in HIV prevention and treatment. The four overarching goals of the NHAS are: reducing the number of new HIV infections, increasing access to care and improving health outcomes for people living with HIV, reducing HIV-related health disparities and health inequities, and achieving a more coordinated response to the national HIV epidemic. Following the introduction of the NHAS in 2010, CDC adopted a high-impact approach to HIV prevention that incorporates the NHAS action steps and maximizes the effectiveness of HIV prevention resources. CDC's approach uses the best combination of scientifically-proven, cost-effective, and scalable interventions, appropriate to the population. It encompasses:



MMWR Morb Mortal Wkly Rep. 2012 Mar 2;61(8):133-8

CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2013. HIV Surveillance Supplemental Report 2015;20(No. 2).

¹⁴ <http://www.whitehouse.gov/administration/eop/onap/nhas>

- Targeted support for state and local partners—including community-based organizations—to implement prevention interventions
- Surveillance and epidemiology to characterize the HIV epidemic and related risk factors
- Training and capacity building for organizations providing HIV education and other prevention services
- Operational research and evaluation
- HIV education for school-aged youth

CDC's approach supports development, study, implementation, and evaluation of evidence-based interventions to improve treatment outcomes for persons living with HIV and avert new HIV infections among groups at high risk—including men who have sex with men, people who inject drugs, transgender women, and racial and ethnic minorities.

Funded programs are monitored and evaluated to ensure progress toward achieving performance objectives. CDC provides feedback and technical assistance routinely to keep grantees moving forward.

Budget Request

CDC's FY 2017 request of **\$788,712,000** for Domestic HIV/AIDS Prevention and Research is level with the FY 2016 Enacted level. Funds will include \$20 million in additional grant resources for a new demonstration project to increase availability and improve utilization of pre-exposure prophylaxis (PrEP) in high-burden communities in FY 2017. This demonstration project will allow health departments to use up to 30% of these available funds to pay for PrEP medications as the payor of last resort. This is consistent with the updated National HIV/AIDS Strategy, which calls for providing more people with highly effective prevention services such as pre-exposure prophylaxis (PrEP) to reduce new HIV infections. PrEP has been shown to reduce the risk of HIV infection by greater than 90 percent when taken as prescribed.

The FY 2017 budget also supports the development and implementation of new reporting metrics on linkage to services or uptake of PrEP, new HIV infections in youth, and co-infection with HCV, a significant cause of early death among persons with HIV.

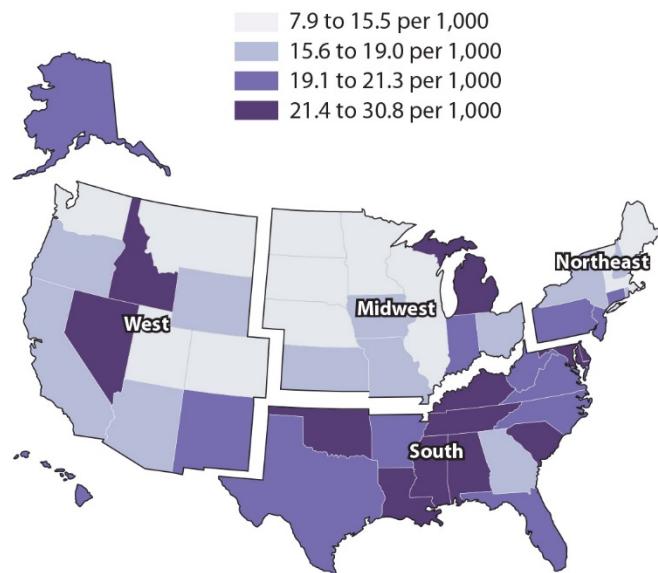
CDC will identify and improve prevention strategies for those most at risk for acquiring or transmitting HIV, including at-risk youth, high-risk HIV-negative adults, and HIV-positive persons.

CDC will continue to implement High-Impact Prevention¹⁵ (HIP) approaches in its health department programs and implement Community High-Impact Prevention (CHIP) approach in capacity-building and community-based organization programs. Both HIP and CHIP focus CDC resources on implementing effective, scalable and sustainable prevention strategies for persons living with HIV and populations at highest risk for HIV -- maximizing impact by prioritizing the most cost-effective approaches and bringing them to the right populations at a large enough scale.

CDC data indicates that HIP approaches have led to signs of improvement, but severe disparities are continuing. The proportion of persons with HIV who know their status is the highest ever at 87%. Between 2010-2014 annual new HIV diagnoses decreased 9%, including a 6% reduction in men and a 21% reduction in women; a 32% decrease in infections attributed to injection drug use; and a 2% decrease in young gay and bisexual men, the most disproportionately affected group in America.

¹⁵<http://www.cdc.gov/hiv/policies/hip.html>

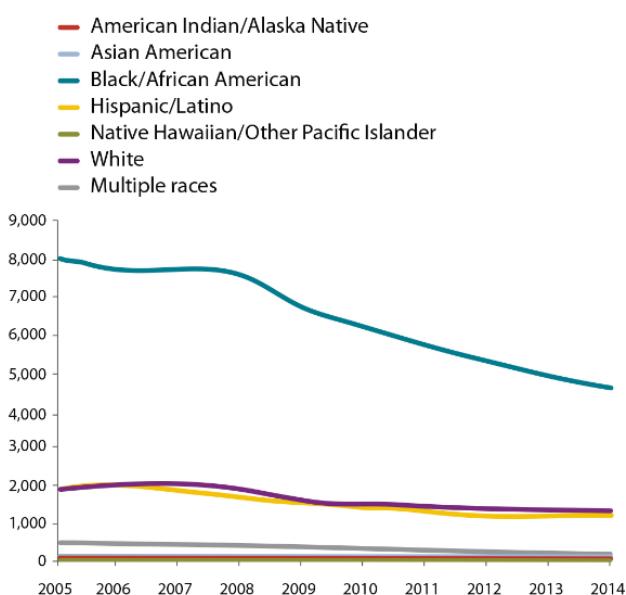
Death Rate among People with Diagnosed HIV by State, 2012



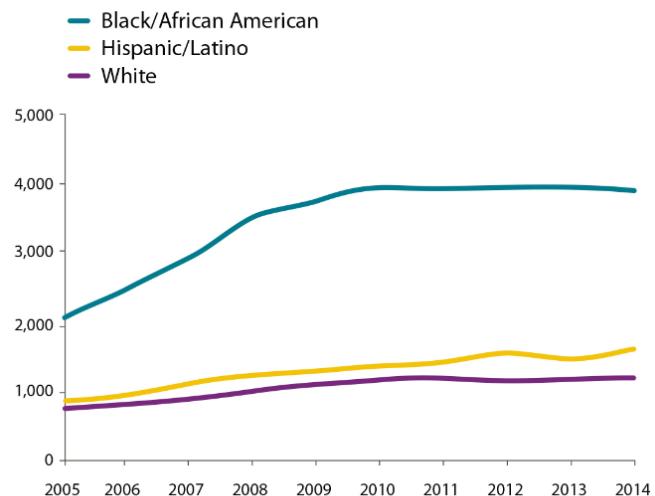
Source: Centers for Disease Control and Prevention

HIV is a quintessential issue of health inequity; the map of the United States above exemplifies this inequity along just one measure -- death rate among people with diagnosed HIV. But, the graphs below show that maximizing impact and decreasing disparities can work. The graph of HIV diagnoses among women over time indicates a decrease among all women (shown below). Importantly, it also reveals a dramatic decrease in HIV among African American women beginning about six years ago, and a major decrease in relative disparity, as well. Similarly, the figure of HIV diagnoses among young MSM shows a small, but continued increase in diagnoses among young Latino gay and bisexual men. However, the major dramatic increases in incidence of HIV diagnoses among young black gay and bisexual men has stabilized over the past five years.

HIV Diagnoses among Women by Race/Ethnicity, 2005-2014



HIV Diagnoses among MSM age 13-24 by Race/Ethnicity, 2005-2014



Along with prioritizing HIP, CDC will also continue efforts to partner with state, local, and territorial education agencies to monitor youth health behavior, implement HIV and other disease prevention programs, and provide expert guidance to schools and youth organizations on school health services, prevention programs, and safe and supportive school environments. Further, CDC will allow funded health departments to dedicate HIV resources to help leverage changes in the healthcare system by increasing health department capacity to seek reimbursement for covered preventative services.

Given that the estimated lifetime costs of treating a single person with HIV infection is greater than \$400,000, HIV prevention is cost-saving to society. An analysis by CDC researchers estimated a savings of more than \$125 billion in direct medical costs resulting from approximately 350,000 infections averted between 1991 and 2006.¹⁶ Fortunately, we know better than ever before how to prevent HIV among high-risk populations and preserve the health of those infected. For example, in addition to evidence that HIV testing can lead to earlier treatment and longer, healthier lives for those infected, recent data show that people who begin taking antiretroviral drugs early are much less likely to transmit HIV, with up to a 96% reduction in transmission risk.

A major goal of diagnosing HIV early is to get patients into medical care and achieve viral suppression. Viral suppression means having very low levels of HIV present in the body. Evidence shows that achieving viral suppression is critical for people living with HIV if they are to maintain their health and preventing onward transmission. A recent analysis¹⁷ of progress in moving persons with HIV along the

Viral suppression is the goal of HIV medical care. There are four key steps in the HIV Care Continuum:

- HIV Testing and Diagnosis
- Getting and Keeping People Living with HIV in Medical Care
- Prescribing HIV Medicines
- Helping Patients Achieve Viral Suppression

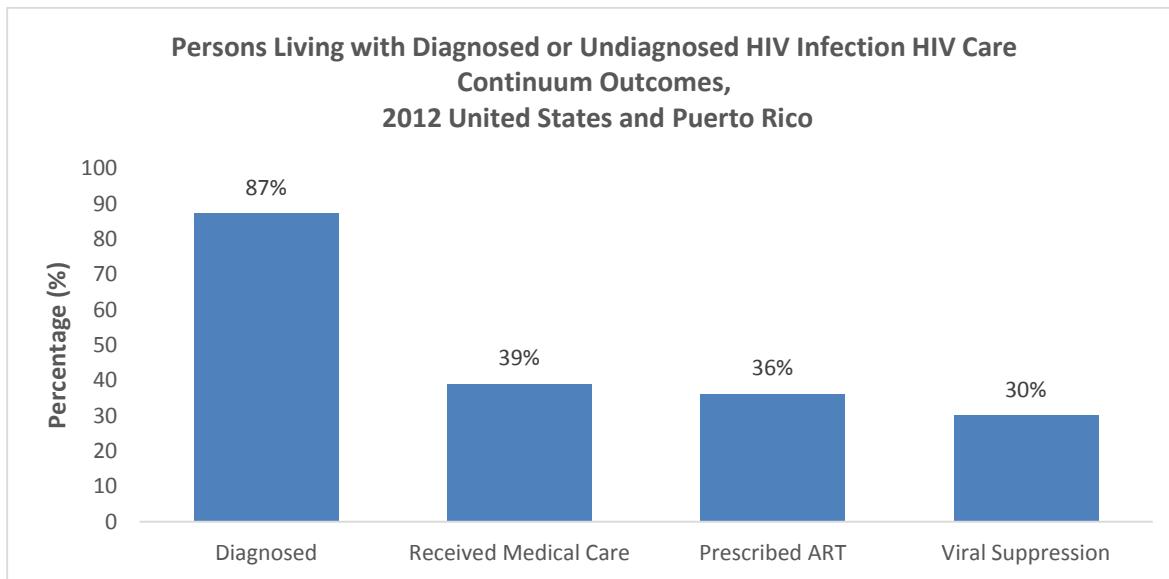
Each point along the continuum of care needs to be strengthened to ensure that all persons living with HIV receive the HIV care and treatment needed to achieve viral suppression.

¹⁶http://journals.lww.com/jaids/Citation/2010/08150/Medical_Costs_Averted_by_HIV_Prevention_Efforts_in_2_2.aspx

¹⁷http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6347a5.htm?s_cid=mm6347a5_w

continuum of care indicates that of the estimated 1.2 million people living with HIV infection in the United States in 2012, 87% were diagnosed with HIV. However, only 39% were engaged in HIV medical care; 36% prescribed antiretroviral therapy (ART); and only 30% achieved viral suppression—leaving an estimated 70% that had not achieved viral suppression.

Of those who are living with HIV that had not achieved viral suppression, 20% had not been diagnosed, 66% had been diagnosed with HIV but were not engaged in HIV medical care, 4% were in HIV medical care but had not been prescribed ART, and 10% had been prescribed ART but had not achieved viral suppression.



Each point along the continuum of care needs to be strengthened to ensure that all persons living with HIV receive the HIV care and treatment necessary to achieve viral suppression. The greatest opportunities for increasing the percentage of persons with a suppressed viral load are reducing undiagnosed HIV infections and increasing the percentage of persons living with HIV who are engaged in care. A study ¹⁸published by CDC in 2015 found that HIV-infected but undiagnosed persons and persons diagnosed with HIV but not retained in care were responsible for 91.5% of the estimated 45,000 HIV transmissions in 2009.¹⁹ Compared to HIV-infected undiagnosed persons, persons who were diagnosed and not retained in care were 19.0% less likely to transmit HIV, and persons with a suppressed viral load were 94.0% less likely to transmit HIV. State and local health departments, community- based organizations, and healthcare providers contribute improving outcomes on the HIV care continuum that increase survival among persons living with HIV, prevent new HIV infections, and help reach prevention and care goals.

HIV Prevention by Health Departments

CDC's FY 2017 request of **\$397,161,000** for HIV Prevention by Health Departments is level with the FY 2016 Enacted level. CDC's HIV Prevention by Health Departments program serves as the foundation for state and local HIV prevention programs nationwide. These programs are a chief contributor to HIV prevention successes in the United States, including reductions in perinatal HIV infections and HIV transmission rates, as well as increases in persons who know their HIV status. CDC's support for state and local health departments encompasses not just funding, but program guidance and technical assistance, including assistance in seeking reimbursement for services that may be covered under health insurance policies (e.g., billing for testing for HIV and related co-infections in health care settings, counseling, and vaccination). CDC also assists health departments in

¹⁸ <http://archinte.jamanetwork.com/article.aspx?articleid=2130723>

¹⁹ Skarbinski J, Rosenberg E, Paz-Bailey G, et al. Human Immunodeficiency Virus Transmission at Each Step of the Care Continuum in the United States. *JAMA Intern Med.* 2015;175(4):588-596.

monitoring and evaluating their performance, ensuring programs are implementing high impact prevention and meeting the goals of the NHAS. In 2017, CDC will also continue its support of state and local health departments implementing pre-exposure prophylaxis (PrEP) and Data to Care demonstration projects for MSM and transgender persons at high risk for HIV infection.

As CDC's flagship HIV prevention program, increasing the number of persons who are aware of their HIV status and improving outcomes along the continuum of HIV care are prioritized activities. These activities focus on increasing the proportion of persons who are tested, linked to care, retained in care, prescribed antiretroviral drugs, and whose HIV infection is suppressed. This critical HIV prevention program supports strategies most likely to yield the greatest benefit, and has realigned resources to the jurisdictions with the greatest need as determined by the number of persons living with HIV. This funding shift was phased in over the five years of the cooperative agreement and was completed in FY 2016. CDC will extend the current cycle while planning another program cycle.

In addition to realigning resources at the national level, CDC continues to work with state and local public health departments to ensure they align HIV resources to better match the geographic burden of HIV infections within their jurisdictions. Specifically, in 2017, CDC will be planning for a consolidated funding opportunity announcement that will foster better integration of HIV prevention and surveillance programs. HIV prevention and surveillance programs will help grantees ensure they are targeting resources to the geographic areas and populations with the highest burden and will also reduce administrative and reporting burden on the grantees.

Funding under the current program is awarded in two categories, A and B.

Category A funds 61 health departments. Grantees are required to spend 75% of their funding on a defined set of activities with demonstrated potential to substantially reduce new infections:

- HIV testing
- Comprehensive prevention with persons living with HIV
- Policy initiatives to address structural barriers to effective HIV prevention and care

Category A serves as the core funding component for HIV prevention programs. Grantees are required to focus testing efforts on populations with relatively high rates of HIV, meet minimum targets for linking persons testing positive to care and providing them with partner services, and distribute condoms. Grantees may use the remaining 25% to support other proven HIV interventions for persons at highest-risk of acquiring the infection. These could include using social media to raise awareness and encourage testing and risk reduction behaviors, as well as activities to support pre-exposure prophylaxis²⁰ (PrEP) and non-occupational post-exposure prophylaxis (nPEP) services. With these prevention methods, services are offered to educate and support people to take antiretroviral drugs to try to reduce the chance of becoming HIV-infected before (PrEP) or after (nPEP) potential exposure to HIV.

²⁰<http://www.cdc.gov/hiv/prevention/research/prep/>

Category A—Core HIV Prevention Programs

Activity	Examples
HIV testing	New Jersey Department of Health creatively capitalizes on changes in HIV testing technology and allows the use of two different manufacturers' rapid HIV tests at point-of-care facilities (major HIV infectious disease practices or and early intervention clinics to deliver an immediate HIV diagnosis and linkage to care on the same or next business day. More than half of all New Jersey sites utilize fourth generation rapid HIV screening assay, which are capable of detecting infections earlier than older testing technologies.
Prevention with positives	Oregon Department of Health has used new technology to create a mobile health service offering reminders for testing and medication adherence. The mobile health service, called Oregon Reminders, offers text, email, and voice messages to support the health of people at risk for or living with HIV. Pennsylvania Department of Health began case specific monitoring of newly diagnosed HIV-positive individuals and HIV Partner Services "eligible" clients to ensure that attempts to conduct Partner Services interviews and linkage/re-engagement to care are occurring in a timely manner.
Policy initiatives	San Francisco developed a policy to use electronic health record to set automatic reminders for providers to offer HIV test to certain clients. As a result, in 2014 there was a 25% increase in the number of HIV tests conducted in County Clinics, compared to 2013. This testing accounted for 61% of all HIV testing and 75% of all HIV positive events throughout the Health System. Philadelphia Department of Public Health developed a policy to encourage clinical providers to routinely offer HIV testing services as part of patient visits and provide rapid linkage to care services, when appropriate. As part of this effort, HIV testing will be integrated into patient flow, reminders for HIV testing should be built into their electronic health records, and payment processes that allow for third party billing must be supported.

In FY 2017, CDC will continue to support Category A grantees by evaluating grantee performance against minimum targets and providing feedback and assistance to support continuous programmatic improvement. CDC is exploring a metric to incorporate in programmatic FOAs that will measure linkage to services or uptake of PrEP and is working with the NHAS indicator working group to finalize the metric. In addition, CDC is aligning with NHAS to use diagnoses to measure progress toward reducing new HIV infections in youths; monitoring and reporting will occur each year using the national HIV surveillance system. Additionally, CDC will explore several data sources to determine the best data source to track HCV co-infections.

Category B is a continuation of CDC's Expanded Testing Program. Under Category B, 34 health departments in jurisdictions with large populations disproportionately affected by HIV are funded to conduct additional HIV testing, primarily in health care settings. CDC-funded health department HIV testing activities include:

- Education for health care providers on innovative approaches to reaching populations most at risk
- Professional training on implementing clinical processes that support routine screening
- Scientific and programmatic expertise on developing infrastructure to support linkage to care for persons who test positive
- Oversight to ensure testing services are implemented according to recommendations

In addition, Category B funding supports the purchase of test kits and outreach activities to promote testing, conduct testing at non-clinical venues, and assist individuals who do not access clinical services and engage in care. CDC will direct Category B grantees to use part of their awards to strengthen their capacity to seek reimbursement for HIV preventive services that may be covered under health insurance policies. These services include testing for HIV and related co-infections in healthcare settings. CDC will work with health departments to help them to determine when prevention services may be reimbursable. CDC has issued guidance to grantees to work toward implementing sustainable HIV testing programs that include billing for testing in health department clinics and other health care settings (e.g., emergency departments, community health centers) and exploring the potential for reimbursement in community-based organizations. CDC has encouraged its grantees to work closely with community health centers, emergency departments and in-patient hospital settings to integrate HIV testing into their daily practice flows. Such integration is a prerequisite to implementation of sustainable testing practices that are not dependent on program resources. CDC will continue to provide assistance such as trainings and written resources to further these efforts.

Similar to Category A, Category B grantees are required to focus their testing efforts on populations with relatively high rates of HIV and to meet minimum targets for linking persons testing positive to care and providing partner services.

Category B—Expanded HIV Testing Program

Activity	Examples
HIV testing in health care settings	In Florida, prevention staff will begin implementing the Alere Determine HIV 1/2 Antigen/Antibody Combo rapid test. This fourth generation rapid test is the first FDA approved rapid point-of-care test with the ability to detect HIV infection earlier than previous rapid test technologies.
HIV testing in non-health care settings	New York City has increased the number of social network testing contracts to support efforts to diagnose cases early and link them quickly to care.

To support the work of state and local health departments, CDC will fund research on HIV testing technologies and interventions. CDC will also fund efforts that promote testing and the implementation of testing-related guidelines. For example, in June 2014, CDC released updated recommendations²¹ for laboratory testing to diagnose HIV infection. The updated recommendations, when implemented, allow for the detection of acute HIV infections that would be missed by tests that only detect HIV antibodies, and can expedite entry of patients into care because of reduced turn-around time for test results.

In 2015 CDC funded 12 new demonstration projects to address the epidemic of HIV among gay, bisexual and other men who have sex with men (MSM) by focusing on prevention services and the continuum of care, and to target health departments in communities with the greatest HIV burden among MSM. These demonstration projects are designed to support state and local health departments in implementing and strengthening PrEP programs targeting MSM and transgender persons at substantial risk of acquiring HIV; and implementing Data to Care strategies, which use surveillance data sources to improve linkage, engagement, and re-engagement of MSM and transgender persons with HIV not in care. To increase availability and improve utilization of PrEP in these high-burden communities, CDC will support \$20 million in additional grant resources for a new demonstration project in FY 2017 build on the first two years of CDC's ongoing PrEP demonstration projects. The new, competitive award will target resources to geographic regions and populations with the highest HIV burden and will allow health departments to use up to 30% of the \$20,000,000 set aside (\$6,000,000) to pay for PrEP medications as the payor of last resort.

²¹<http://stacks.cdc.gov/view/cdc/23447>

Additionally, CDC will continue to fund HIV prevention activities for six Pacific Island jurisdictions and support integrated services²² by encouraging grantees to use their programs to address related infections—including viral hepatitis, other STDs, and TB—and develop capacities that can be shared across programs.

²²<http://www.cdc.gov/nchhstp/programintegration/About.htm>

HIV Prevention by Health Department Grants^{1, 2,3,4,5}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	61	61	61	61	61	0
- New Awards	0	0	0	0	61	+61
- Continuing Awards	61	61	61	61	0	-61
Average Award	\$5.476	\$5.593	\$5.658	\$5.432	\$5.432	\$0.000
Range of Awards	\$0.592-	\$0.680-	\$0.483-	\$0.464-	\$0.464-	N/A
	\$32.959	\$32.959	\$38.818	\$38.263	\$38.263	
Total Awards	\$334.048	\$341.179	\$345.162	\$345.162	\$345.162	\$0.000

¹CDC supports Category A and B awards for health departments under a single HIV prevention funding opportunity announcement.

²Awards described here for FY 2015-FY 2017 do not include funding for Pacific Island jurisdictions as these are funded under another cooperative agreement.

³Totals for FY2015 and FY 2017 include funding under Direct Assistance, which is a financial assistance mechanism primarily used to support payroll and travel expenses of CDC employees assigned to state, tribal, local, and territorial health agencies that are recipients of grants and cooperative agreements. Funding for FY 2015 includes funding under PS15-1506 and funding in FY 2017 includes final year of funding for PS15-1506 and funding for a new PrEP demonstration project. The purpose of these funds is to support state, local and territorial health departments in the United States to implement PrEP and Data to Care demonstration projects prioritizing MSM and transgender persons who have sex with men.

⁵A majority of these funds are awarded by formula.

HIV Surveillance

CDC's FY 2017 request of **\$119,861,000** for HIV Surveillance is level with the FY 2016 Enacted level. The *National HIV/AIDS Strategy* (NHAS) emphasizes identifying and targeting prevention efforts—including HIV testing—towards populations at greatest risk for acquiring and transmitting HIV. CDC surveillance activities are essential to this effort. The Continuum of Care Initiative,²³ announced by the President in 2013, also depends on quality surveillance data to improve the delivery of services to people living with HIV across the entire continuum of care: diagnosis, linkage to care, retention in care, starting and staying on antiretroviral therapy, and suppressing viral load. Surveillance data are used at the local level to inform a feedback loop with providers in order to improve performance on the continuum of care.

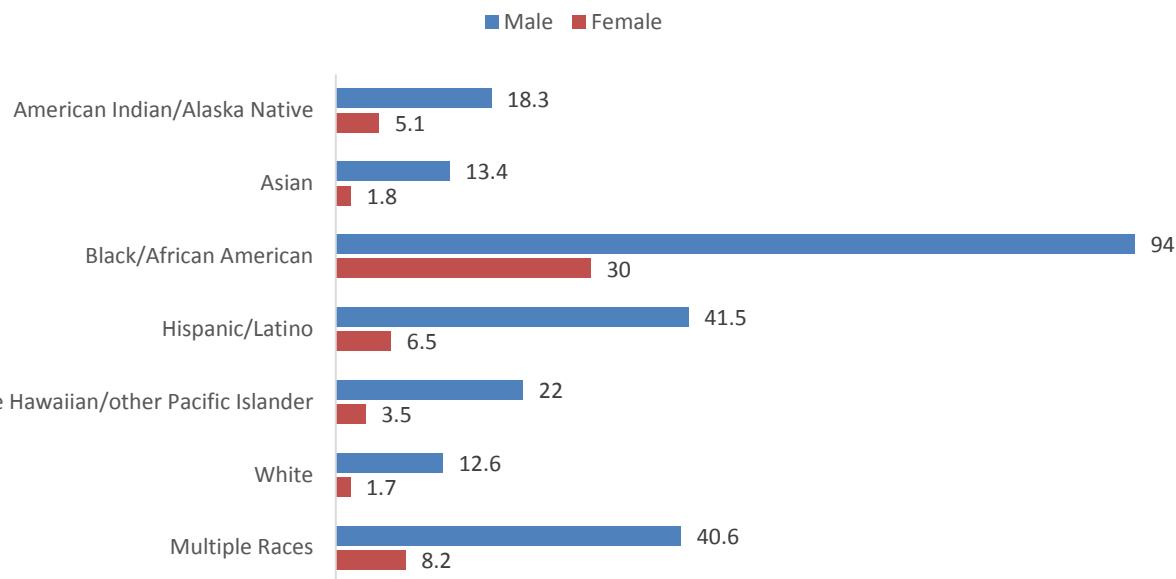
- Through its National HIV Surveillance System (NHSS), CDC provides funding and scientific support to health departments across the nation to track new HIV diagnoses and deaths. NHSS enables collection of state- and national-level data on new diagnoses, number of persons living with HIV (prevalence), and estimates of new infections (incidence).
- Through the National HIV Behavioral Surveillance system,²⁴ CDC collects data from three high-risk populations—men who have sex with men, persons who inject drugs, and heterosexuals at increased risk—on behaviors associated with HIV infection, HIV testing behaviors, access to and use of prevention services, and HIV prevalence.
- CDC's Medical Monitoring Project²⁵ produces data on estimates of clinical and behavioral outcomes for adults receiving medical care for HIV infection.

²³<http://aids.gov/federal-resources/policies/care-continuum/>

²⁴<http://www.cdc.gov/hiv/statistics/systems/nhbs/>

²⁵<http://www.cdc.gov/hiv/statistics/systems/mmp/index.html>

Rates of Diagnoses of HIV Infection among Adults and Adolescents, by Sex and Race/Ethnicity, 2014 - US^{1,2}

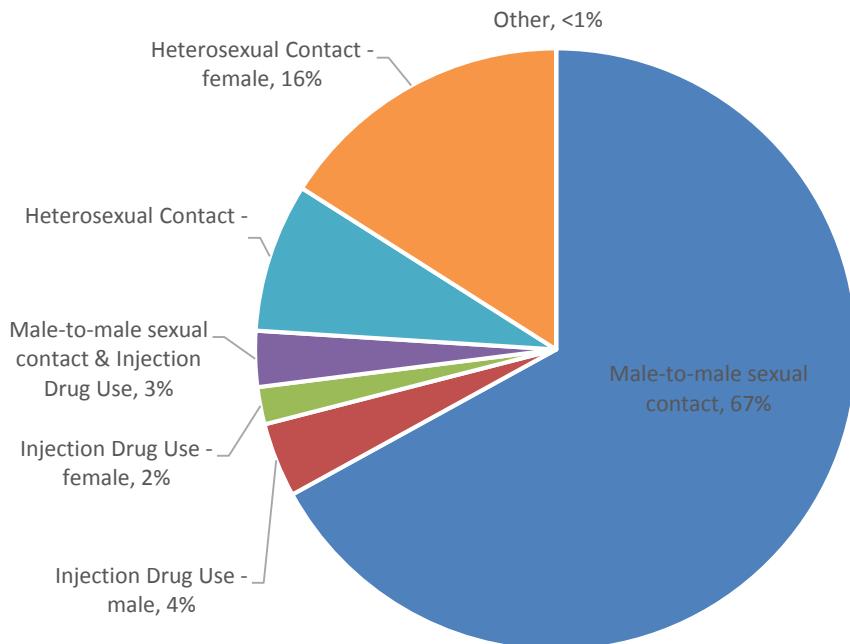


¹Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting. Rates are per 100,000 population.

² Hispanics/Latinos can be of any race.

CDC publishes regular surveillance reports and analyses to guide national, state, and local prevention and testing programs, social marketing campaigns, and health education efforts directed towards affected populations. These reports help CDC understand which populations are most impacted by HIV infection and shows us that it disproportionately impacts persons of color, young people, people who inject drugs, and gay, bisexual, and other men who have sex with men. Also, NHSS data show that African Americans have substantially higher rates of new HIV diagnoses than whites or Hispanics or Latinos, and that two-thirds of new HIV diagnoses occur among men who have sex with men (MSM).

**Diagnoses of HIV Infection among Adults and Adolescents,
by Transmission Category, 2014 -
United States and 6 Dependent Areas**



¹Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays and missing transmission category, but not for incomplete reporting.

²Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

³Other includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.

Similarly, using data derived from both the NHSS and the Medical Monitoring Project, CDC has demonstrated that young people are the group least likely to receive effective treatment.²⁶ Only 23% of HIV-infected young people from 18-24 are virally suppressed (compared to a national figure of 30%).

We know that getting and keeping people in medical care saves lives. [Medical Monitoring Project data](#)²⁷ also show that most adults living with HIV and receiving outpatient care were prescribed antiretroviral therapy (90%), and that roughly three in four (74%) had viral suppression at the time of their most recent viral load test.

Data-to-Care is a public health strategy that supports the Continuum of Care Initiative. It uses HIV surveillance data to identify HIV-diagnosed individuals not in care so they can be linked to care.

The goals of the Data-to-Care Strategy are:

- Increase the number of HIV-diagnosed individuals who are engaged in HIV care, and
- Increase the number of HIV-diagnosed persons with an undetectable viral load.

²⁶<http://www.cdc.gov/hiv/policies/npr/>

²⁷http://www.cdc.gov/hiv/pdf/MMP_2010_surveillancesummary.pdf

CDC's surveillance systems also inform other federal programs, and help ensure resources are targeted to the communities that need them most. For example, the Health Resources and Services Administration and the Department of Housing and Urban Development use CDC's data to guide the allocation of over \$2 billion in federal funding for HIV care, treatment, and housing programs.

In FY 2017, CDC will continue to fund and assist health departments with HIV surveillance and data-to-care models to better support the *Continuum of Care Initiative*. CDC will also continue to fund surveys of HIV-related behaviors among high-risk populations, and collect data on clinical and behavioral outcomes for persons living with HIV.

HIV Surveillance Grants ^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	59	59	59	59	59	0
- New Awards	59	0	0	0	0	0
- Continuing Awards	0	59	59	59	59	0
Average Award	\$0.975	\$0.981	\$0.978	\$0.978	\$0.978	\$0.000
Range of Awards	\$0.112-\$5.286	\$0.122-\$5.332	\$0.122-\$5.329	\$0.123-\$5.354	\$0.123-\$5.354	N/A
Total Awards	\$57.523	\$57.523	\$57.727	\$58.002	\$58.002	\$0.000

¹Totals for FY2015, FY 2016, and FY 2017 include funding under Direct Assistance.

²These funds are awarded by formula.

Activities to Improve Program Effectiveness

CDC's FY 2017 request of **\$103,208,000** for Activities to Improve Program Effectiveness is level with the FY 2016 Enacted level. This funding supports research, analyses and strategic communications to best reach people who are most at-risk for acquisition or transmission of HIV. This work includes efforts to identify better strategies CDC grantees can use to link persons with HIV to care and to examine how new biomedical interventions are being used to improve HIV prevention. Funding also supports investments in other key activities—including guidelines development, awareness-building and social marketing campaigns, and collaborations that improve service integration.

Prevention Research—to achieve the prevention goals put forward in the National HIV/AIDS Strategy and improve performance along the continuum of HIV care, CDC supports a targeted prevention research portfolio that informs CDC-supported prevention activities. This portfolio includes:

- Research into new testing technologies and methods for preventing transmission. In 2014, this research resulted in CDC publishing a new HIV testing algorithm²⁸that capitalized on fourth-generation tests that identify HIV sooner than older tests.
- Biomedical research into microbicides, alternate modes of delivering medicine to prevent HIV such as vaginal rings and injections, and factors that could increase susceptibility to HIV infection such as sexually transmitted infections and use of hormonal contraception.

²⁸<http://www.cdc.gov/hiv/pdf/hivtestingalgorithmrecommendation-final.pdf>

- Behavioral research identifying interventions for reducing risk behaviors; supporting linkage to, retention in and reengagement in care; and increasing adherence to HIV medication. Once identified, interventions are added to CDC's Compendium of Evidence-Based HIV Behavioral Interventions²⁹ and those most likely to have the greatest impact are disseminated and supported with training and technical assistance to our HIV prevention partners for program implementation³⁰.
- Operational research to better understand how health departments and their collaborative partners can effectively retain persons in care and improve adherence to antiretroviral therapy regimens, when appropriate. These data will inform new strategies CDC grantees can implement to reengage and retain this population in HIV care.

CDC will continue to work with HRSA to support the development of integrated state HIV plans that include prevention, care and treatment, and other supportive services, such as substance use disorder treatment and housing. This effort will build on work initiated in 2014, when CDC and HRSA encouraged state and local AIDS programs to integrate their HIV planning activities. CDC will continue to evaluate how well existing strategies used by health departments and their collaborative partners to engage persons in care are working in practice, identify new approaches to improve linkage to HIV care, and address barriers to receiving care.

CDC will continue investing in the implementation of prevention strategies, such as pre-exposure prophylaxis (PrEP). In 2014, CDC released new clinical guidelines recommending PrEP³¹ as one prevention option for patients at substantial risk for HIV infection. CDC is working with partners to determine how to deliver PrEP and other biomedical interventions to high risk HIV-negative persons in the most cost-effective way.

CDC will share findings from our prevention research with other HIV prevention partners, including federal research agencies such as the National Institutes of Health (NIH) and other federal and state HIV partners, to inform their prevention efforts and ensure HIV-infected persons receive the care they need.

CDC's prevention research also results in the development of recommendations and guidance based on the latest science.

Communications Campaigns—CDC raises awareness about the HIV epidemic in the United States and promotes HIV prevention and testing through the Act Against AIDS initiative.³² This initiative seeks to combat HIV-related stigma, raise awareness, and normalize testing and other risk reduction behaviors, particularly for populations at high risk for HIV. The Act Against AIDS initiative has generated more than 10.1 billion impressions since launched in 2009. In 2014, various Act Against AIDS communication efforts generated more than 2.87 billion impressions, more than 1.2 million visits to campaign websites, 122,844 searches for HIV testing locations, and more than 8 million views of campaign public service announcements and videos.

In December 2015, CDC launched a new National HIV Testing Campaign “Doing It.” that encourages all adults to get tested for HIV. In keeping with CDC recommendations for HIV testing, “Doing It” emphasizes the importance of testing for all people ages 18–64. HIV testing is the first vital step that links persons living with HIV to medical care and treatment that can prolong their lives and prevent transmission to others.

In 2014, CDC launched Start Talking. Stop HIV.,³³ a campaign created by and for gay and bisexual men. The campaign is based on research that shows communication between sexual partners is associated with reduced

²⁹<http://www.cdc.gov/hiv/prevention/research/compendium/index.html>

³⁰<http://www.effectiveinterventions.org>

³¹<http://www.cdc.gov/hiv/prevention/research/prep/index.html>

³²<http://www.cdc.gov/actagainstaids/>

³³<http://www.cdc.gov/actagainstaids/campaigns/starttalking/index.html>

risk behavior and increased HIV testing and HIV status disclosure. It features messages that engage, inspire, and spark conversations between sexual partners, and provides practical tools and tips for bringing up important HIV prevention topics such as condoms and medicines that prevent and treat HIV, including the use of PrEP, nPEP, and antiretroviral therapy. Also in 2014, CDC launched We Can Stop HIV One Conversation at a Time,³⁴ a campaign for Latinos highlighting the importance of communicating about HIV within social and familial networks, and HIV Treatment Works,³⁵ a campaign targeted to persons living with HIV that communicates the benefits of early treatment, ongoing engagement in care, and viral suppression.

CDC continues to promote HIV communication through new tools and technologies, including social media platforms, to get information out about the importance of receiving ongoing care.

For all campaigns, CDC conducts message testing with the target population so that the ultimate messages are relevant and effective. CDC also updates its prevention messages to reflect increases in prevention options, particularly biomedical options, and will continue to update messages to include the most up-to-date science.

In FY 2017, CDC will continue to encourage grantees in its core HIV, STD, TB and viral hepatitis programs to provide services that can be integrated at the patient, or client, level and to develop capacities that can be shared across programs. For example, CDC's NCHHSTP Atlas³⁶ provides an interactive platform for accessing data on HIV/AIDS, viral hepatitis, STD and TB. This interactive tool provides CDC an effective way to disseminate data, while allowing users to observe trends and patterns by creating detailed reports, maps, and other graphics. CDC also continues to encourage HIV prevention and surveillance grantees to strengthen collaboration with other disease programs to expand their impact and improve surveillance. CDC will provide funding and scientific guidance to 24 state and local health departments to ensure the provision of HIV testing, linkage to care, and other related services to TB patients, a group with high rates of HIV. CDC will also fund 59 state and local health departments to address HIV through STD programs.

National, Regional, Local, Community, and Other Organizations

CDC's FY 2017 request of **\$135,401,000** for National, Regional, Local, Community, and Other Organizations (NHAS) is level with the FY 2016 Enacted level. The NHAS emphasizes investing in prevention at the community level. Community High Impact Prevention (CHIP) focuses resources on effective and sustainable prevention activities tailored to persons at highest risk in the communities most effected by HIV. CHIP has two components:

- Supporting community-based organizations
- Building HIV prevention capacity with directly funded community-based organizations, health departments, and health care organizations,

Supporting Community-Based Organizations (CBOs)—Since the late 1980's, CDC has formally partnered with community-based organizations (CBOs) to expand the impact and reach of HIV prevention activities in disproportionately affected communities. Because of their accessibility, history and credibility in the community, CBOs are recognized as, and remain important partners, in providing comprehensive high-impact HIV prevention services to people living with and at greatest risk for HIV infection.

In FY 2014, CDC sought to realign CBO programs with the NHAS and CDC's CHIP approach by supporting CBOs in their implementation of scientifically proven, cost-effective and scalable interventions. With the new funding cycle which began in FY 2015, CDC continues to build upon the CHIP realignment and directs funded CBOs to focus on HIV testing, linkage to and retention in care, support services for persons living with HIV and for persons at highest risk for acquiring HIV, and other effective interventions. CDC also developed new eligibility

³⁴<http://www.cdc.gov/actagainstaids/campaigns/oneconversation/index.html>

³⁵<http://www.cdc.gov/actagainstaids/campaigns/hivtreatmentworks/index.html>

³⁶<http://www.cdc.gov/nchhstp/atlas/>

criteria for this national program to ensure that resources were effectively targeted to where new diagnoses are occurring in the United States. In FY 2017, CDC will continue to work closely with CBOs to implement these prevention programs that target populations at greatest risk. This program will continue through FY 2019.

In FY 2017, CDC will continue to fund a cooperative agreement with CBOs that serve young men of color who have sex with men, young transgender persons of color, and their partners. Although men who have sex with men (MSM) are a small proportion of the population, they represent the majority of persons diagnosed with HIV. Funded organizations are required to meet minimum testing targets and targets for linking persons testing HIV-positive to care.

HIV Prevention Projects for Community-Based Organizations Grants ^{1,2,3,4}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	131	131	90	90	90	0
- New Awards	0	0	90	0	0	0
- Continuing Awards	131	131	0	90	90	0
Average Award	\$0.304	\$0.029	\$0.480	\$0.482	\$0.482	\$0.000
Range of Awards	\$0.234-\$0.495	\$0.050-\$0.500	\$0.350-\$0.758	\$0.351-\$0.760	\$0.351-\$0.760	N/A
Total Awards	\$39.871	\$38.451	\$43.215	\$43.350	\$43.350	\$0.000

¹Reflects funding for CDC's principal grant program for community-based organizations. In separate programs, CDC also directly funds community-based organizations that focus on young MSM and transgender persons.

²A new funding cycle began in FY 2015 and reflects changes as discussed in the narrative.

³Increased funding reflected in FY 2015, FY2016, and FY 2017 is a result of the merge of the flagship CBO funding opportunity announcement with a smaller community-based organization program.

⁴These funds are not awarded by formula.

Building HIV Prevention Capacity—In FY 2017, CDC will provide approximately \$23 million in capacity-building assistance funding to continue support national organizations and prevention partners in supporting programs that serve persons along the continuum of care. Capacity building is a key strategy for ensuring the availability of quality, sustainable HIV prevention programs. In FY 2014, a new funding cycle began and will continue through FY 2018. Capacity-building grantees provide assistance on effective strategies to improve HIV prevention including:

- Sustainable, high-impact HIV testing and screening programs
- Comprehensive prevention for persons living with HIV that includes linkage to and retention in care and prevention services
- Tools that assist community-based organizations in using their data to better target and manage patients with the goal of improving viral load suppression rates

HIV Capacity-Building Assistance Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	28	21	21	21	21	0
- New Awards	0	21	0	0	0	0
- Continuing Awards	28	0	21	21	21	0
Average Award	\$0.665	\$1.004	\$1.100	\$1.100	\$1.100	\$0.000
Range of Awards	\$0.252-\$1.299	\$0.870-\$1.405	\$0.870-\$1.405	\$0.870-\$1.405	\$0.870-\$1.405	N/A
Total Awards	\$18.633	\$23.095	\$23.095	\$23.095	\$23.095	\$0.000

¹These funds are not awarded by formula.

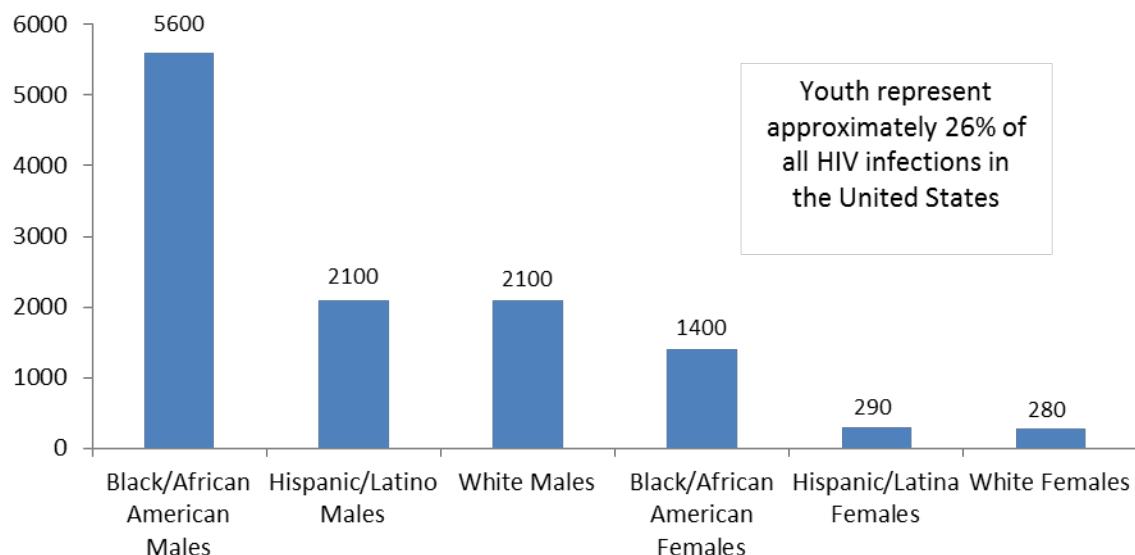
Adolescent and School Health

CDC's FY 2017 request of **\$33,081,000** for Adolescent and School Health program is level with the FY 2016 Enacted level. CDC will continue to provide funding and technical assistance to state and local education agencies to implement school HIV and STD prevention activities for youth, particularly those at disproportionate risk for HIV infection.

The *National HIV/AIDS Strategy* (NHAS) identifies the education of all Americans about the threat of HIV and how to prevent it as a critical step in reducing new infections in the United States. The NHAS emphasizes that educating young people about HIV before they begin engaging in behaviors that place them at risk for HIV infection is a priority. Toward this goal, CDC's HIV Adolescent and School Health program helps schools implement effective education programs to prevent HIV infection and other STDs among adolescents that are based on the best-available science. These school-based education programs are also expected to reduce teen pregnancy rates by reducing common risk factors.

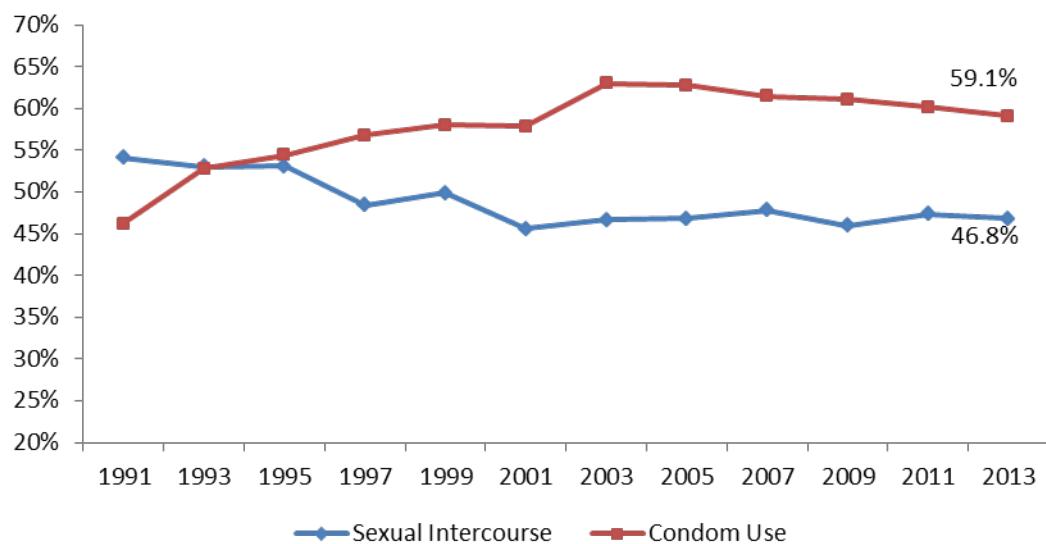
Youth have one of the highest rates of HIV incidence, with persons aged 13–24 comprising 26% of all new HIV infections in 2010. Some youth are disproportionately affected (see figure below). Effective school-based education programs are needed to make youth aware of their risk for HIV; help delay initiation of sexual activity; increase condom use among those who are sexually active; and decrease other behaviors, such as alcohol and drug use, which contribute to the risk of HIV infection. As described above, in FY 2017 CDC will explore opportunities to better use metrics around HIV diagnoses in youth.

**Number of new HIV Infections among youth by sex and race/ethnicity—
United States, 2010**



The Adolescent and School Health program is unique in the federal government because it provides funding and expert guidance to state and local education agencies to assist schools in implementing HIV and other STD education programs that help adolescents develop healthy behaviors. It is important to establish healthy behaviors early in life that reduce sexual risk and promote youth-friendly health services. This program has contributed to decreases in sexual risk behaviors, as shown in the graph below.

**Percentage of High School Students Who Ever Had Sexual Intercourse
and Used a Condom during Last Sexual Intercourse, 1991-2013**



¹ Condom use is calculated among students who were currently sexually active (i.e., had sex within the past 90 days), National Youth Risk Behavior Surveys, 1991-2013.

CDC's Adolescent and School Health surveillance efforts serve as a resource for adolescent health information and play a critical role in documenting public health trends and challenges. These efforts include direct monitoring of adolescent health risk behaviors, and monitoring school-based HIV prevention activities such as schools' provision of health education, health care services, and safe and supportive environments.

In FY 2017, CDC will support two major activities for Adolescent and School Health grantees:

Conduct School-based Surveillance—Grantees provide data on six types of health-risk behaviors that contribute to the leading causes of death and disability through the Youth Risk Behavior Surveillance System.³⁷ National data are also collected on school-based health policies, programs, and practices³⁸ (School Health Profiles and the School Health Policies and Practices Study). Such data are not monitored elsewhere in the federal government and provide the most comprehensive national, state, and local information about the health-related behaviors of young people and the steps schools are taking to improve student health. These data enable health departments, education agencies, and community organizations to identify programmatic needs, target resources, establish measurable objectives and goals, and monitor school health progress over time.

Implement School-based Prevention Programs—CDC's approach to reducing teen sexual risk behaviors includes both universal and targeted interventions, and seeks to ensure that those interventions occur in environments that are safe and supportive for all students. CDC prioritizes funding for those states and cities with high rates of HIV infection, with grantees representing approximately 62% of the HIV diagnoses among 15-19 year olds in the United States in 2009. CDC funds 19 state education agencies and 17 local education agencies to provide young people with the skills and knowledge needed to avoid infection with HIV and other STDs, thereby reducing disease transmission. Each funded local education agency targets support and guidance to schools with students at highest risk for HIV infection and other STDs. Three of these sites also provide more targeted HIV/STD prevention for young black and Hispanic adolescent sexual minority males.

School-based HIV/STD prevention program grantees will:

- Increase implementation of evidence-based sexual health education programs in schools to provide adolescents with the essential knowledge and critical skills needed to avoid infection with HIV and other STDs
- Create safer and more supportive school environments—characterized by the absence of discrimination, intimidation, taunting, harassment, and bullying—for adolescents at highest risk for HIV
- Increase student access to health services, including HIV counseling and testing, either on site or through referrals to youth-friendly, community-based healthcare providers

In 2013, Connecticut State Department of Education used their YRBS data on sexual behaviors and sexual minority youth to help develop Guidelines for the Sexual Health Education Component of Comprehensive Health Education for local school districts. The purpose of the Guidelines for the Sexual Health Education Component of Comprehensive Health Education is to provide a framework to promote the sexual health and wellbeing of Connecticut's children and youth within a comprehensive health education program.

The Oakland Unified School District developed a Z-card and an Android- and iOS-compatible mobile application. These tools allow students to find the nearest health service provider to their school or geo-location, the types of sexual health services they provide, and how to contact them. Teaching students how to use these tools is also incorporated into the school districts innovative new sexual health education curriculum.

³⁷<http://www.cdc.gov/HealthyYouth/yrbs/index.htm>

³⁸<http://www.cdc.gov/healthyyouth/data/surveillance.htm>

In addition, six non-governmental organizations are funded to provide capacity-building assistance to funded state and local education agencies. These technical resources are aimed at delivering sustainable, effective and efficient initiatives in districts and schools.

HIV Prevention for Adolescent and School Health Grants ^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	42	42	42	42	42	0
- New Awards	42	0	0	0	0	0
- Continuing Awards	0	42	42	42	42	0
Average Award	\$0.221	\$0.307	\$0.310	\$0.310	\$0.310	\$0.000
Range of Awards	\$0.100-\$0.650	\$0.250-\$0.320	\$0.250-\$0.320	\$0.250-\$0.320	\$0.250-\$0.320	N/A
Total Awards	\$9.287	\$12.905	\$13.020	\$13.020	\$13.020	\$0.000

¹Reflects funding to 19 states (including DC) and 17 local education agencies, as well as six non-governmental organizations providing capacity building assistance.

²These funds are not awarded by formula.

Viral Hepatitis Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$31.331	\$34.000	\$39.000	+\$5.000

Overview

In the United States, the most common types of viral hepatitis are hepatitis C, hepatitis B, and hepatitis A, each of which is caused by a different virus. Although each can cause similar symptoms, they are transmitted differently and have different effects on the liver. Hepatitis A appears only as an acute or newly occurring infection and does not become chronic. Persons who are older when they become infected with hepatitis A virus have the greatest risk of severe liver disease and death. Hepatitis B virus (HBV) and hepatitis C virus (HCV) infections also begin as acute infections. These infections typically are clinically "silent," causing no obvious symptoms. In many people, the virus silently attacks and damages the liver for decades in the absence of clinical symptoms of the infections. As a result, these chronically infected people remain unaware of their infection until they have signs of advanced liver disease, including liver cancer. For this reason, testing for HBV and HCV is paramount, as early diagnosis is the first step toward preventing life-threatening liver disease. After diagnosis, linkage to care and treatment greatly reduces the risk of liver disease and mortality caused by HBV and HCV. People with hepatitis B should be monitored regularly for signs of liver disease and the amount of HBV in their system, and based on this information, receive recommended therapy. Although not curative, current HBV medications are effective at suppressing replication of the virus and protecting the liver from further damage. New drugs in development hold promise for curative HBV therapies in the future. For patients living with hepatitis C, there are multiple safe and short (i.e., 8-12 weeks) regimens approved in the United States that cure HCV infection. Although the initial market prices of HCV medications have raised budgetary concerns among health plans and Medicaid programs, the costs of HCV treatment have decreased since FDA approval. CDC studies have shown that treatment of all persons living with HCV is cost effective³⁹ comparable to cholesterol screening and other broadly implemented clinical preventive services. For some people, treatment can be cost-saving⁴⁰. The best way to prevent hepatitis A and hepatitis B is by getting vaccinated.

There is currently no vaccine for hepatitis C. In the absence of a hepatitis C vaccine, interventions to prevent HCV transmission include stringent infection control in health-care settings including screening to assure blood safety; harm reduction and drug treatment for persons who inject drugs (PWID); and, testing

Unfortunately, up to 60% of people infected with HCV are unaware of their infection, and even fewer are receiving appropriate prevention, care and treatment. The low level of awareness reflects the limited viral hepatitis detection, prevention and care capacity that exists throughout the United States. As a consequence, the number of HCV-related deaths continue to increase and exceed the combined number of deaths associated with all other nationally reported diseases monitored by CDC (see graphic below),¹ even though not all deaths from hepatitis C are reported. CDC estimates that each reported death from hepatitis C represents an additional five unreported deaths.¹ On average, people with hepatitis C are dying at 59 years of age, 20 years earlier than those who are not living with this virus. These deaths are now almost entirely preventable through HCV testing, care, and treatment.

³⁹ Leidner AJ, et al. Cost-effectiveness of hepatitis C treatment for patients in early stages of liver disease. *Hepatology*. 2015 Jun;61(6):1861-1869.

⁴⁰ Chhatwal J, Chen Q, Kanwal F. Why we should be willing to pay for hepatitis C treatment. *Clinical Gastroenterology and Hepatology*. 2015 Oct;13(10):1711–1713.

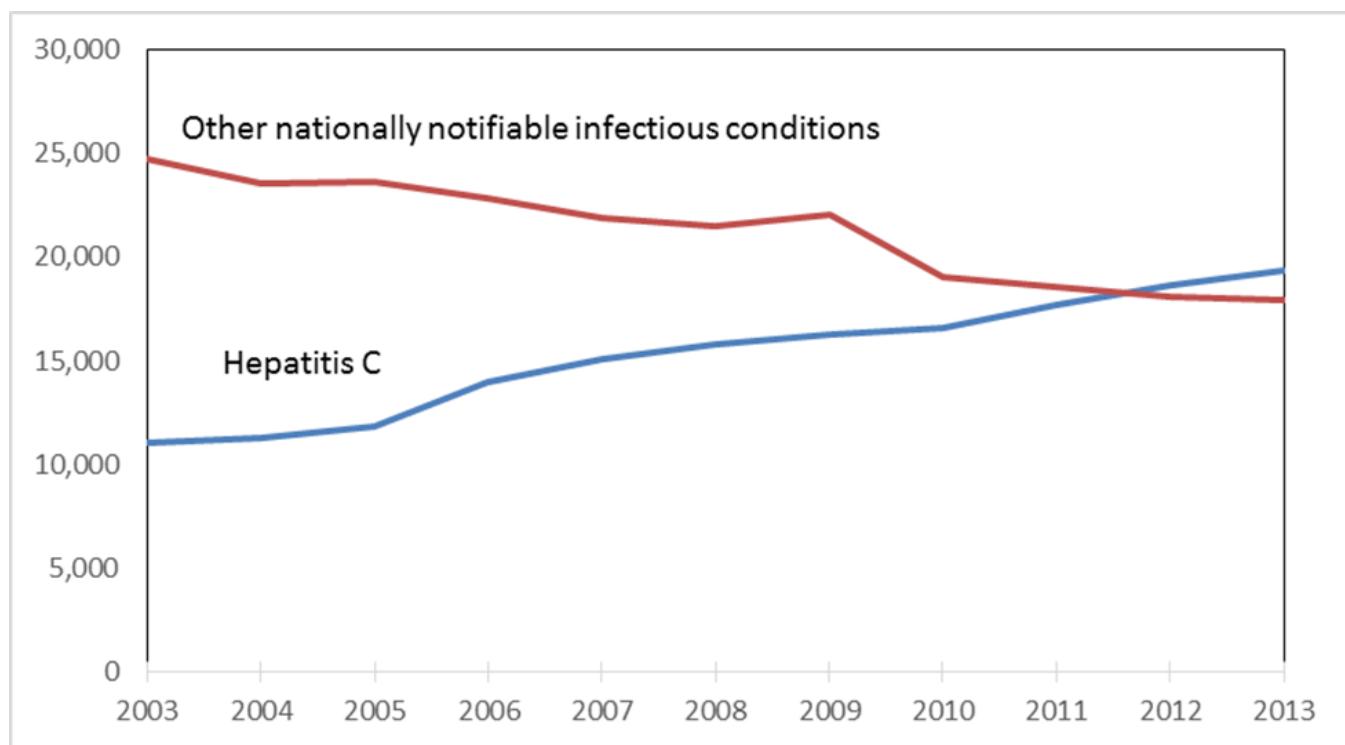
and treatment of HCV-infected persons to reduce their risk of transmission to others.

CDC's hepatitis priorities are aligned with the HHS Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis⁴¹ and include:

- Preventing death from viral hepatitis
- Stopping the epidemic of hepatitis C infection in young people
- Eliminating mother-to-child transmission of hepatitis B infection

Of particular concern is the rising number of persons reported with recent HCV infection and the increasing number of deaths among the estimated 3.5 million Americans living with hepatitis C. Three of every four people with hepatitis C were born during 1945 - 1965. Within this birth cohort, American Indians and African Americans are disproportionately affected. Yet, comprehensive approaches to prevention can stop HCV transmission, and new therapies are available that cure HCV infection in more than 90% of persons. In contrast to HIV, which requires lifelong treatment, HCV treatment requires only 12 weeks. Because of advances in treatment, with a modest increase in capacity to improve hepatitis testing, linkage to care, and treatment, implementation of CDC and U.S. Preventive Services Task Force (USPSTF) recommendations for HCV testing will save an estimated 321,000 lives.⁴²

HCV Deaths and Deaths from 60 Other Nationally Notifiable Infectious Diseases including HIV and Influenza, 2003- 2013

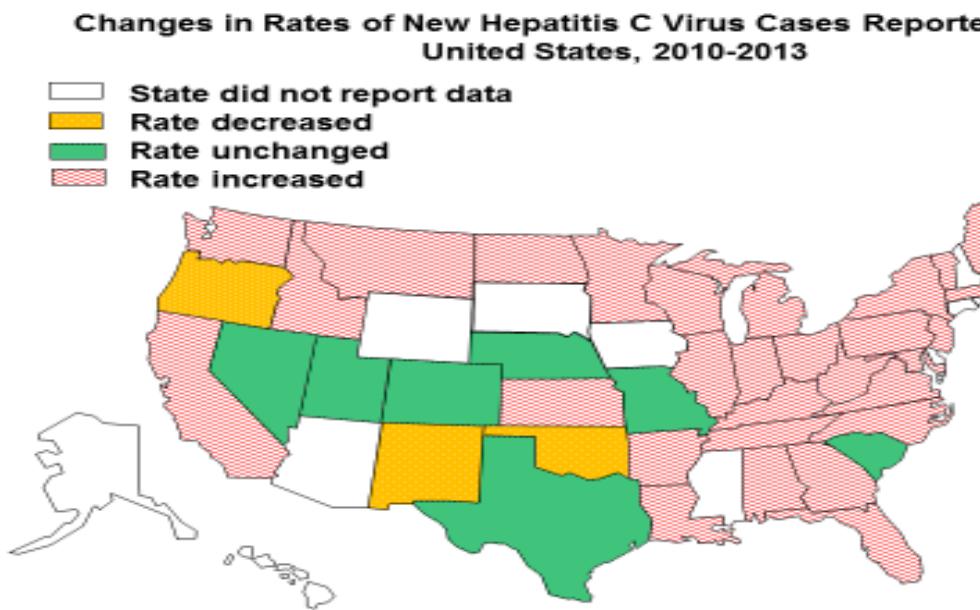


Holmberg S, et al. "Continued Rising Mortality from Hepatitis C Virus in the United States, 2003-2013"
Presented at IDWeek 2015, October 10, 2015, San Diego, CA

⁴¹<http://www.cdc.gov/hepatitis/HHS-ActionPlan.htm>

⁴²Rein DB, Wittenborn JS, Smith BD, Liffmann DK, Ward JW. The Cost-effectiveness, Health Benefits, and Financial Costs of New Antiviral Treatments for Hepatitis C Virus. Clin Infect Dis. 2015 Jul 15;61(2):157-68

Adding to the large number of people living with hepatitis C and hepatitis B, approximately 53,000 new viral hepatitis infections occur each year. From 2010 to 2013, new HCV infections increased by more than 150% nationwide.⁴³ As shown in the map below, of the 39 states that reported data, 29 states had an increase in persons newly infected with HCV. The largest increases (from 2010 to 2013) were among persons aged 20-39 years. This new epidemic of HCV is fueled by the increase in prescription opioid abuse and heroin use. Persons who inject drugs (PWID) are also at high risk for other infections transmitted through contact with infected blood, including hepatitis B and HIV. CDC and local health authorities continue to respond to numerous outbreaks of HBV and HCV transmission in healthcare settings.



Through CDC's implementation of effective vaccination strategies, the annual rate of new hepatitis A and hepatitis B infections have decreased more than 90% since 1995. However, in 2013 cases of hepatitis A increased 14% compared to the previous year, reflecting food-borne outbreaks of hepatitis A. For the first time since 1990, in 2013, the number of reported cases of acute hepatitis B increased 5.4% from 2012, reflecting transmission among unvaccinated adults at risk. Despite the progress made as a result of routine childhood immunization, cases of mother-to-child transmission of hepatitis B continue to occur. Of infants infected near the time of birth, 90% develop chronic hepatitis B infection, placing these infants at high risk for HBV-related liver cancer later in life. Health disparities for chronic hepatitis B infection also exist for persons born in Asia, Africa, and certain countries in other regions, as well as for those persons with parents born in these areas. HBV affects as many as 2.2 million people in the United States. Identifying chronically infected persons and linking them to care and treatment remains a major public health challenge.

⁴³ Centers for Disease Control and Prevention. Viral Hepatitis Surveillance, U.S., 2013.

<http://www.cdc.gov/hepatitis/statistics/2013surveillance/pdfs/2013hepsurveillancerpt.pdf>.

Budget Request

CDC's FY 2017 request of **\$39,000,000** for Viral Hepatitis is \$5,000,000 above the FY 2016 Enacted level.

To place the nation on the path toward the elimination of viral hepatitis transmission and disease, CDC will:

- Enhance vaccination-based strategies to eliminate HBV transmission among populations at risk particularly newborns of HBV infected mothers
- Detect, investigate, and respond to new HCV infections, particularly among young persons and others at risk
- Expand adoption of CDC/USPSTF recommendations for HBV and HCV testing and linking people to medical care to prevent disease and premature death
- Coordinate prevention activities and track progress toward HBV and HCV prevention and elimination goals

CDC will continue to partner with state and local health departments, universities, medical centers, community-based organizations, and others to achieve prevention priorities, placing the nation on a path toward the elimination of hepatitis B and hepatitis C. CDC will also collaborate with WHO and other partners to advance viral hepatitis epidemiology, prevention, control, and laboratory diagnostics globally.

Reduce Viral Hepatitis Transmission through Improved Detection and Response

To eliminate viral hepatitis transmission in the United States, CDC will direct capacity where there is a need to reach people at greatest risk of infection, vaccinate them if they are not yet infected, and link patients to life-saving care and treatment if they are newly infected. The youngest, most vulnerable population in the United States are the approximately 24,000 infants born each year to HBV-infected mothers, because these infants are at highest risk for developing chronic HBV infection.⁴⁴ Although hepatitis B vaccination coverage among newborns has increased in recent years, it remains below the Healthy People 2020 objective. In addition, hepatitis B vaccination can fail to protect infants born to HBV-infected mothers with high levels of virus present in their bodies. Studies to date suggest that providing HBV medications to HBV-infected pregnant women can reduce the amount of virus circulating when their infant is born and prevent failure of hepatitis B vaccination, resulting in mother-to-child transmission of HBV. CDC has published cost-effectiveness data demonstrating the value of screening and treating HBV-infected women to prevent perinatal hepatitis B transmission.

Left undiagnosed and untreated, nearly one in four of these infants will develop serious liver problems, including liver cancer, and die prematurely later in life. To stop transmission, HBV testing is recommended for all pregnant women, and hepatitis B vaccine-based strategies are recommended for their newborns beginning immediately after delivery.

CDC-supported public health programs provide case management services to ensure mothers and infants receive necessary interventions. To help public health agencies focus case management services, CDC is collaborating with four major commercial laboratories and other partners to report the pregnancy status of women with newly diagnosed laboratory-confirmed infectious HBV in all states and public health jurisdictions they serve. This collaboration will help the United States meet the goal of eliminating HBV infections caused by perinatal transmission. In FY 2017, CDC will:

- Continue to update policies to achieve the national goal of eliminating mother-to-child transmission of hepatitis B.

⁴⁴Smith EA, et al. The national Perinatal Hepatitis B Prevention Program, 1994-2008. Pediatrics. 2012 Apr;129(4):609-16

- Continue collaborations with birthing hospitals to monitor the implementation of vaccination of all newborns in the first three days of life; data will be shared with hospitals for quality improvement purposes.
- Develop new vaccination guidelines for hepatitis A with the goal of eliminating this cause of viral hepatitis.

Of additional concern are the reports of infants born to HCV-infected mothers. This newly recognized population of HCV infected mothers and their newborns is one emerging consequence of the continuing HCV epidemic among young persons associated with drug use. To improve detection of new infections—including those among young persons—CDC is working with the Council of State and Territorial Epidemiologists (CSTE) to implement revised state and local criteria for reporting of HCV infected pregnant women and their newborns to public health authorities.

To better detect cases of HCV transmission, CDC has expanded collaborations with commercial laboratories and other sources of data to improve timely reporting and investigation of new HCV infections. CDC continues to seek innovative ways to improve the quality, efficiency, effectiveness, and timeliness of viral hepatitis surveillance for new cases at the national, state and local levels. In 2015, CDC assisted investigations of HCV outbreaks related to unsafe health-care practices in California and injection-drug use in Indiana; the HCV outbreak in Indiana was found to have a large number of persons also infected with HIV. High rates of HCV in a community can serve as an early warning signal of increased drug use and transmission of other blood borne viruses, including HIV.

As of December 4, 2016, of the 184 persons identified with HIV infection in the 2015 HIV outbreak in Indiana, more than 90% were already infected with hepatitis C. CDC's viral hepatitis laboratory used advanced molecular detection techniques to identify three clusters of persons with hepatitis C and to determine that hepatitis C had been circulating in the community for some time.

With resources from the Advanced Molecular Detection initiative, CDC has developed new laboratory based technologies that automate comparisons of HCV strains isolated from patients to speed detection of sources of outbreaks. The tool also identifies networks of HCV transmission among persons who inject drugs and other high risk populations. In FY 2016, CDC plans to launch a web site for state and local health departments to submit HCV genetic information for the rapid identification of cases caused by similar viral strains, which may indicate a common source of infection.

In a limited number of areas, CDC has funded the enhanced hepatitis surveillance and case investigation to ascertain more extensive and complete demographic and infection risk information about patients and disease transmission trends in the community. Currently, CDC supports surveillance in seven sites—Florida, Massachusetts, Michigan, New York, and Washington, as well as Philadelphia and San Francisco—providing these jurisdictions with the capacity to investigate, confirm, and analyze laboratory and clinical reports of viral hepatitis. With CDC support, these sites:

- Obtain more extensive and complete demographic data, risk behavioral/exposure information, and disease transmission trends to monitor the burden of acute and chronic viral hepatitis disease
- Develop capacity to obtain and use data for a variety of sources to improve overall viral hepatitis surveillance, such as by accessing the large volume of viral hepatitis laboratory data, processing the incoming data, ensuring the quality of the data, investigating cases and obtain complete case information, and assuring infected persons are linked to care and treatment

Massachusetts undertook a review that compared their data to estimates based on national figures and concluded that there has been significant underreporting of new cases of hepatitis C. From 2001-2011, Massachusetts received reports on 16,622 confirmed cases of past or present HCV infection; however, during that time period, CDC estimates projected only 2,300 total new cases.

Onofrey S, et al. Underascertainment of acute hepatitis C virus infections in the U.S. surveillance system. Ann Intern Med. 2015;163(4):254-261.

Activities in FY 2017

Because of the urgent need to prevent the epidemics of new viral hepatitis infections, in FY 2017, CDC will strengthen the detection, investigation, and response to cases of new HBV and HCV infections in up to 10 of the 29 states that have recently reported large increases or high rates of HBV and HCV transmission or have evidence of increases in injection-drug use behaviors among youth and young adults. These efforts will build upon investigations conducted by CDC^{45,46}, as well as the findings of two research projects funded beginning in FY 2014 to identify young persons with new HCV infection, assess risk factors for transmission, and support and improve linkages to HCV care and treatment services for newly infected persons. The FY 2017 awardees will:

- Investigate transmission networks to guide the implementation and evaluation of prevention interventions, including by applying advanced molecular detection techniques
- Promote hepatitis B vaccination, and HBV and HCV testing in settings providing services for high risk populations (e.g., emergency departments, rural community health centers, primary care providers treating substance use disorders, correctional facilities, and community outreach sites) and assure HCV-infected persons are linked to clinical preventive services
- Assess new testing strategies, including routine HCV testing of women of child bearing age to identify HCV-infected mothers who could benefit from HCV care and treatment, and to deliver preventive services to their newborns and others at risk for HCV transmission
- Assure implementation of a package of prevention services to stop HBV and HCV transmission, including counseling, locally supported syringe services programs, treatment for substance use disorders, and hepatitis care compromised of hepatitis B vaccination (if indicated), HBV and HCV testing, and appropriate treatment for HBV and HCV-infected persons

In FY 2017, CDC will also:

- Establish a regional health training and technical assistance center to support detection and investigations of new HBV and HCV cases, including mother to child HCV transmission; provide consultations; and, promote implementation of prevention practices among state/local health departments, substance use disorder treatment programs, correctional organizations, and non-governmental organizations.
- Support the development of up to two model projects for the elimination of HCV transmission and related mortality throughout an entire state, tribal area, or local community.

The World Health Organization has proposed goals for the elimination of HCV transmission and disease. HCV meets the established public health criteria for a disease that can be eliminated including the availability of quality diagnostics and curative treatment. The model programs will identify strategies that can be employed by CDC to help other communities reach elimination goals for HCV.

Many persons living with HBV or HCV are unaware they are infected. They can have clinically silent infections for decades until developing liver damage, cirrhosis, liver failure, or liver cancer; and along the way suffer from viral

⁴⁵Suryaprasad A, et al. Emerging Epidemic of Hepatitis C Virus Infections Among Young Nonurban Persons Who Inject Drugs in the United States, 2006–2012. CID 2014 Nov;59:1411-1419.

⁴⁶Zibell J, et al. Increases in Hepatitis C Virus Infection Related to Injection Drug Use Among Persons Aged ≤30 Years — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. Morbidity and Mortality Weekly Report. 2015;64(17):453-458.

hepatitis-related kidney disease, arthritis, diabetes, and blood disorders, including cancer.⁴⁷ To increase the identification of persons with HCV infection in the United States, in July 2012, CDC issued new recommendations for HCV screening⁴⁸ of persons born between 1945 and 1965. In June 2013, the USPSTF similarly revised its HCV testing recommendations and recommended HCV testing for this population.⁴⁹ Both CDC and the USPSTF also recommend screening people with specific risks for HCV infection. HCV testing followed by life-saving care and treatment is cost-effective, with health benefits comparable to other routine preventive health services.⁵⁰ As noted previously, CDC estimates that even modest implementation of CDC/USPSTF recommendations for HCV testing will save an estimated 321,000 lives.⁵¹

Similarly, CDC and USPSTF have issued recommendations for identifying and managing persons with hepatitis B.⁵² These recommendations include testing of persons born in Asia, Africa, the Pacific islands, and countries in other regions with moderate to high rates of hepatitis B. Testing is also recommended for persons born in the United States, including men who have sex with men and others who were not vaccinated at birth and have at least one parent born in Asia and other areas with high rates of hepatitis B.

CDC continues to develop and evaluate strategies that support implementation of HBV and HCV testing and linkage to care. In FY 2012, CDC funded demonstration sites to test persons for hepatitis C and refer HCV-infected persons to appropriate care and treatment. These projects, such as the one in Philadelphia,⁵³ Birmingham,⁵⁴ and San Antonio, revealed high rates of HCV infection among the target population and showed that routine HCV testing can be successfully integrated into diverse health-care settings. The success realized through these projects prompted CDC to fund three jurisdiction-level programs in FY 2014 to strengthen the public health and clinical care capacity to track, diagnose, and cure HCV infection. The three projects are implementing a package of services provided by a community coalition composed of public health authorities, primary care providers, and academic medical centers. To increase health-care capacity and increase the number of persons diagnosed, treated, and cured, these projects:

- Increase public health capacity to gather and follow-up on reports of current hepatitis C cases in populations with high rates of hepatitis C
- Strengthen health-care capacity to test and treat hepatitis C
- Develop strategies to reduce cost and improve patient and provider acceptance of hepatitis C services at clinical sites
- Meet targets for testing (at least 10,000 persons per year, per site), diagnosis, and cure

⁴⁷Negro F, et al. Extrahepatic Morbidity and Mortality of Chronic Hepatitis C. *Gastroenterology*. 2015;149(6):1345-60.

⁴⁸CDC. Recommendations for the identification of chronic hepatitis C virus infection among persons born during 1945–1965. *Morbidity and Mortality Weekly Report*. 2012;61(RR04).

⁴⁹U.S. Preventive Services Task Force. Final Update Summary: Hepatitis C: Screening.

<http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/hepatitis-c-screening>

⁵⁰Smith BD, et al. Hepatitis C Virus Testing of Persons Born During 1945–1965: Recommendations From the Centers for Disease Control and Prevention. *Ann Intern Med*. 2012 Dec;157(11):817-822.

⁵¹Rein DB, et al. The Cost-effectiveness, Health Benefits, and Financial Costs of New Antiviral Treatments for Hepatitis C Virus. *Clin Infect Dis*. 2015 Jul;61(2):157-68.

⁵²CDC. Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Virus Infection. *Morbidity and Mortality Weekly Report*. 2008 Sept;57(RR08).

⁵³Coyle C, et al. Identification and Linkage to Care of HCV-Infected Persons in Five Health Centers — Philadelphia, Pennsylvania, 2012–2014. *Morbidity and Mortality Weekly Report*. 2015 May;64(17):459-463.

⁵⁴Galbraith JW, et al. Unrecognized chronic hepatitis C virus infection among baby boomers in the emergency department. *Hepatology*. 2015 Mar;61(3):776–782.

In FY 2014, CDC also began funding three city-wide projects designed to increase the identification of foreign-born persons with chronic hepatitis B and link them to high-quality hepatitis B-specific medical care. Each of these projects:

- Develop partnerships (which include primary health-care providers, medical specialists experienced in the treatment of hepatitis B, community-based organizations, and health departments) serving foreign-born persons from countries with moderate to high hepatitis B prevalence
- Test >2,000 persons born in countries with intermediate to high hepatitis B prevalence
- Identify persons with chronic hepatitis B infection, and link infected persons to ongoing hepatitis B directed medical care
- Test household contacts of persons with chronic hepatitis B infection, and appropriately administer hepatitis B vaccine to susceptible household contacts
- Improve the quality of medical care for persons with hepatitis B provided in primary-care practice

Currently, CDC also supports the core capacity of health departments to convene stakeholders and identify opportunities to integrate viral hepatitis education and prevention services into existing public health programs, particularly to address the needs of underserved populations. CDC funds viral hepatitis prevention coordinators in 48 states, the District of Columbia, Los Angeles, New York City, and Philadelphia; as well as a Technical Assistance Center. These viral hepatitis prevention coordinators:

- Provide technical expertise in policies and prevention activities
- Mobilize community partners to develop jurisdiction-specific plans and strategies for viral hepatitis prevention
- Educate the public, risk priority groups, and health-care providers
- Facilitate viral hepatitis education and services in public health and health-care settings at the state and local level

CDC primarily supports the salaries of the coordinators; support for the coordinators' activities depend on state, local, and other resources.

Activities in FY 2017

In FY 2017, CDC will continue to ensure viral hepatitis prevention core capacity exists in each state to strengthen coordination of policy and program development. CDC will provide support for the salary of a full-time equivalent coordinator in all states and the District of Columbia to enable the states and the District of Columbia to:

- Conduct a jurisdiction-wide assessment to identify clinical settings serving the greatest number of people with undiagnosed HBV or HCV and opportunities for utilizing electronic health records to monitor implementation of CDC/USPSTF recommendations, and health impact
- Develop partnerships to implement appropriate interventions to increase HBV and/or HCV testing and reduce health disparities in key partner sites/organizations
- Monitor standard performance measures and return results to providers and health systems to improve the targeting and quality of HBV and HCV prevention services

With resources in FY 2017, CDC will also prevent deaths from viral hepatitis by improving access to recommended hepatitis B and hepatitis C testing, care, and treatment services. CDC will support up to 12 states with a large burden of disease (e.g., those states with large numbers of residents born from 1945-1965 or born overseas, especially in Asia and the Pacific Islands) to strengthen health-care capacity by:

- Leveraging opportunities arising from changes in the health care system to reach low income, medically underserved/underinsured populations in their jurisdiction
- Advancing testing in health care settings (private clinical settings, public health settings, correctional facilities) to increase the number of persons diagnosed with chronic HCV infection and linked to lifesaving care
- Developing collaborative community partnerships with community-based organizations, health programs, and providers groups serving immigrants or refugees from areas with high or intermediate levels of HBV infection
- Establishing and maintaining electronic resources to educate providers and affected populations, including a directory of culturally and linguistically accessible hepatitis B services appropriate to reach hard-to-reach immigrants and refugees
- Working with providers to monitor implementation of HBV and HCV testing, care, and treatment guidelines

In FY 2017, to further accelerate adoption of HBV and HCV testing and treatment across the country, CDC will also:

- Support professional education to expand the number of providers prepared to test, manage, and treat HBV and HCV
- Form innovative collaborations with commercial laboratories, health systems, and other partners to monitor and evaluate testing and linkage to care and treatment through the use of electronic health record data, and to monitor health outcomes

Collectively, these viral hepatitis prevention programs will improve the health, productivity, and quality of life of individuals and communities by reducing HBV and HCV-related disability, mortality, and health-care costs. These efforts will place the nation on the path toward the elimination of viral hepatitis.

Viral Hepatitis Cooperative Agreement Grants^{1, 2, 3}

(dollars in millions)	FY 2013 Actual ²	FY 2014 Final ²	FY 2015 Final ²	FY 2016 Enacted ²	FY 2017 PB ³	FY 2017 +/- FY 2016
Number of Awards	52	52	52	52	TBD	TBD
- New Awards	52	0	0	0	TBD	TBD
- Continuing Awards	0	52	52	52	0	TBD
Average Award	\$0.097	\$0.101	\$0.104	\$0.082	TBD	TBD
Range of Awards	\$0.020-\$0.250	\$0.020-\$0.150	\$0.020-\$0.280	\$0.020-\$0.150	TBD	N/A
Total Awards	\$8.681	\$8.631	\$8.650	\$8.698	\$9.635	+\$0.937

¹These funds are not awarded by formula.

²Reflects funding to states and Washington, D.C. for Viral Hepatitis Prevention Coordinators, a technical center, and seven enhanced surveillance sites.

³A new funding cycle will begin in FY 2017; the total awards figure reflects core funding to support a Viral Hepatitis Prevention Coordinator in all states and Washington, D.C., funding to support enhanced detection, investigation, and response activities to prevent transmission in 10 states with large increases or high rates of HBV and HCV transmission, and funding to strengthen access to testing, care, and treatment to prevent HBV and HCV-associated disease in 12 states with large numbers of persons living with HBV and HCV infection. More specific estimates are unavailable at this time.

Sexually Transmitted Infections Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$157.310	\$157.310	\$157.310	\$0.000

Overview

Sexually transmitted infections (STIs), also known as sexually transmitted diseases (STDs), can lead to harmful, associated medical conditions that include poor reproductive outcomes such as pelvic inflammatory disease (PID) and infertility, and increased risk of HIV infection. There are about 20 million new STIs every year, costing the U.S. healthcare system \$16 billion in direct medical care costs alone. In 2011, there were approximately 4,500 STD-attributable HIV cases in the United States, at a cost of \$1.37 billion. STI prevention and control has been a core public sector responsibility since 1937; today, STIs remain three of the top five notifiable diseases in the United States. The Institute of Medicine (IOM) recognizes that to adequately address STDs, both community and individual patient interventions must be in place and coordinated at a national level—STIs do not respect geographic boundaries.⁵⁵ To prevent further spread of STIs and their sequelae, CDC funds all states and 15 territorial or local health departments to conduct STD prevention and control. Notable CDC accomplishments include preventing 32 million cases of gonorrhea, saving \$4.9 billion in medical costs over a 33-year period, and preventing 21,000 cases of PID and 4,000 cases of tubal factor infertility annually. Together, the cases prevented result in \$45-\$77 million in averted healthcare costs each year.

CDC's STD prevention and control activities complement the delivery of STD health care services and are not duplicative of any services covered by private health insurance or publicly funded programs, including those covered under the Affordable Care Act. CDC STI funding is primarily spent on gonorrhea, syphilis, and chlamydia surveillance; contact tracing and connection to care for STDs and HIV; outbreak response; assurance of appropriate screening and treatment by providers; training and education for health and medical professionals; and providing reliable and trustworthy STD information to the general public. A recent survey of 4,300 patients of 21 state and locally funded STD clinics, found that approximately half were uninsured.⁵⁶ Although CDC does not directly support STD clinics in the United States, CDC does allow state and local STD programs to use a small fraction of funding (13.5%, or about \$12.7 million) for testing and treatment primarily of young, uninsured women and their partners to prevent infertility and to control STDs within the community. The funding allocated by CDC for this purpose is equivalent to less than nine percent of the anticipated \$151 million cost of chlamydia services for the 4.6 million uninsured people ages 15-44 who will need them in 2017. These cost estimates do not include other STD services for uninsured people, such as for gonorrhea or syphilis.⁵⁷ In addition, some testing by health departments occurs outside of traditional clinical settings, and is not reimbursable by health insurance plans, but is important for preventing further spread of disease in the community.

Budget Request

CDC's FY 2017 request of **\$157,310,000** for Sexually Transmitted Infections is level with the FY 2016 Enacted level. CDC will concentrate on the following priority areas to guide STD prevention and maximize long-term impact.

⁵⁵ The Hidden Epidemic: Confronting Sexually Transmitted Diseases (1997). National Academies Press.

⁵⁶ Hoover KW, Parsell BW, Leichliter JS, Habel MA, et al. Continuing need for sexually transmitted disease clinics after the Affordable Care Act. *American Journal of Public Health*. 2015;105(S5):S690-S695

⁵⁷ Gift TL, Haderhanaj LT, Torroni EA, Behl AS, et al. Estimating the size and cost of the STD prevention services safety net. *Public Health Reports*. 2015;130:602-609.

State, Local, and Territorial STI Prevention and Control

CDC is the only federal agency that directly supports STD prevention and control by state and local health departments. In FY 2017, approximately 70% of the STI prevention budget will be used in direct support of core state, local, and territorial STD prevention and control programs—60% will be awarded to these programs through existing cooperative agreements, with all 50 states and 9 cities and territories through "Improving Sexually Transmitted Disease Programs through Assessment, Assurance, Policy Development, and Prevention Strategies", or STD AAPPS; to API through the combined funding mechanism; to select state and local STD programs through the STD Surveillance Network; and to STD programs and labs through the Gonococcal Isolate Surveillance Project. An additional 10% will support CDC field staff who work in these programs around the country. STD AAPPS supports surveillance infrastructure; some staff such as epidemiologists, information technologists, evaluators, and disease intervention specialists for contact tracing and behavioral counseling; and a small fraction for STD tests for uninsured and underinsured women and their partners. In addition, CDC field staff and state and local STD staff funded by CDC through STD AAPPS will respond not only to STD outbreaks, including HIV outbreaks among people who inject drugs, but will also provide emergency response for crises such as anthrax, Ebola, influenza, and SARS.

Assessment

- Reportable STD Surveillance—In FY 2017, public health programs will conduct and report county-level surveillance of four reportable STDs: syphilis, gonorrhea, chlamydia, and chancroid following strict data and confidentiality guidelines. As advancements are made in electronic health records and more medical information is available through health information exchanges, STD programs will utilize these resources to enhance STD surveillance, and to maximize use of surveillance data to monitor trends and improve program management and resource allocation. This activity will be conducted and measured as part of STD AAPPS.
- Gonococcal Isolate Surveillance Project (GISP)—In FY 2017, CDC will fund 27 cities to contribute laboratory samples to GISP, the only national and regional source of gonorrhea resistance information. This long-running and successful surveillance system guides CDC's STD Treatment Guidelines for gonorrhea, and the one-of-a-kind laboratory sample repository is used by other federal agencies and the pharmaceutical sector for testing new diagnostics and treatments, including vaccines.
- STD Surveillance Network (SSuN)—IN FY 2017, CDC will fund 11 jurisdictions to conduct enhanced surveillance and in-depth patient interviews to capture additional patient information, such as providing information on gender of sex partners, HIV cases diagnosed in state- and locally-funded STD clinics, and administration of appropriate gonorrhea treatment, which is not currently available from any other source. These data will also improve the understanding of transmission dynamics.
- Evaluation—Public health STD programs will evaluate the impact and reach of their efforts in key areas, for example: linkage to HIV care/re-engagement with HIV care among HIV-infected patients with early syphilis and gonorrhea and their partners; increased chlamydia screening among low screening providers; and impact of STD disease investigators (DIS) testing sex partners of persons diagnosed with HIV and linking them to care. Four STD programs will be funded to further build the evidence base for STD prevention and control activities, and to better document and assess the impact of CDC's STD funding, informing future program planning. This activity will be funded through STD AAPPS and its evaluation supplement.

Assurance and Prevention of Spread of STDs in the Community

- Ensure Appropriate Screening and Treatment—Most STD diagnoses and treatment are made at non-health department clinics. Because of this, in FY 2017 CDC will continue to work with the state and local STD programs through the STD AAPPS cooperative agreement to ensure that public and private

- providers adhere to CDC recommendations for screening and treatment, as well as the planned CDC recommendation for the provision of quality STD clinical service in primary care and specialty clinics.
- Disease Intervention Specialist (DIS) Services—State and local STD programs use the majority of CDC's STD AAPPS cooperative agreement funding to pay for personnel, many of whom are DIS. DIS provide a critically important community service that is conducted only by public health agencies, and is largely not reimbursable by health insurance. DIS:
 - Conduct contact tracing to identify exposed sexual partners and provide outreach services, which can include non-reimbursable STD and HIV testing of exposed partners in non-clinical settings, in order to control spread of disease in the community;
 - Link newly identified HIV+ patients to care, and connect HIV+ patients that have fallen out of care to HIV care;
 - Respond to outbreaks, such as the HIV outbreak and related hepatitis C cluster in 2015, for which 49 STD DIS from other states travelled to Indiana to provide short term emergency assistance in containing the outbreak;
 - Are brought in for public health emergencies to use their unique contact tracing skillset on the ground, even for non-STD diseases, like Ebola, influenza, anthrax, and SARS; and
 - Support assurance activities, which includes working with provider networks in their community to assure they have access to appropriate medications to treat STDs per CDC recommendations.
 - Health Promotion—In FY 2017 through STD AAPPS state and local STD programs will conduct health promotion and community activities to target STD-related health messages for disproportionately impacted communities.
 - National Network of STD Provider Training Centers (NNPTCs)—CDC will separately spend 4% of its STI funding to educate health care professionals on appropriate screening, diagnosis, and treatment of STIs, including public health nurses and doctors who are supported through local and state funding.

Sexually Transmitted Disease Prevention Cooperative Agreement Grants (STD AAPPS)^{1,2,3}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	59	59	59	59	59	0
- New Awards	0	59	0	0	0	0
- Continuing Awards	59	0	59	59	59	0
Average Award	\$1.611	\$1.611	\$1.595	\$1.595	\$1.595	\$0.000
Range of Awards	\$0.174-\$6.301	\$0.177-\$6.369	\$0.178-\$6.426	\$0.186-\$6.607	\$0.192-\$6.779	N/A
Total Awards	\$95.044	\$95.044	\$94.094	\$94.094	\$94.094	\$0.000

¹Awards include funding to address HIV co-infection.

²Awards do not include funding provided under Direct Assistance or Gonococcal Isolate Surveillance Project Awards.

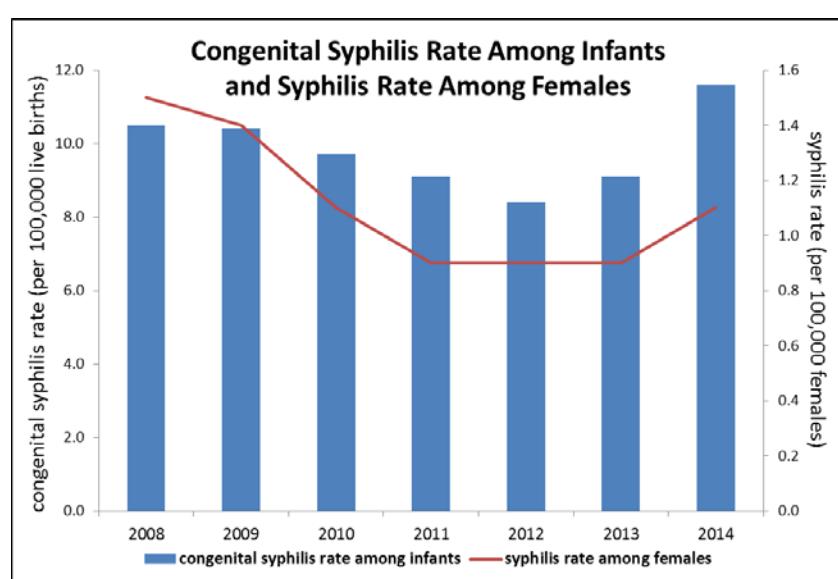
³FY2014 - FY 2017 funds are awarded by formula.

CDC will continue to be a trusted and up-to-date source of accurate STD information for the public and health care providers. CDC will update its well-received and widely utilized STD Treatment Guidelines—the 2015 version was viewed or downloaded more than 350,000 times in just the first 6 weeks—and will work with electronic health records developers to codify and incorporate these guidelines into their products. CDC will also provide [STD training and education](#) through its website.

CDC's STD web pages (www.cdc.gov/std) are viewed more than 55 million times in a year

CDC will use the surveillance and evaluation information provided by state and local STD programs to address health disparities and identify national disease trends for further study. For example:

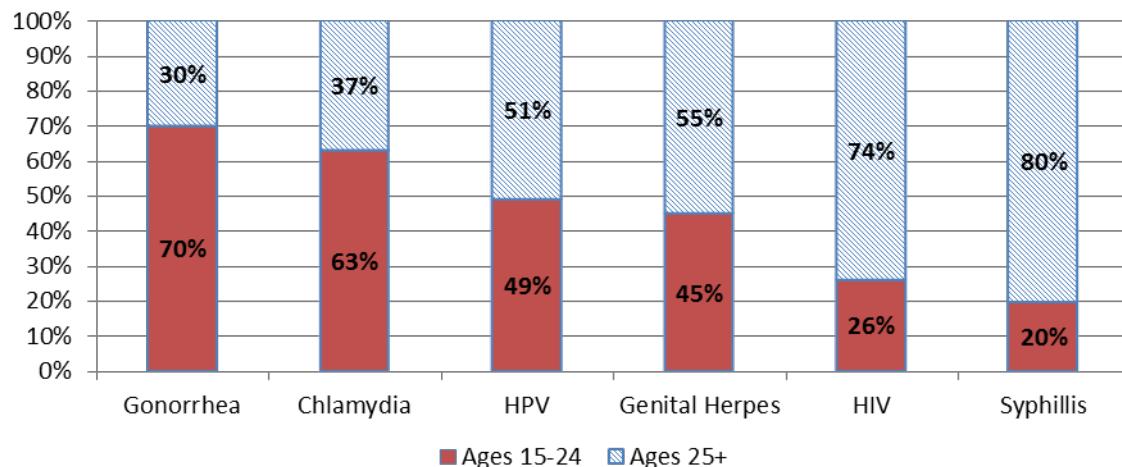
Congenital syphilis—CDC identified that in 2014, syphilis had increased in all populations – men, women, and infants. Untreated syphilis during pregnancy causes congenital syphilis, and is especially concerning because it can result in infant death in up to 40% of cases, and can cause permanent deafness, neurological impairment, and bone deformities in those infants who survive. CDC will strengthen partnerships with healthcare providers to train them about the importance of ensuring that pregnant women receive syphilis testing and timely treatment. This will prevent more babies from being born with this preventable, costly, and debilitating disease.



Ocular Syphilis—In a 4 month period ending March 2015, 12 cases of ocular syphilis were reported by two large cities, San Francisco and Seattle. CDC follow-up identified more than 150 cases reported over the past two years by 20 states. The majority of cases are among people with HIV. Several cases have resulted in significant outcomes, including blindness. CDC released a **clinical advisory** about this issue, and will continue to investigate the increases in ocular syphilis. Ocular syphilis is completely preventable; regular screening and timely treatment of syphilis is the key to preventing this potentially debilitating manifestation of syphilis.

Adolescents and young adults—They account for half of all new STIs, but only a quarter of the sexually active population aged 15-44. CDC will work with partners and health plans to identify evidence-based strategies to increase chlamydia screening. Screening is especially important because infections are often asymptomatic, but can lead to serious medical consequences, including infertility in women.

Proportion of New Sexually Transmitted Infections among Youth



CDC is committed to controlling the spread of sexually transmitted infections in the U.S. population through prevention, reduction of disease transmission, contract tracing, and outbreak investigations.

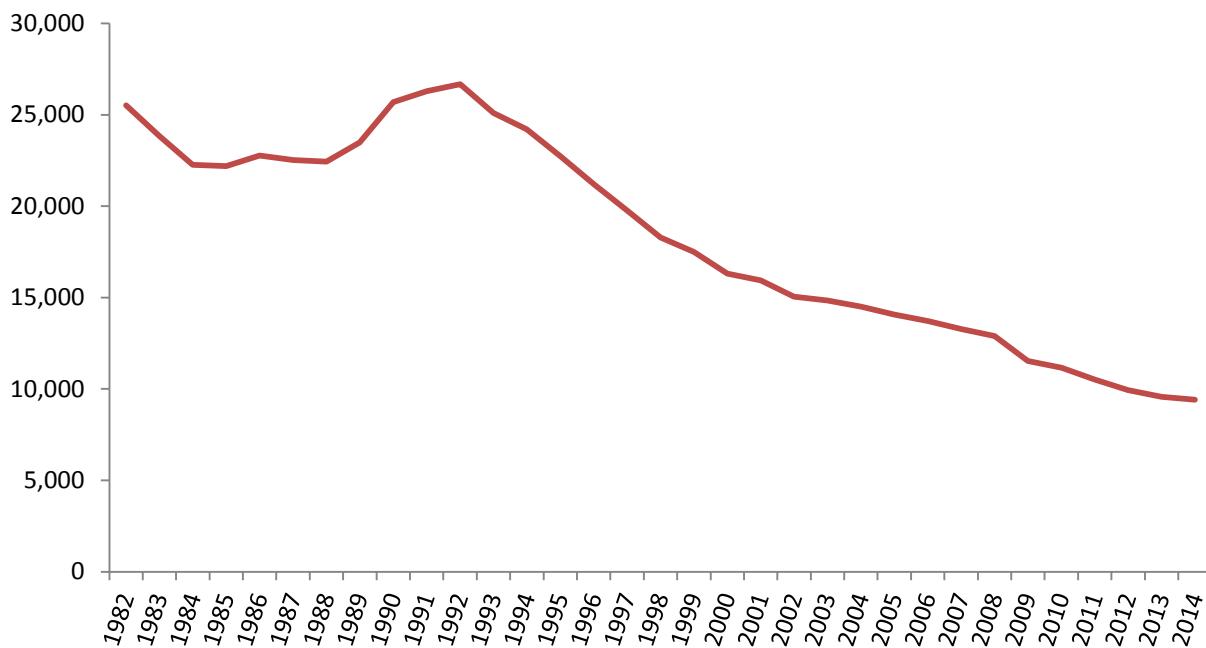
Tuberculosis Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$142.256	\$142.256	\$142.256	\$0.000

Overview

CDC works 24/7 to protect the United States from tuberculosis (TB)—particularly from threats posed by global and drug-resistant TB—by providing TB funding to all 50 states, ten large cities and eight territories. CDC's TB program and its partners in state and local health departments reversed a deadly TB resurgence during the late 1980s and early 1990s caused by decreased funding for TB programs, emergence in multi-drug resistant TB (MDR TB), changes in demographics, and the HIV epidemic. These factors allowed TB to rebound, resulting in approximately 52,000 TB cases that would not have occurred had the downward trend continued. Thanks to a concerted federal, state, and local response, the number of cases of TB disease dropped by 65% from 1992 to 2014, and is at its lowest level since national reporting began in 1953. Additionally, due to the alarming nature of the TB resurgence and emergence of MDR TB, Congress established the Advisory Council for the Elimination of Tuberculosis (ACET), which provides recommendations to DHHS and CDC on how to advance the national goal of eliminating TB from the United States. ACET, which is operated under the Federal Advisory Committee Act, receives updates on TB elimination, and offers resolutions in public meetings that occur three times a year (two of which are by webinar).

Reported TB Cases United States, 1982 – 2014¹

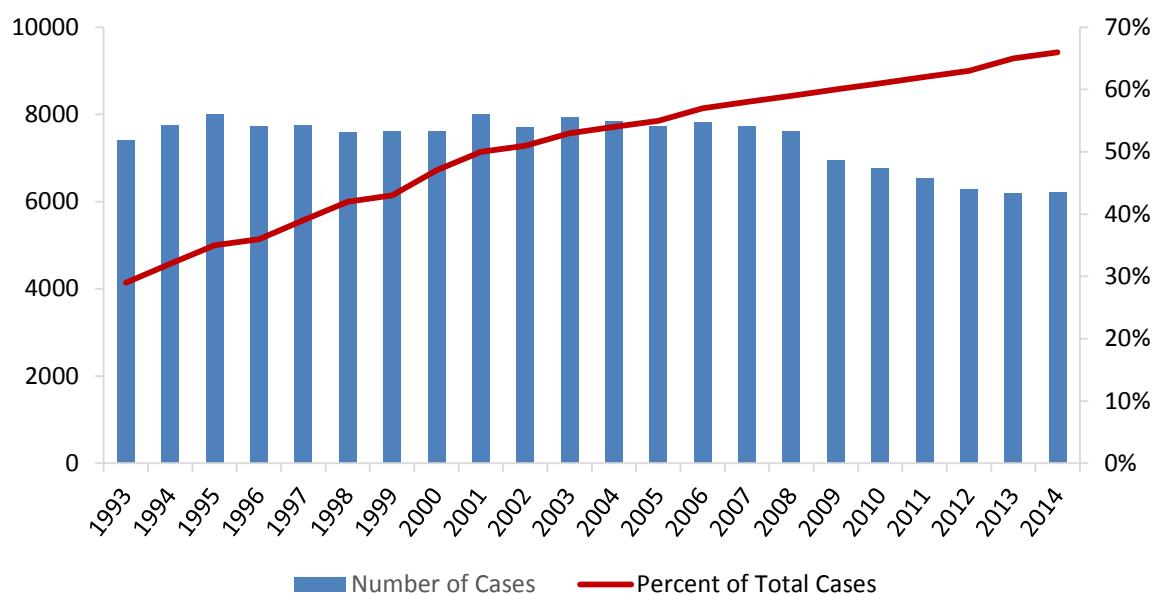


¹Updated as of November 2015

The United States has one of the lowest TB disease incidence rates in the world; however, the rate at which the number of TB cases is declining has slowed. In 2014 CDC recorded the smallest decline in incidence in over a decade, reflecting ongoing transmission of TB in vulnerable populations, and millions of people who have latent TB infection (LTBI).

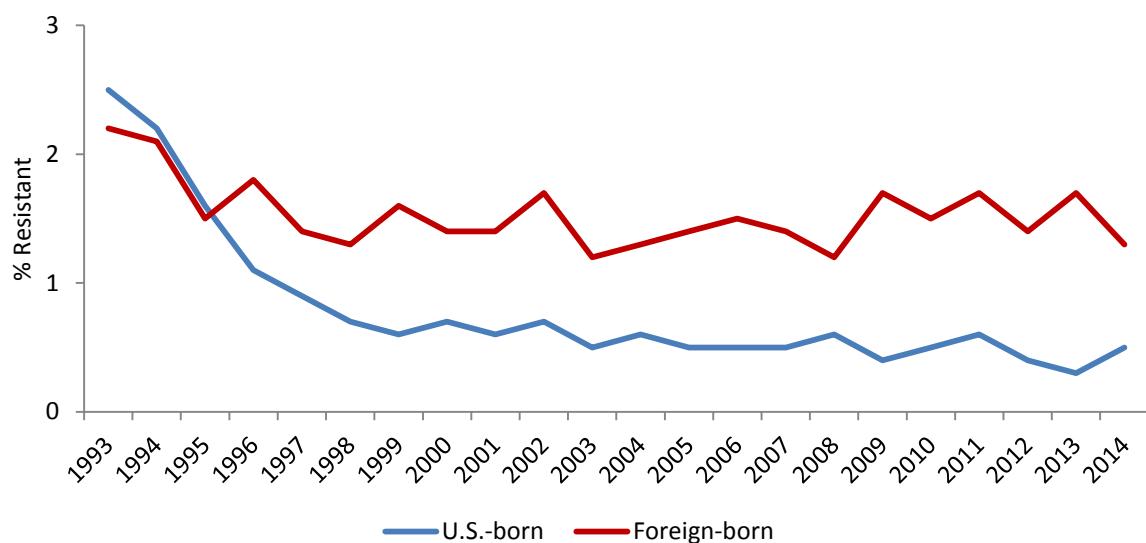
While the United States has experienced a 65% reduction in the number of reported TB cases between 1992 and 2014, it is estimated that up to 13 million people are living with latent TB infection and remain at risk of developing TB at some point in their lives.

Trends in TB Cases in Foreign-born Persons, United States, 1993-2014¹



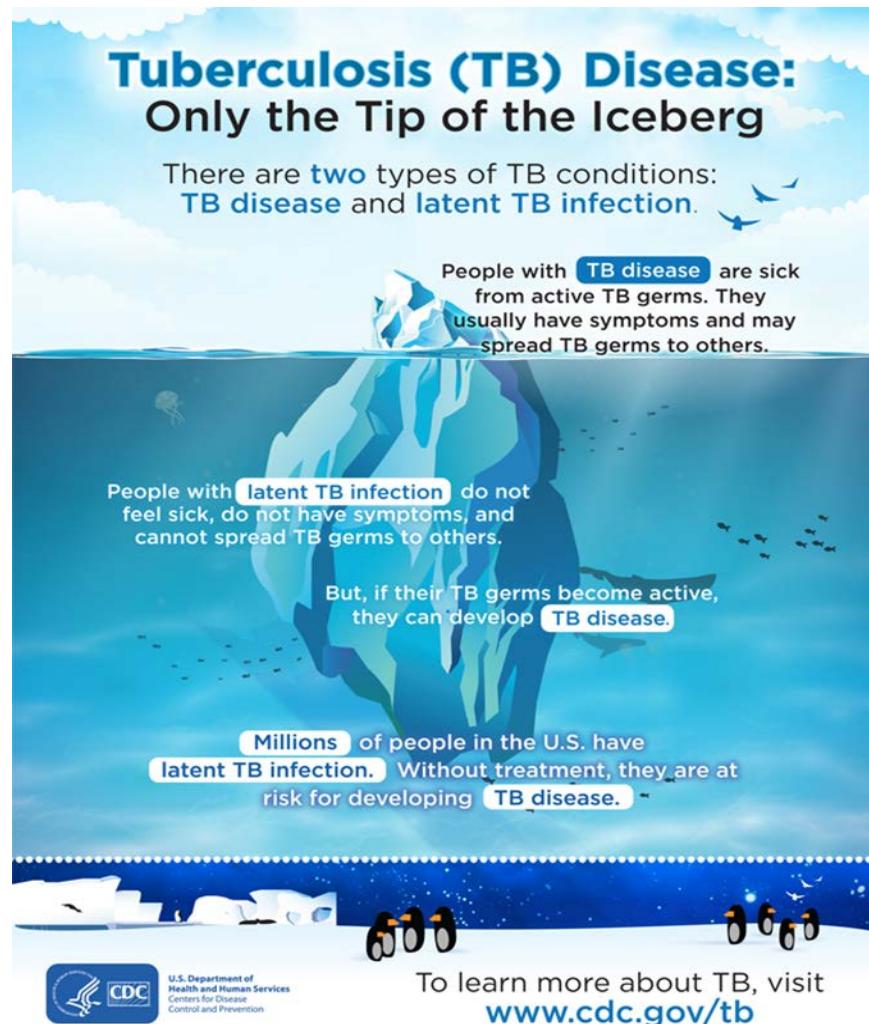
¹ Updated as of November 2015.

**Primary MDR TB in U.S.-born vs. Foreign-born Persons United States,
1993-2014**



Two-thirds of all U.S. cases of drug susceptible TB disease, and 89% of all multi-drug resistant TB cases occur among persons who were born outside of this country. This budget line supports approximately 103 CDC staff working on global TB projects in the Center for Global Health.

Approximately 75% of U.S. TB disease cases are reactivated LTBI. Modeling research conducted by CDC indicates that progress toward TB elimination could be hastened by increasing efforts to find and treat LTBI. While people with LTBI are not infectious or symptomatic, between 5 and 10% of them will develop TB disease at some point in their lives, especially if they have weakened immune systems, from conditions such as diabetes or HIV infection. CDC estimates that up to 13 million people in the United States have latent TB infection and that focusing on offering them screening and treatment can have a significant impact on reducing future cases and reaching our goal of elimination. CDC's recently released, consolidated 2016-2020 Strategic Plan⁵⁸ for tuberculosis elimination incorporates this emphasis on testing and treating high-risk persons for latent TB infection to prevent future TB cases.



TB is spread through the air from person to person. When a person with infectious TB coughs or sneezes, TB bacteria are expelled into the air. If another person inhales these bacteria, he or she may become infected. However, not everyone infected with TB bacteria becomes sick. People can develop latent TB infection in which they have no symptoms and are not contagious. For people who develop TB disease, it is imperative that they complete the full course of therapy. Inappropriate or interrupted TB treatment can lead to treatment failure, relapse, or drug resistance. Given these challenges and the fact that TB is still endemic in many countries, intensive TB prevention and control programs are needed to protect communities. Key strategies for TB control and elimination include: increasing the percentage of persons newly diagnosed with drug-sensitive TB who complete treatment within 12 months (treatment is longer for persons with drug-resistant cases), increasing the percentage of culture-positive TB patients who receive testing for drug susceptibility, and increasing the percentage of newly-infected contacts of persons with smear-positive TB who complete treatment for latent TB infection.

⁵⁸ <http://www.cdc.gov/tb/about/strategicplan.htm>

Budget Request

CDC's FY 2017 request **of \$142,256,000** for TB is level with the FY 2016 Enacted level.

The President's National Action Plan for Combatting Multi-Drug Resistant Tuberculosis was released December 22, 2015 and addresses contact investigations, diagnostic materials, and treatment and hospitalization. CDC will support this plan by conducting a clinical trial to identify a treatment regimen for isoniazid resistant TB disease, comparing effectiveness of directly observed therapy (DOT) delivered in person and by video cameras, improved capacity for surveillance of MDR TB, and purchase of a small amount of anti-TB drugs that could serve as a buffer supply for TB regimens for patients in the event of a drug shortage.

To maintain TB control and ultimately eliminate TB from the United States, CDC funds health departments in all 50 states, 10 large cities, Washington D.C., Puerto Rico, the Virgin Islands, and other territories through cooperative agreements for TB control and laboratory support. All available cooperative agreement funds are distributed according to a formula that is based on the number of cases of TB disease, averaged over the previous three years, and takes into account case complexity (e.g., how many cases were drug resistant, or found among vulnerable populations) and how many TB laboratory services are provided. Funding is also provided to programs to ensure that employees receive training in TB prevention and control. The formula also allows CDC to credit health departments with above-average progress on two key indicators: completion of therapy for persons with TB disease and drug susceptibility testing. CDC began funding the entire cooperative agreement with TB programs by formula in FY 2015. Prior to that, a portion of the funds was distributed by formula while the remainder were based on historical funding levels, so that programs could have time to adjust to changes in their federal funding.

Grantee activities include:

- Investigating and reporting every case of TB disease
- Genotyping TB bacteria and testing for drug-resistance
- Ensuring the provision of medical care, laboratory testing, and other services to achieve complete cure of TB patients, which halts further transmission
- Identifying contacts and providing treatment to prevent future TB cases

CDC also continues to provide funding to five Regional Training and Medical Consultation Centers (RTMCCs). Given the low incidence of TB disease in the United States, many U.S. health professionals have never seen a TB case during their training and are unfamiliar with TB diagnosis and treatment. Misdiagnosis and failure to appropriately treat TB results in prolonged transmission among families and communities, as well as months of debilitating illness for the patient. To combat this problem, the RTMCCs provide training and health education about TB diagnosis, treatment, and other aspects of TB control—such as contact investigations and medical consultation—to physicians who are treating TB patients, particularly those patients with complicated or drug-resistant cases.

In addition to funding cooperative agreements, CDC responds to requests for technical assistance or provides supplemental funding to health departments that need more capacity to conduct contact investigations. For every case of TB identified, state and local TB programs need to evaluate family and community members who may have come in contact with the sick person and provide testing and possibly treatment to ensure the disease does not spread. Annually, public health workers evaluate more than 100,000 people for TB in the United States. As many as 20% of individuals screened during these contact investigations will need treatment for latent TB infection to prevent the development of TB disease. From May 2012 to July 2015, CDC responded to 16 requests for assistance from state or local TB programs. CDC collaborated with state or local health departments on contact investigations among infants, persons who were in homeless shelters or correctional facilities, and ethnic minorities. Three of these contact investigations addressed drug-resistant TB.

CDC-funded research improves the evidence base for the diagnosis, prevention and treatment of TB. In clinical research, studies funded through the TB Trials Consortium (TBTC), CDC and other partners are seeking to shorten TB treatment and address the significant limitations of current therapies—including harmful side effects—and improve therapy for children, persons with HIV infection, diabetes, other co-morbidities, and drug-resistant TB. In 2011, CDC published results from a major TBTC study showing that once-weekly isoniazid and rifapentine for 3 months (3HP) by directly observed therapy (DOT) is safe and effective for treating LTBI. While the 3HP regimen is remarkably shorter than the standard 9-month isoniazid regimen for treating LTBI, implementation of 3HP is limited by the requirement for DOT. Models show that the regimen would be cost effective with Self-Administered Therapy (SAT) even if the treatment with SAT were lower. In 2015 CDC presented preliminary findings from the iAdhere study (TBTC Study 33), which was conducted in the United States and several international settings and compared 3HP completion rates by DOT versus SAT or enhanced SAT with weekly text reminders (eSAT). Findings from a pre-specified analysis limited to the United States only, support use of 3HP by SAT in the United States. However, further cost-effectiveness analyses and evaluation of the role text reminders are needed.

In addition to clinical trials, CDC supports the TB Epidemiologic Studies Consortium (TBESC), which applies epidemiologic, behavioral, economic, laboratory, and operational research to improve programmatic efforts in TB elimination. TBESC focuses on approaches to diagnosing and treating people with LTBI to prevent future cases of TB disease. CDC develops and conducts innovative laboratory tests including advanced molecular detection methods that serve the diagnostic needs of TB programs in the United States. CDC's surveillance for Large Outbreaks of TB in the United States (LOTUS) is one example of innovative use of advanced molecular detection. This system, which completed its pilot year in 2015, identifies large TB outbreaks based on analysis of genotyping data and reports from programs. From April 2014 to April 2015, LOTUS surveillance led to the detection of 16 confirmed, probable, or suspected TB outbreaks in the United States. CDC found that half of probable and confirmed outbreaks were detected through genotyping alone, and not reported by programs. In large, complex outbreaks, CDC uses whole genome sequencing to distinguish between closely related strains of TB, allowing epidemiologists to pinpoint how TB is being transmitted within communities with a high background burden of TB disease. The enhanced "picture" of TB transmission that results from whole genome sequencing enables health departments to scale their responses and allocate resources to address ongoing TB transmission.

A consequence of fewer TB cases in the United States has been less funding and public support for TB programs and an unstable U.S. supply of TB drugs. Anti-TB drugs are old, and the drug supply for TB is dependent upon a handful of U.S. pharmaceutical companies who produce drugs with varying shelf lives and storage requirements. Interruption in the supply of any biologics or drugs used in diagnosing or treating TB impacts nearly every domestic TB program. TB drug interruptions put the United States at risk for longer and more costly outbreaks, and ultimately for another resurgence, rolling back decades of progress and putting additional Americans at risk of a preventable and curable disease. CDC, FDA, USAID, U.S. drug manufacturers, and international partners work together to inform TB programs of impending shortages, and try to locate FDA-approved TB drugs and biologics for U.S. TB programs.

CDC also continues to support improvements in effectiveness and efficiencies that can be gained through integrated services encouraging grantees to address related infections and to develop capacities that can be shared across programs, including HIV, STD, and viral hepatitis.

CDC continues to address global TB through control and prevention activities. Funding for international TB efforts are described in the Global Health narrative under Tuberculosis.

TB Prevention and Control Cooperative Agreement Grants^{1,2,3,4}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	62	62	61	61	61	0
- New Awards	0	0	61	0	0	0
- Continuing Awards	62	62	0	61	61	0
Average Award	\$1.22	\$1.24	\$1.25	\$1.25	\$1.25	0
Range of Awards	\$0.12-\$7.84	\$0.12-\$8.30	\$0.12-\$8.52	\$0.12-\$8.50	TBD	TBD
Total Awards	\$75.73	\$77.12	\$76.51	\$76.01	\$76.01	0

¹Awards include funding to address HIV coinfection. Awards do not include funding provided under Direct Assistance (in which federal personnel are assigned to a state or local health department).

²Awards do not include funding for Pacific Islands as those jurisdictions are funded via a joint cooperative agreement.

³A new funding formula was implemented in FY 2015.

⁴These funds are awarded by formula.

CDC-Wide HIV/AIDS Funding

Fiscal Year	Domestic HIV/AIDS Prevention and Research (Infectious Disease)	Other Domestic HIV Prevention	Global HIV/AIDS Program ¹	CDC-Wide HIV Total
2006 ¹	\$651,657,000	\$64,008,000	\$122,560,000	\$838,225,000
2007	\$695,454,000	\$62,802,000	\$120,985,000	\$879,241,000
2008 ²	\$691,860,000	\$40,000,000	\$118,863,000	\$850,723,000
2009	\$691,860,000	\$40,000,000	\$118,863,000	\$850,723,000
2010 ³	\$799,270,000	\$0	\$118,961,000	\$918,231,000
2011	\$800,445,000	\$0	\$118,741,000	\$919,186,000
2012 ⁴	\$822,633,000	\$0	\$131,190,000	\$953,823,000
2013	\$768,635,000	\$0	\$125,254,000	\$893,889,000
2014	\$786,712,000	\$0	\$128,420,000	\$915,132,000
2015	\$786,712,000	\$0	\$128,421,000	\$915,133,000
2016 Enacted	\$788,712,000	\$0	\$128,421,000	\$917,133,000
2017 President's Budget	\$788,712,000	\$0	\$128,421,000	\$917,133,000

¹For 2006 and 2007, CDC-wide HIV/AIDS funding was comprised of activities conducted by the Coordinating Center for Infectious Diseases [including the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP)], the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), and the National Center for Birth Defects and Developmental Disabilities (NCBDDD). Funding for NCCDPHP and NCBDDD are shown in the "Other Domestic HIV Prevention" column.

²In FY 2010, funds supporting hemophilia/HIV activities in NCBDDD and funds supporting oral health/HIV, BRFSS/HIV, and Safe Motherhood/HIV activities in NCCDPHP—previously displayed in the "Other Domestic HIV Prevention" column—were removed from the CDC-Wide HIV/AIDS table. FY 2008 and FY 2009 figures were adjusted to become comparable to FY 2010 figures.

³In FY 2012, HIV prevention activities in the Division of Adolescent and School Health were transferred to NCHHSTP. FY 2010 and FY 2011 funding levels have been made comparable to the budget realignment, reflecting a transfer of \$40,000,000 from Chronic Disease Prevention and Health Promotion to Domestic HIV/AIDS Prevention and Research. Funding levels prior to FY 2010 have not been made comparable to the budget realignment. FY 2010 funding also includes a \$30,400,000 ACA/PPHF allocation.

⁴FY 2012 and FY 2013 are comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund. Funding levels prior to FY 2012 have not been made comparable to the FY 2016 request.

State Table: HIV Prevention with Health Departments^{1,2,3,4}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$3,299,062	\$896,848	TBD	TBD
Alaska	\$898,743	\$3,616,319	TBD	TBD
Arizona	\$3,623,958	\$1,496,059	TBD	TBD
Arkansas	\$1,499,219	\$1,496,059	TBD	TBD
California	\$19,394,918	\$19,354,034	TBD	TBD
Colorado	\$6,809,860	\$6,795,505	TBD	TBD
Connecticut	\$3,925,915	\$3,917,639	TBD	TBD
Delaware	\$935,434	\$933,462	TBD	TBD
Florida	\$33,980,093	\$33,908,463	TBD	TBD
Georgia	\$5,448,313	\$5,436,828	TBF	TBD
Hawaii	\$1,264,441	\$1,261,776	TBD	TBD
Idaho	\$750,000	\$748,419	TBD	TBD
Illinois	\$2,900,057	\$2,893,944	TBD	TBD
Indiana	\$2,304,554	\$2,299,696	TBD	TBD
Iowa	\$782,295	\$780,646	TBD	TBD
Kansas	\$869,405	\$867,572	TBD	TBD
Kentucky	\$1,412,303	\$1,409,326	TBD	TBD
Louisiana	\$9,645,051	\$9,624,719	TBD	TBD
Maine	\$781,095	\$779,448	TBD	TBD
Maryland	\$5,899,472	\$5,887,036	TBF	TBD
Massachusetts	\$5,318,306	\$5,307,095	TBD	TBD
Michigan	\$5,754,349	\$5,742,219	TBD	TBD
Minnesota	\$2,078,704	\$2,074,322	TBD	TBD
Mississippi	\$2,417,675	\$2,412,579	TBD	TBD
Missouri	\$3,983,924	\$3,975,526	TBD	TBD
Montana	\$855,760	\$853,956	TBD	TBD
Nebraska	\$1,028,628	\$1,026,460	TBD	TBD
Nevada	\$2,149,542	\$2,145,011	TBD	TBD
New Hampshire	\$637,297	\$635,954	TBD	TBD
New Jersey	\$14,363,959	\$14,333,680	TBD	TBD
New Mexico	\$1,286,403	\$1,283,691	TBD	TBD
New York	\$14,928,508	\$14,897,039	TBD	TBD
North Carolina	\$5,960,090	\$5,947,526	TBD	TBD
North Dakota	\$711,602	\$710,102	TBD	TBD
Ohio	\$5,826,777	\$5,814,494	TBD	TBD
Oklahoma	\$1,520,888	\$1,517,682	TBD	TBD
Oregon	\$1,703,137	\$1,699,547	TBD	TBD
Pennsylvania	\$3,750,529	\$3,742,623	TBD	TBD
Rhode Island	\$1,541,700	\$1,538,450	TBD	TBD
South Carolina	\$5,711,677	\$5,699,637	TBD	TBD
South Dakota	\$703,400	\$701,917	TBD	TBD
Tennessee	\$6,981,941	\$6,967,223	TBD	TBD
Texas	\$14,926,018	\$14,894,554	TBD	TBD
Utah	\$850,000	\$848,208	TBD	TBD
Vermont	\$867,153	\$865,325	TBD	TBD
Virginia	\$7,643,192	\$7,627,080	TBD	TBD
Washington	\$2,853,945	\$2,847,929	TBD	TBD
West Virginia	\$785,421	\$783,765	TBD	TBD
Wisconsin	\$1,697,208	\$1,693,630	TBD	TBD
Wyoming	\$750,000	\$748,419	TBD	TBD
Cities				

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Baltimore	\$8,820,077	\$8,801,484	TBD	TBD
Chicago	\$11,099,573	\$11,076,175	TBD	TBD
Fulton Co., GA	\$4,848,806	\$4,838,585	TBD	TBD
Houston	\$11,035,091	\$11,011,829	TBD	TBD
Los Angeles	\$16,102,792	\$16,068,847	TBD	TBD
New York City	\$38,818,326	\$38,736,497	TBD	TBD
Philadelphia	\$6,476,343	\$6,462,691	TBD	TBD
San Francisco	\$8,194,980	\$8,177,705	TBD	TBD
Washington, D.C.	\$5,393,216	\$5,381,847	TBD	TBD
Territories				
Puerto Rico	\$6,406,998	\$6,393,492	TBD	TBD
Virgin Islands	\$483,218	\$482,199	TBD	TBD
Subtotal States	\$226,011,921	\$225,535,489	TBD	TBD
Subtotal Cities	\$110,789,204	\$110,555,660	TBD	TBD
Subtotal Territories	\$6,890,216	\$6,875,691	TBD	TBD
Total	\$343,691,341	\$342,966,840	TBD	TBD

¹CFDA NUMBER: 93-940 [Discretionary]²Amounts reflect new funding only. Funding totals do not include Direct Assistance (DA) funding. Funding amounts do not include funding for the Pacific Islands³Funds for FY 2015 include funding for PS15-1506. The purpose of these funds is to support state, local and territorial health departments in the US to implement PrEP and Data to Care demonstration projects prioritizing MSM and transgender persons who have sex with men..⁴This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial awardees). For a more comprehensive view of grant and cooperative agreement funding to awardees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

State Table: HIV Surveillance 1, 2, 3

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$915,009	\$928,734	\$942,665	\$13,931
Alaska	\$143,126	\$145,273	\$147,452	\$2,179
Arizona	\$954,996	\$969,321	\$983,861	\$14,540
Arkansas	\$336,269	\$341,313	\$346,433	\$5,120
California	\$2,433,343	\$2,469,843	\$2,506,891	\$37,048
Colorado	\$903,983	\$917,543	\$931,306	\$13,763
Connecticut	\$896,275	\$909,719	\$923,365	\$13,646
Delaware	\$258,030	\$261,900	\$265,829	\$3,929
Florida	\$5,011,481	\$5,076,503	\$5,152,651	\$76,148
Georgia	\$1,553,541	\$1,576,844	\$1,600,497	\$23,653
Hawaii	\$222,183	\$225,516	\$228,898	\$3,382
Idaho	\$175,727	\$178,363	\$181,038	\$2,675
Illinois	\$702,266	\$712,800	\$723,492	\$10,692
Indiana	\$778,520	\$790,198	\$802,051	\$11,853
Iowa	\$194,237	\$197,151	\$200,108	\$2,957
Kansas	\$239,216	\$242,804	\$246,446	\$3,642
Kentucky	\$358,499	\$363,876	\$369,335	\$5,459
Louisiana	\$1,231,210	\$1,249,678	\$1,268,423	\$18,745
Maine	\$163,965	\$166,424	\$168,921	\$2,497
Maryland	\$1,622,381	\$1,646,717	\$1,671,417	\$24,700
Massachusetts	\$1,082,726	\$1,098,967	\$1,115,451	\$16,484
Michigan	\$1,121,155	\$1,137,972	\$1,155,042	\$17,070
Minnesota	\$419,320	\$425,610	\$431,994	\$6,384
Mississippi	\$739,267	\$750,356	\$761,611	\$11,255
Missouri	\$639,794	\$649,391	\$659,132	\$9,741
Montana	\$152,030	\$154,310	\$156,625	\$2,315
Nebraska	\$193,216	\$196,114	\$199,056	\$2,942
Nevada	\$438,615	\$445,194	\$451,872	\$6,678
New Hampshire	\$143,797	\$145,954	\$148,143	\$2,189
New Jersey	\$2,709,464	\$2,750,106	\$2,791,358	\$41,252
New Mexico	\$242,676	\$246,316	\$250,011	\$3,695
New York	\$1,906,287	\$1,934,881	\$1,963,905	\$29,024
North Carolina	\$1,581,566	\$1,605,289	\$1,629,369	\$24,080
North Dakota	\$122,097	\$123,928	\$125,787	\$1,859
Ohio	\$919,116	\$932,903	\$946,896	\$13,993
Oklahoma	\$350,850	\$356,113	\$361,454	\$5,341
Oregon	\$393,040	\$398,936	\$404,920	\$5,984
Pennsylvania	\$813,112	\$825,309	\$837,688	\$12,379
Rhode Island	\$202,406	\$205,442	\$208,524	\$3,082
South Carolina	\$1,006,998	\$1,022,103	\$1,037,435	\$15,332
South Dakota	\$134,032	\$136,042	\$138,083	\$2,041
Tennessee	\$854,205	\$867,018	\$880,023	\$13,005
Texas	\$2,537,243	\$2,575,302	\$2,613,931	\$38,629
Utah	\$252,685	\$256,475	\$260,322	\$3,847
Vermont	\$132,876	\$134,869	\$136,892	\$2,023
Virginia	\$1,353,792	\$1,374,099	\$1,394,710	\$20,611
Washington	\$1,217,277	\$1,235,536	\$1,254,069	\$18,533
West Virginia	\$197,659	\$200,624	\$203,633	\$3,009
Wisconsin	\$401,821	\$407,848	\$413,966	\$6,118
Wyoming	\$123,782	\$125,639	\$127,523	\$1,884
Cities				

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Chicago	\$1,385,137	\$1,405,914	\$1,427,003	\$21,089
Houston	\$1,346,082	\$1,366,273	\$1,386,767	\$20,494
Los Angeles	\$2,425,684	\$2,462,069	\$2,499,000	\$36,931
New York City	\$5,277,273	\$5,356,432	\$5,436,779	\$80,347
Philadelphia	\$1,236,870	\$1,255,423	\$1,274,254	\$18,831
San Francisco	\$1,291,776	\$1,311,153	\$1,330,820	\$19,667
Washington, D.C.	\$1,396,836	\$1,417,789	\$1,439,055	\$21,266
Territories				
Puerto Rico	\$899,474	\$912,966	\$926,661	\$13,695
Virgin Islands	\$141,105	\$143,222	\$145,370	\$2,148
Subtotal States	\$41,467,161	\$42,089,166	\$42,720,504	\$631,338
Subtotal Cities	\$14,359,658	\$14,575,053	\$14,793,678	\$218,625
Subtotal Territories	\$1,040,579	\$1,056,188	\$1,072,031	\$15,843
Total	\$56,867,398	\$57,720,409	\$58,586,215	\$865,806

¹CFDA NUMBER: 93-944 [Discretionary]

²Amounts reflect new DHAP funding only with an inflation increase of 1.5% per year. Funding totals do not include Direct Assistance (DA) funding. Funding amounts include the Molecular HIV Surveillance (MHS) subcomponent funded by DHAP funds.

³This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial awardees). For a more comprehensive view of grant and cooperative agreement funding to awardees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

⁴ Additional funds in the amount of \$21,779,785 are provided to approximately 20 health departments for other surveillance activities.

State Table: Sexually Transmitted Disease Prevention^{1,2,3,4}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$1,805,623	\$1,817,187	\$1,828,751	+\$11,564
Alaska	\$381,625	\$370,911	\$360,197	-\$10,714
Arizona	\$1,472,645	\$1,535,915	\$1,599,186	+\$63,270
Arkansas	\$1,166,724	\$1,154,211	\$1,141,697	-\$12,513
California	\$5,550,275	\$5,713,340	\$5,876,406	+\$163,065
Colorado	\$1,137,389	\$1,171,161	\$1,204,933	+\$33,772
Connecticut	\$783,099	\$806,029	\$829,050	+\$23,020
Delaware	\$363,428	\$365,353	\$367,279	+\$1,925
Florida	\$4,430,451	\$4,569,902	\$4,709,352	+\$139,451
Georgia	\$3,605,632	\$3,571,294	\$3,536,956	-\$34,338
Hawaii	\$375,079	\$380,305	\$385,531	+\$5,226
Idaho	\$368,388	\$353,586	\$338,783	-\$14,802
Illinois	\$2,214,183	\$2,263,397	\$2,312,611	+\$49,214
Indiana	\$1,688,745	\$1,689,542	\$1,690,340	+\$797.00
Iowa	\$712,914	\$703,615	\$694,315	-\$9,299
Kansas	\$761,270	\$744,369	\$727,467	-\$16,901
Kentucky	\$1,000,386	\$1,032,404	\$1,064,422	+\$32,018
Louisiana	\$2,177,129	\$2,167,804	\$2,158,479	-\$9,325
Maine	\$277,986	\$272,742	\$267,499	-\$5,244
Maryland	\$1,286,960	\$1,303,353	\$1,319,747	+\$16,393
Massachusetts	\$1,523,946	\$1,526,367	\$1,528,788	+\$2,421
Michigan	\$2,659,706	\$2,677,453	\$2,695,200	+\$17,747
Minnesota	\$1,086,697	\$1,113,274	\$1,139,852	+\$26,577
Mississippi	\$1,369,585	\$1,369,280	\$1,368,976	-\$305.00
Missouri	\$1,877,730	\$1,831,678	\$1,785,625	-\$46,052
Montana	\$263,227	\$252,008	\$240,788	-\$11,219
Nebraska	\$444,059	\$447,400	\$450,740	+\$3,341
Nevada	\$724,470	\$745,702	\$766,934	+\$21,232
New Hampshire	\$270,684	\$269,723	\$268,762	-\$961.00
New Jersey	\$2,740,177	\$2,636,099	\$2,532,022	-\$104,078
New Mexico	\$689,712	\$670,230	\$650,748	-\$19,482
New York	\$2,590,274	\$2,517,717	\$2,445,160	-\$72,557
North Carolina	\$2,877,183	\$2,894,881	\$2,912,579	+17,698
North Dakota	\$223,681	\$215,787	\$207,894	-\$7,894
Ohio	\$3,195,893	\$3,209,538	\$3,223,183	\$13,645
Oklahoma	\$1,096,568	\$1,087,687	\$1,078,806	-\$8,881
Oregon	\$912,761	\$886,454	\$860,146	-\$26,307
Pennsylvania	\$2,073,349	\$2,112,435	\$2,151,520	+\$39,086
Rhode Island	\$356,534	\$344,166	\$331,798	-\$12,368
South Carolina	\$1,555,175	\$1,565,283	\$1,575,390	\$10,108
South Dakota	\$261,503	\$254,477	\$247,452	-\$7,026
Tennessee	\$2,134,624	\$2,097,376	\$2,060,127	-\$37,248
Texas	\$6,425,623	\$6,607,148	\$6,788,673	+\$181,525
Utah	\$512,708	\$534,148	\$555,589	+\$21,440
Vermont	\$178,482	\$185,654	\$192,827	+\$7,172
Virginia	\$1,951,187	\$2,005,228	\$2,059,270	+\$54,041
Washington	\$2,181,535	\$2,098,676	\$2,015,816	-\$82,859
West Virginia	\$601,730	\$578,875	\$556,020	-\$22,855
Wisconsin	\$1,095,655	\$1,177,457	\$1,259,258	+\$81,802
Wyoming	\$225,907	\$217,326	\$208,746	-\$8,581
Cities				

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Baltimore	\$1,267,866	\$1,218,524	\$1,169,182	-\$49,342
Chicago	\$2,108,089	\$2,077,613	\$2,047,137	-\$30,476
Los Angeles	\$3,384,080	\$3,301,741	\$3,219,403	-\$82,339
New York City	\$5,747,542	\$5,668,747	\$5,589,951	-\$78,795
Philadelphia	\$2,162,113	\$2,079,992	\$1,997,870	-\$82,121
San Francisco	\$1,296,937	\$1,247,677	\$1,198,416	-\$49,260
Washington, D.C.	\$1,081,326	\$1,038,186	\$995,046	-\$43,140
Territories				
Puerto Rico	\$1,201,897	\$1,156,247	\$1,110,596	-\$45,650
Virgin Islands	\$183,851	\$189,234	\$194,617	+\$5,383
Subtotal States	\$75,660,206	\$76,115,947	\$76,571,690	+\$455,743
Subtotal Cities	\$17,047,954	\$16,632,480	\$16,217,005	-\$415,473
Subtotal Territories	\$1,385,748	\$1,345,481	\$1,305,213	-\$40,267
Total	\$94,093,909	\$94,093,909	\$94,093,909	\$0

¹CFDA NUMBER: 93-977 [Discretionary]

²Amounts reflect new assistance and include HIV/STD coinfection funds. Amounts do not include funding under Direct Assistance, which is a financial assistance mechanism primarily used to support payroll and travel expenses of CDC employees assigned to state, tribal, local, and territorial health agencies that are recipients of grants and cooperative agreements.

³Amounts do not include Gonococcal Isolate Surveillance Project awards.

⁴This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial awardees). For a more comprehensive view of grant and cooperative agreement funding to awardees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

State Table: TB Prevention and Control^{1,2,3,4}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- 2016
Alabama	\$1,167,406	\$1,111,058	TBD	TBD
Alaska	\$624,850	\$618,677	TBD	TBD
Arizona	\$1,515,235	\$1,459,586	TBD	TBD
Arkansas	\$545,453	\$549,659	TBD	TBD
California	\$8,521,471	\$8,502,444	TBD	TBD
Colorado	\$541,436	\$527,472	TBD	TBD
Connecticut	\$605,967	\$574,893	TBD	TBD
Delaware	\$181,995	\$190,728	TBD	TBD
Florida	\$5,585,087	\$5,310,312	TBD	TBD
Georgia	\$2,583,222	\$2,748,973	TBD	TBD
Hawaii	\$922,952	\$985,163	TBD	TBD
Idaho	\$178,261	\$177,766	TBD	TBD
Illinois	\$1,464,902	\$1,420,535	TBD	TBD
Indiana	\$715,112	\$753,985	TBD	TBD
Iowa	\$383,489	\$410,710	TBD	TBD
Kansas	\$402,751	\$420,553	TBD	TBD
Kentucky	\$555,662	\$587,827	TBD	TBD
Louisiana	\$1,095,789	\$1,016,328	TBD	TBD
Maine	\$211,079	\$215,180	TBD	TBD
Maryland	\$1,384,036	\$1,381,641	TBD	TBD
Massachusetts	\$1,611,952	\$1,714,138	TBD	TBD
Michigan	\$1,223,759	\$1,242,016	TBD	TBD
Minnesota	\$1,033,617	\$1,085,372	TBD	TBD
Mississippi	\$789,638	\$698,771	TBD	TBD
Missouri	\$691,526	\$662,140	TBD	TBD
Montana	\$180,553	\$182,532	TBD	TBD
Nebraska	\$226,675	\$256,043	TBD	TBD
Nevada	\$718,073	\$710,897	TBD	TBD
New Hampshire	\$169,436	\$168,209	TBD	TBD
New Jersey	\$2,243,573	\$2,186,324	TBD	TBD
New Mexico	\$380,354	\$372,568	TBD	TBD
New York	\$1,616,579	\$1,592,071	TBD	TBD
North Carolina	\$1,686,030	\$1,642,132	TBD	TBD
North Dakota	\$174,429	\$179,648	TBD	TBD
Ohio	\$1,070,895	\$1,163,463	TBD	TBD
Oklahoma	\$655,876	\$607,110	TBD	TBD
Oregon	\$563,620	\$586,061	TBD	TBD
Pennsylvania	\$962,252	\$945,131	TBD	TBD
Rhode Island	\$214,350	\$213,476	TBD	TBD
South Carolina	\$1,005,144	\$921,010	TBD	TBD
South Dakota	\$200,625	\$197,068	TBD	TBD
Tennessee	\$1,169,106	\$1,200,386	TBD	TBD
Texas	\$7,526,123	\$7,648,079	TBD	TBD
Utah	\$276,370	\$282,926	TBD	TBD
Vermont	\$160,195	\$160,239	TBD	TBD
Virginia	\$1,601,629	\$1,589,373	TBD	TBD
Washington	\$1,443,891	\$1,476,319	TBD	TBD
West Virginia	\$177,085	\$177,394	TBD	TBD
Wisconsin	\$609,391	\$602,914	TBD	TBD
Wyoming	\$156,162	\$155,752	TBD	TBD
Cities				
Baltimore	\$196,574	\$186,391	TBD	TBD

CDC FY 2017 Congressional Justification

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY2017 +/- 2016
Chicago	\$1,087,344	\$1,024,693	TBD	TBD
Detroit	\$0	\$0	TBD	TBD
Houston	\$1,591,323	\$1,525,537	TBD	TBD
Los Angeles	\$4,712,280	\$4,579,854	TBD	TBD
New York City	\$4,746,300	\$4,715,413	TBD	TBD
Philadelphia	\$709,966	\$673,574	TBD	TBD
San Diego	\$1,801,626	\$1,797,071	TBD	TBD
San Francisco	\$838,038	\$909,019	TBD	TBD
Washington, D.C.	\$346,804	\$304,281	TBD	TBD
Territories				
Puerto Rico	\$635,022	\$597,310	TBD	TBD
Virgin Islands	\$117,971	\$118,310	TBD	TBD
Subtotal States	\$59,725,063	\$59,583,052	TBD	TBD
Subtotal Cities	\$16,030,255	\$15,715,833	TBD	TBD
Subtotal Territories	\$752,993	\$715,620	TBD	TBD
Total	\$76,508,311	\$76,014,505	TBD	TBD

¹CFDA NUMBER: 93-116 [Discretionary]²Amounts reflect new assistance and include HIV/TB coinfection funds. Amounts do not include funding under Direct Assistance.³FY 2017 estimates are unavailable at this time.⁴This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial awardees). For a more comprehensive view of grant and cooperative agreement funding to awardees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$352.990	\$527.885	\$577.485	+\$49.600
ACA/PPHF	\$52.000	\$52.000	\$52.000	\$0.000
Total Request	\$404.990	\$579.885	\$629.485	+\$49.600
FTEs	1,099	1,112	1,112	0.000

Emerging and Zoonotic Infectious Diseases
- Core Infectious Diseases (includes CARB and Lab Safety and Quality)
- Chronic Fatigue Syndrome (non-add)
- National Healthcare Safety Network
- Food Safety
- Quarantine (including Federal Isolation and Quarantine)
- Advanced Molecular Detection
- Epidemiology and Laboratory Capacity (PPHF)
- Healthcare-Associated Infections (PPHF)

Summary

CDC works to prevent infections, protect people, and save lives by:

- Reducing illness and death associated with emerging and zoonotic infectious diseases, and
- Protecting people against the unintentional spread of infectious diseases.

CDC's FY 2017 request of **\$629,485,000** for [Emerging and Zoonotic Infectious Diseases](#),⁵⁹ including \$52,000,000 from the Affordable Care Act Prevention and Public Health Fund, is \$49,600,000 above the FY 2016 Enacted level. The FY 2017 budget request will allow CDC to further reduce healthcare-associated infections, improve food safety, and invest in antibiotic resistant detection and response activities.

The FY 2017 request includes an increase of \$40,000,000 above the FY 2016 Enacted level to continue expanding the nation's ability to fight antibiotic resistance and implementation of CDC's responsibilities under the [National Action Plan for Combating Antibiotic-Resistant Bacteria \(CARB\)](#).⁶⁰ CDC's FY 2017 request includes continued essential funding from the FY 2016 Enacted level at \$21,000,000 for the National Healthcare Safety Network (NHSN). Through broadening data collection on healthcare-associated infections (HAIs) and antibiotic use, CDC will accelerate HAI prevention across the spectrum of care. The FY 2017 request maintains a \$52,000,000 investment to continue implementing provisions of the Food Safety Modernization Act through CDC's Food Safety program. CDC's FY 2017 request also maintains a \$30,000,000 investment to build capacity through Advanced Molecular Detection (AMD) in bioinformatics and genomics from the FY 2016 Enacted level.

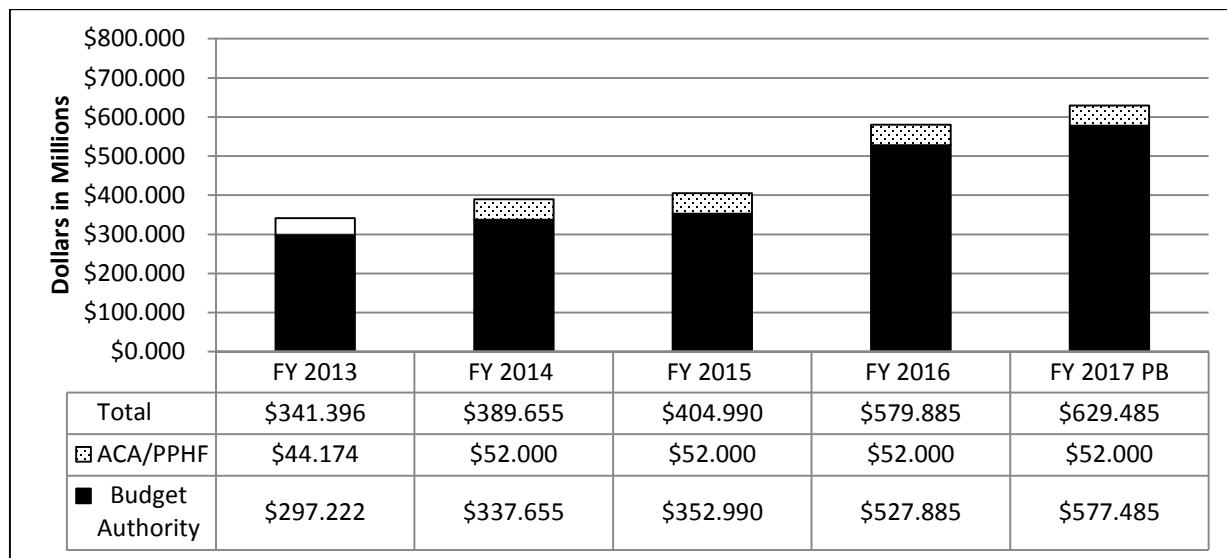
⁵⁹ <http://www.cdc.gov/ncezid/>

⁶⁰ https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf

These activities align with CDC's strategic goals to protect Americans from infectious disease, ensure global disease protection, monitor health, and ensure laboratory excellence.

Performance Highlights

- CDC now has almost two years of data on the impact of Advanced Molecular Detection (AMD) technologies (specifically, whole genome sequencing, or WGS) on foodborne listeriosis. Since the adoption of WGS, the number of outbreaks detected has increased by 50% while the number of cases per outbreak has decreased by 50%. Outbreaks are being detected earlier and the number of cases linked to specific food sources has increased 15-fold. For example, in FY 2015, using AMD technologies, investigations identified caramel apples and ice cream as food sources of two *Listeria* outbreaks. Neither of these foods had previously been considered as an important source of this severe infection. Because of WGS supported by AMD investments, investigators rapidly determined the foods responsible for these outbreaks, taking public health actions, including recalls, earlier than would have been possible with traditional laboratory techniques.
- CDC has invested in practical interventions to counter the threat of untreatable antibiotic resistant infections. In 2014, the Chicago Prevention Epicenter completed a multicenter evaluation of a novel intervention bundle designed to stop the spread of carbapenem-resistant Enterobacteriaceae (CRE) in four long term acute care hospitals (LTACHs). This is an important AR prevention strategy because successful intervention in LTACHs will be an important component of coordinated regional antimicrobial resistance interventions. The prevention package included improved patient screening, CRE positive patient isolation, daily chlorhexidine bathing, and enhanced healthcare worker training and monitoring. Use of the prevention package led to a 56% reduction in CRE bloodstream infections.
- CDC collaborated with the World Health Organization and in-country Ministries of Health to implement strategies to control transmission and spread of the Ebola virus from ill travelers. CDC stood up and provided technical support for the implementation of effective exit screening at points of departure in Guinea, Liberia, and Sierra Leone, including the enforcement of do-not-board procedures for ill travelers and persons who reported a high risk of exposure to Ebola. More than 195,000 travelers have been screened before leaving any of the three affected West African countries.

Emerging and Zoonotic Infectious Diseases Funding History^{1,2}

¹ FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

² FY 2013 and FY 2014 are comparable to FY 2015 to account for the Center for Global Health reorganization.

Core Infectious Diseases Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$225.393	\$393.313	\$427.913	+\$34.600

Overview

Protecting Americans and people around the world from constantly-changing infectious diseases involves a cascade of activities that includes laboratory testing, outbreak detection and response, disease tracking, epidemiologic investigations, analysis and reporting, and research and development. These actions must occur at many levels (local, state, national, and international), because pathogens, diseases, and people move across borders. Since we live in an interconnected world, ensuring capacity and working collaboratively at all levels is essential in protecting individuals from infectious disease threats. CDC invests in a flexible public health system at national, state, and local levels to:

- Create, support, and maintain disease tracking systems
- Support modern and efficient laboratories with well-trained laboratory scientists
- Prepare and equip outbreak investigation and response teams
- Develop and apply tools for effective epidemiologic, statistical, analytic, policy, and communication approaches
- Build and maintain an appropriately sized and competent public health workforce with deep expertise across a broad range of pathogens

These activities serve as a critical underpinning for CDC's foundational capacities in epidemiology, laboratory, and surveillance activities for infectious diseases.

CDC is home to the country's leading experts and laboratories in infectious disease prevention and control. CDC's experts and laboratories detect and track a broad range of microbes and respond to disease threats from many different pathogens, such as the first case of Middle East Respiratory Syndrome (MERS) in the United States in 2014 and the recent global response to the epidemic of Ebola in West Africa. Through specialized surveillance systems that serve as early warning systems and rapid response capability, CDC's experts remain able to detect and protect the public from a vast number of infectious diseases.

Epidemiology and Laboratory Capacity (ELC) Platform/Emerging Infections Program (EIP)

CDC's multiple approaches to surveillance, control, and prevention of infectious diseases are evident in two of CDC's flagship Cooperative Agreements: the [Epidemiology and Laboratory Capacity for Infectious Diseases \(ELC\)](#)⁶¹ platform and the [Emerging Infections Program \(EIP\)](#).⁶² The ELC operates a nationwide cooperative agreement supporting all 50 states, the six largest local health departments, and U.S. territories and affiliates. ELC focuses investments on building essential epidemiology and laboratory capabilities in all grantees while also providing targeted resources for issues of regional concern. The EIP, a network of 10 state public health departments (CA, CO, CT, GA, MD, MN, NM, NY, OR, and TN) and their academic partners, conducts surveillance, epidemiology studies, and prevention research projects. For example, United States estimates of foodborne disease illnesses and deaths are generated using data from EIP surveillance. The EIP provides similar data for several other infections (e.g., respiratory diseases, healthcare associated infections, and tickborne diseases). The

⁶¹ <http://www.cdc.gov/ncecid/dpei/epidemiology-laboratory-capacity.html>

⁶² <http://www.cdc.gov/ncecid/dpei/eip/>

EIP also helps answer questions about what public health interventions work best and how to translate those approaches into routine public health practice.

Budget Request

CDC's FY 2017 request of **\$427,913,000** for Core Infectious Diseases is \$34,600,000 above the FY 2016 Enacted level. The FY 2017 request includes an increase of \$40,000,000 for year two of CDC's responsibilities under the [National Action Plan for Combating Antibiotic-Resistant Bacteria \(CARB\)](#). The FY 2017 budget request reflects the elimination for Chronic Fatigue Syndrome (CFS). The goal of CDC's current CFS program is to develop tools to gather and analyze surveillance data and to educate clinicians and the population based on the results of evidence-based studies. Over the past five years, NIH has been funded at a similar level to conduct biomedical research on CFS. CFS affects between one and four million people in the United States.

CDC's core infectious diseases budget request includes a number of activities that support surveillance, laboratory, and prevention programs in multiple infectious disease areas. These areas include vector-borne diseases (including Lyme disease), high-consequence pathogens (formerly hantavirus/special pathogens), prion, emerging infections, antibiotic resistance, and healthcare-associated infections. The following sections describe select core infectious disease activities.

Vector-Borne Diseases

[CDC's vector-borne diseases program](#)⁶³ is the focal point of the nation's capacity to detect, control, and prevent bacteria and viruses transmitted by mosquitoes, ticks, and fleas. CDC experts combine support to state and local health departments with field investigations and intramural research, addressing risks to the United States from emerging and invasive pathogens arising anywhere in the world. As the national diagnostic reference center for vector-borne viral and bacterial diseases, CDC will continue to detect the emergence and epidemic potential of exotic and novel vector-borne threats both domestically and abroad.

Current vector-borne disease priorities:

- **Chikungunya virus:** The invasion of [Chikungunya virus](#)⁶⁴ into the Western hemisphere in December 2013 highlights the importance of global health security and the ongoing need for effective surveillance to track microbes that can rapidly spread around the globe. By December 2015, 1.7 million suspect and confirmed cases had been reported from 45 countries and territories throughout the Caribbean, South, Central, and North America, including Northern Mexico. In addition, over 30,000 cases have been reported in Puerto Rico, the U.S. Virgin Islands, and American Samoa. Eleven locally-acquired cases of Chikungunya have been detected in Florida, and over 3,000 travel-associated cases have been identified from 46 states and Washington, D.C.. With the expanding outbreaks in the Americas and Mexico, the number of Chikungunya cases among travelers visiting or returning to the United States will continue to increase, especially along the United States-Mexico border.
- **Zika virus:** The mosquito-borne Zika virus, transmitted by the same mosquitoes that spread dengue and Chikungunya, is the newest threat to the Western Hemisphere and the United States. Outbreaks of Zika virus have occurred in Africa, Southeast Asia, and the Pacific Islands. In 2015, outbreaks in the Pacific Islands and Brazil (site of the summer 2016 Olympics) were reported. Locally acquired Zika virus was first reported in December 2015 in Puerto Rico. Cases of Zika virus infection have been reported in returning U.S. travelers and will likely increase as this outbreak continues to spread throughout the Western Hemisphere. Many states have the mosquito vectors that transmit Zika virus infection; additional cases or clusters of cases can be expected. Since the 2015 Zika virus outbreak began in Brazil,

⁶³ <http://www.cdc.gov/ncezid/dvbd/>

⁶⁴ <http://www.cdc.gov/chikungunya/>

the outbreak has also spread to Colombia, El Salvador, French Guyana, Guatemala, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Suriname and Venezuela. In late 2015, CDC was invited by the Ministry of Health (MOH) of Brazil and the Pan American Health Association to provide consultation and laboratory training to investigate an increase in the number of babies born with microcephaly (babies born with a smaller than usual head circumference) and whether this increase is associated with the spread of Zika virus. This investigation is ongoing, and CDC and our partners will be exploring and conducting multiple research, surveillance, and prevention activities. If there is an association between Zika virus infection and cases of microcephaly, a substantial number of women of childbearing age and their infants could be at risk of infection and possible side effects.

- **Dengue:** The global incidence of dengue is continuing to increase as it has for the past several decades. Globally, an estimated 400,000 dengue infections occur each year with 40% of the world's population at risk for dengue infection. CDC continues to provide technical assistance to the United States and internationally. In 2015, CDC was invited by the Ministry of Health of the Dominican Republic to investigate an increase in the number of deaths associated with a dengue outbreak. In July 2015, CDC was asked to provide assistance in response to a dengue outbreak in American Samoa. Currently, CDC is responding as part of the largest dengue outbreak reported in Hawaii since the 1940s. Since September 2015, over 200 confirmed cases have been identified among Hawaii residents and tourists.
- **West Nile virus:** There continue to be outbreaks of West Nile virus (WNV) in the United States each year. The virus is established across the country and is here to stay. As of December 2015, 48 states and Washington, D.C. have reported over 1,900 cases of WNV in people. In 2015, the first ever outbreak of WNV and St. Louis encephalitis was reported in Arizona; CDC provided technical assistance and laboratory support to this outbreak.
- **Lyme disease:** Several recent CDC studies aimed at estimating the true burden of Lyme disease in the United States show that the 30,000 annually reported Lyme disease cases are likely underreported by a factor of 10. In addition, a CDC study shows that, since 1993, the number of counties in the northeastern states identified as having high incidence of Lyme disease increased by more than 320%.
- **Global health:** CDC's vector-borne diseases program supports the global work to better understand acute febrile illnesses, and improve diagnostics, treatment, and prevention of vector-borne diseases. Following CDC's technical and training assistance to Indonesia, the country recently discovered its first case of Zika virus infection.
- **Newly discovered pathogens:** In the last few years, and with the help of advanced molecular diagnostics, CDC helped discover five new tick-borne pathogens in the United States: *Borrelia miyamotoi*, which causes Lyme disease-like symptoms; a novel *Borrelia* species, provisionally named *Borrelia mayonii*; an *Ehrlichia muris*-like bacteria; Bourbon virus; and Heartland virus. Investigations continue to identify animal vectors and to determine how widespread these infections are and who is being infected. CDC is implementing Advanced Molecular Detection (AMD) methods to enhance tickborne pathogen discovery. By partnering with the Minnesota Department of Health, Mayo Clinic, Tennessee Department of Health, and Vanderbilt University up to 30,000 clinical specimens from patients with suspected tickborne illness over a three-year period will be obtained. CDC will use AMD methods, including metagenomics screening and whole genome sequencing, to identify the specific tickborne bacteria that caused these patients' illnesses. This multi-disciplinary project will modernize tickborne disease detection and surveillance in the United States so people get the right diagnoses and treatments.

In FY 2017, the United States will confront new threats from domestic and invasive vector-borne pathogens. To address those threats, CDC will conduct the following activities:

FY 2017 Vector-Borne Activities	Background and Activities
Assist public health partners	Assist county, state, tribal, and territorial health authorities, as well as international partners, to detect, prevent, and control diseases spread by mosquitoes, ticks, and fleas. CDC staff will help local authorities conduct fieldwork and research to explain why and how individuals are at risk for vector-borne diseases and evaluate the efficacy of prevention efforts.
Conduct multi-faceted surveillance	Operate ArboNET , ⁶⁵ the national surveillance system for arthropod-borne viruses (or arboviruses) like West Nile virus and Chikungunya. This integrated network funds, through ELC cooperative agreements, staff in 49 states, Puerto Rico, and six large municipalities (New York City, Chicago, Philadelphia, Los Angeles County, Washington D.C., and Harris County, Texas) to conduct human case investigations, collect and test mosquitoes, and perform laboratory analyses. CDC evaluates, updates, and shares this information weekly with state and local partners. Support TickNET , ⁶⁶ a network funded through the ELC cooperative agreement of the 16 states with the highest rates of tick-borne diseases, to conduct surveillance and test practical prevention measures for Lyme disease, Rocky Mountain spotted fever, and other tick-borne infections.
Train and support healthcare providers and laboratories	Expand training and education for healthcare providers, public health professionals, and the public. CDC continues to provide training to state and local health departments, to assure capacity in Chikungunya epidemiology, diagnostics, and vector control. In 2015, CDC has distributed reagents for Chikungunya diagnostic testing: 385 vials of reagents were sent to 22 U.S. labs and 13 international labs, including a shipment to the Gorgas Institute in Panama. The Gorgas Institute will further distribute CDC reagents to 20 Central and South American country MOH labs for PAHO and the Caribbean Public Health Agency (CARPHA), which provides diagnostic support to 24 CARPHA member countries). In March 2014, CDC launched novel, on-line continuing medical education training on severe dengue case management. This course is based on a successful didactic training provided to over 20,000 physicians in Puerto Rico, which is now required for medical licensure by the Puerto Rico Department of Health. The free online training ⁶⁷ has been accessed globally by over 800 physicians. Clinician training is critical; good medical management can reduce mortality from 10% to less than 1%. Continue to support state and global diagnostic laboratories. CDC vector-borne laboratories distribute unique diagnostic reagents and supplies to state laboratories, perform confirmatory testing for difficult or complex cases, and develop new diagnostic methods. These new diagnostics are then provided to U.S. and international laboratories, improving testing speed, accuracy, and quality. For example, a CDC-developed dengue testing kit uses the same readily available equipment as tests for influenza, making it possible for more labs to attain diagnostic capacity. To date, CDC has produced 1,800 dengue testing kits (200 tests per kit) and distributed them to 190

⁶⁵ <http://diseasemaps.usgs.gov/mapviewer/>

⁶⁶ <http://www.cdc.gov/ticknet/index.html>

⁶⁷ <http://www.cdc.gov/dengue/training/index.html>

FY 2017 Vector-Borne Activities	Background and Activities
Build capacity through partnerships	<p>labs around the world, including 36 U.S. labs. In addition, CDC has set up a surveillance site in Puerto Rico, where dengue and other causes of acute febrile illness are studied. In this site, the CDC will evaluate the effectiveness of public and clinical management interventions in preventing dengue and its complications. Currently, CDC is evaluating if mosquito traps have any effect on the prevalence of mosquito-borne viruses in the human population, and is setting up a study of pregnant women to ascertain the effect of dengue and related viruses on pregnancy and babies.</p> <p>A commercial partner is conducting human clinical trials for a CDC-developed dengue vaccine⁶⁸ that protects against all four dengue virus types. Currently, two Phase 2 trials are underway.</p> <p>CDC and partners are testing host-targeted Lyme disease prevention methods, including commercially-licensed rodent bait boxes.⁶⁹ The bait box evaluation completed in FY 2015. In FY 2016, CDC is working with partners to develop a unique rodent-targeted vaccine designed to stop Lyme disease transmission in the animal host. CDC is working with a private partner to test, evaluate, and commercialize a novel insect repellent patented by CDC. In 2015, registration of nootkatone was filed with EPA.</p> <p>The rate of reported Rocky Mountain Spotted Fever (RMSF) on the three most highly impacted American Indian reservations in Arizona is more than 150 times the national rate. People are seven times more likely to die from RMSF in Arizona than in any other part of the United States. CDC implemented a successful RMSF pilot project⁷⁰ combining innovative prevention methods with commercial sponsorship to decrease the case incidence by 43% in a pilot community. In FY 2015, CDC expanded this program to work with tribal partners in the remaining six at-risk American Indian Reservations. In 2015, CDC was invited to provide technical assistance to the Ministry of Health of Mexico, CENAPRECE, and partners in addressing an epidemic of RMSF. Several hundred cases of RMSF are reported annually; Mexico has declared RMSF to be an epidemiologic emergency. Because IV doxycycline, the drug treatment of choice, is not readily available in country, severe cases are often fatal.</p>

High-Consequence Pathogens

CDC works to protect Americans from rare—but deadly—pathogens like Hantavirus, Ebola, Marburg, rabies, prion-related diseases, monkeypox, smallpox, and anthrax. CDC disease experts are trained to respond to the world's deadliest infections, and they work around the clock, investigating new outbreaks to protect Americans. CDC also plays a critical role in the discovery of new and emerging infectious diseases, using new advanced molecular detection techniques to identify pathogens faster and better. CDC also helps doctors solve complex medical questions by finding diagnoses for unexplained illnesses and deaths. Because the pathogens that cause these diseases are so deadly, with many of them considered bioterrorism threats that are regulated as Tier 1 select agents, CDC maintains biosafety level (BSL)-3 and BSL-4 laboratories. These laboratories support epidemiologic investigations, research, and outbreak and prevention efforts to reduce the public health threat of these hazardous and infectious high-consequence pathogens.

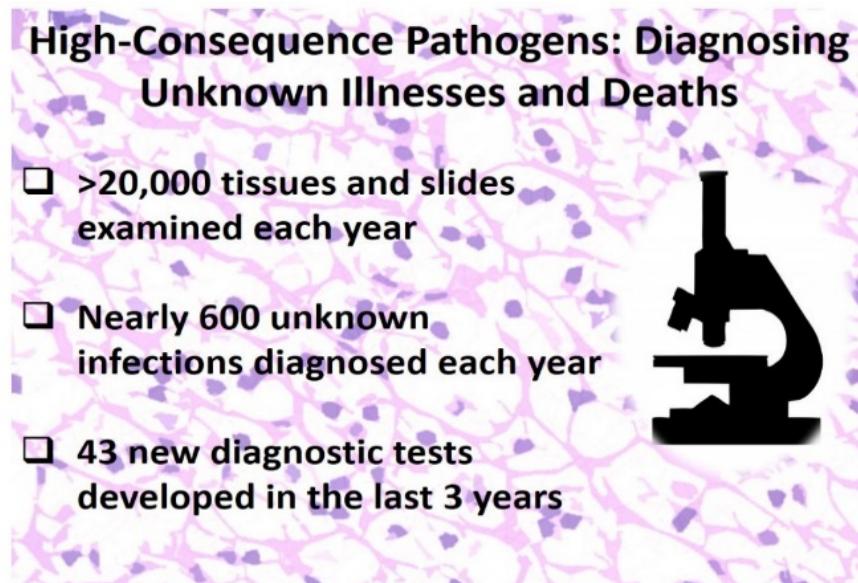
⁶⁸ <http://blog.ghtheadquarters.org/2013/06/17/working-to-protect-against-the-dangers-of-dengue/>

⁶⁹ http://www.cdc.gov/ticknet/ltdps/ltdps_bait.html

⁷⁰ <https://www.youtube.com/watch?v=jdnCdM98oCA>

CDC provides technical expertise not found in other institutions around the world. CDC supports state, tribal, local, and territorial health departments, as well as to global partners and ministries of health in investigations of:

- Suspected domestic cases of known high-consequence pathogens and of infectious diseases of unknown cause
- Outbreaks of high-consequence pathogens, including response activities to prevent the spread of these deadly diseases



¹"High-Consequence Pathogens: Diagnosing Unknown Illnesses and Deaths" data source: CDC's Division of High-Consequence Pathogens and Pathology

In 2015, as part of its core high-consequence pathogen work, CDC worked with partners to collectively accomplish the following:

- CDC worked with the World Health Organization (WHO) and other partners in responding to the largest Ebola outbreak ever documented in West Africa. CDC also provided guidance to state health departments and U.S. hospitals and physicians on how to prepare for and respond to the potential introduction of Ebola into the United States because of travel to affected countries.
- CDC's high-consequence pathogens staff played a critical role in supporting the laboratory needs for the Ebola epidemic's response.

Laboratory contributions included:

- Obtained, reviewed, and updated Emergency Use Authorization (EUA) for CDC's molecular Ebola diagnostic assays, reagents, kits, and validation panels in support of multiple laboratories.
- Responded quickly by sending laboratorians and epidemiologists to West Africa to establish diagnostic and laboratory services and provide expertise in case identification, interviewing patients and family members, contact tracing, consolidation of data into centralized databases, prevention education, and risk communication.
- Established a diagnostic laboratory in Bo, Sierra Leone, which served as an anchor for testing patients with suspected Ebola, as well as confirming when survivors were ready for discharge. The Bo lab tested over 22,000 samples, and provided a critical resource for timely action in the field.

- Continued to perform laboratory testing for persons under investigation and patients being treated in the United States.
 - Evaluated new rapid point-of-care and other diagnostic assays for Ebola virus detection, in collaboration with multiple U.S.-based companies. These assays are currently being used in support of the epidemic response.
 - Developed and updated guidance for CDC's Ebola diagnostic assays and specimen collection, transport, testing, and shipment of specimens for patients with suspected infection with Ebola virus disease.
 - Initiated research into persistence of Ebola virus in body fluids other than blood, in collaboration with the Sierra Leone Ministry of Health and Sanitation (MoHS) and WHO, and tested several hundred semen samples.
 - Participated in technical assistance visits to affected and non-affected countries to determine readiness level for Ebola response, including consulting on surveillance and diagnostics.
- CDC identified a case of Lassa fever in a traveler entering the United States. A man returning from Liberia, by way of Morocco, landed at John F. Kennedy International Airport and was hospitalized in New Jersey. CDC's laboratories confirmed the case of Lassa fever as part of its Ebola monitoring activities. CDC also helped state and local health officials track people who may have come into contact with the individual for 21 days as a precaution to contain the spread of the disease. No one else became ill with Lassa fever.
 - CDC and other federal partners responded to an incident in Louisiana involving two unusual cases of melioidosis, caused by the bacteria *Burkholderia pseudomallei*, in two non-human primates (NHP) housed at the Tulane National Primate Research Center (TNPRC). Testing by CDC revealed that the NHPs were infected with the reference laboratory strain used in a BSL-3 research facility in the primate research center, indicating an accidental laboratory exposure as the likely source. As part of the detailed investigation into the source of the incident, CDC processed 58 soil and water samples, and 1,786 samples from NHPs were tested. The information provided by CDC's detailed investigation helped regulatory partners respond more quickly to ensure further infections were avoided. As a result, the facility changed its recommendations for personal protective equipment (PPE) use and laboratory access, including adding shower in/out protocols to stop the possible spread of bacteria to outside the laboratory.
 - CDC, together with state and local partners, published a report that outlined recommendations for the clinical use of the three smallpox vaccines stored in the U.S. Strategic National Stockpile for persons who are exposed to smallpox virus or at high-risk for smallpox infection during a post event vaccination program following an intentional or accidental release of the virus. Special consideration was given to immunocompromised, atopic dermatitis, pregnant and breastfeeding women, and pediatric populations.
 - CDC laboratories diagnose high-consequence pathogens in vulnerable patients, such as people with underlying conditions that weaken the immune system. CDC recently used advanced molecular detection techniques to diagnose a case of novel poxvirus causing severe skin infection in an immunocompromised person, as well as aiding the discovery of tapeworm infection leading to a rare case of tapeworm-associated tumor spread in a human, causing the patient's eventual death.

In FY 2017, CDC will continue to support surveillance and rapid response for emerging infectious diseases that remain foundations of CDC's public health mission. CDC will expand and focus its new [MicrobeNet⁷¹](https://microbenet.cdc.gov/) platform—a

⁷¹ <https://microbenet.cdc.gov/>

centralized web-based reference laboratory for state health departments and international partners—to accelerate the rapid detection and identification of deadly pathogens. CDC will continue to invest in developing global health capacity to respond quickly to new outbreaks, as well as handle specimens safely and perform initial screening assays, particularly in parts of Africa and Asia that are recognized as emerging disease “hot spots” for outbreaks of some of the world’s most dangerous pathogens. CDC will continue to promote a “One Health” approach to address the complex interplay between human health, animal health, and the environment by integrating surveillance and response strategies. Additionally, CDC will continue its work on developing:

- New vaccines and improved diagnostic assays
- Training for healthcare workers in resource poor and other strategic areas to better understand the risks for the spread of deadly pathogens to neighboring countries and beyond
- Medical and public health interventions for these deadly diseases that often have no specific therapies for treatment

Emerging Respiratory Pathogens

CDC works to detect and respond to respiratory disease threats domestically and abroad through disease tracking, epidemiologic investigations and response, and laboratory activities. When unexplained severe respiratory illnesses emerge, public health approaches include identifying the pathogen that is making people sick and implementing appropriate surveillance, prevention, and control measures. In 2015, CDC continued assisting partners abroad and preparing for possible Middle East Respiratory Syndrome (MERS) cases in the United States. CDC provided trainings for multiple countries on the CDC assay for MERS, participated in research with countries in the Arabian Peninsula, conducted laboratory research on the virus, trained Customs and Border Protection officers, and provided guidance to healthcare providers, travelers, and airline crews. CDC also provided assistance to the Republic of Korea with response to a large MERS outbreak that began with an imported case from the Arabian Peninsula; one index case eventually led to a large healthcare associated outbreak resulting in 186 cases (including index case) and 36 deaths. CDC deployed a seven-member team to provide technical assistance to help Korea better characterize and control transmission based on CDC's extensive experience in the Arabian peninsula evaluating the epidemiological and laboratory aspects of MERS.

CDC also worked with state and local health departments and partners at U.S. borders to increase surveillance for MERS and deployed epidemiologists to help in public health investigations in affected countries overseas. While CDC provided technical assistance to and communicated with Korea health officials in response to the cases in Korea, much of CDC's efforts focused on strengthening domestic preparedness in the event of an imported case from Korea. This included conducting outreach to U.S. healthcare providers including infection prevention and control specialists to enhance domestic healthcare preparedness and hospital infection control to respond to an imported MERS case; facilitating national conference calls with CDC experts and senior federal, state, and local health officials to enhance domestic preparedness to potential MERS cases; and developing travelers' health and border health guidance, including education and training for partners at U.S. ports of entry, updated Travel Health notices, updated guidance for travelers to Korea, updated guidance for medevac flights and private air ambulance providers, and outreach to the airline industry. CDC continues to closely monitor the MERS situation globally and works with the World Health Organization and other partners to understand the risks of MERS-CoV to the public's health, given the potential for this virus to spread further and cause more cases globally and in the United States. In addition to MERS, CDC continues to work closely with state and local health departments to plan for and respond to other respiratory pathogens such as Enterovirus D68 (EV-D68).

Epidemiologic and laboratory findings are also used to identify and evaluate prevention strategies. CDC continues to monitor the effectiveness of pneumococcal conjugate vaccines in the EIP, demonstrating the dramatic impact of the recently licensed pneumococcal conjugate vaccine (PCV13) in further reducing the risk of invasive bacterial diseases in both children and adults.

A large community outbreak of Legionnaires disease in New York City led to the enactment of new state and city public health laws establishing requirements for cooling towers. CDC will be working with New York City and New York State to evaluate and assess the impact of these requirements. Learning from New York's experience will be critical in determining if such programs should be more widely implemented. In addition, CDC is collaborating with the New York State Department of Health's Public Health Laboratory, Wadsworth Center, to implement whole genome sequencing. This new testing technology promises faster detection of bacterial sources leading to quicker resolution of outbreaks and an improved understanding of when Legionella in water puts people at risk of disease. During the 2015 Legionnaires' disease outbreak in South Bronx, this collaboration allowed for the whole genome sequencing technology to be applied in real time.

In FY 2017, CDC will support epidemiologic and laboratory surveillance for existing and emerging respiratory diseases. Specific activities include:

- Continued funding of EIP sites to monitor respiratory bacterial pathogens, such as Group A and Group B Streptococcus, Legionella pneumophila, and antibiotic resistance
- Developing diagnostic tests to test for many pathogens at the same time (multi-array assays)
- Continuing to support planning, surveillance, laboratory testing, and providing technical assistance for MERS
- Ongoing epidemiologic and laboratory activities for non-influenza respiratory viruses that allow CDC to maintain the expertise to respond to emerging viruses such as MERS

Antibiotic Resistance Initiative – Year 2: Combating Antibiotic-Resistant Bacteria (CARB) National Action Plan

CDC's FY 2017 request includes \$200,000,000, an increase of \$40,000,000 to implement the new CARB National Strategy and Action Plan. To support these efforts, established core AR activities will continue in FY 2017 through \$18 million from CDC's Core Infectious Disease line, for a total investment in FY 2017 of \$218,000,000 to implement the National Action Plan for Combating Antibiotic Resistant Bacteria. This increase will allow CDC to expand the nation's ability to detect, respond to, and prevent antibiotic resistant (AR) infections across healthcare settings and in the community in up to 50 states, six large cities, and Puerto Rico.

CDC's FY 2017 funding request aligns with the [National Action Plan⁷²](#) and implements the recommendations to address AR made by the [President's Council of Advisers for Science and Technology](#).⁷³ These critical investments will protect patients and communities by implementing interventions that reduce the emergence and spread of AR pathogens.

⁷² https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf

⁷³ http://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast_carb_report_sept2014.pdf

National Strategy for Combating Antibiotic-Resistant Bacteria (CARB) Goals for the U.S. Government

- 1. Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections**
- 2. Strengthen National One-Health Surveillance Efforts to Combat Resistance**
- 3. Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria**
- 4. Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics, and Vaccines**
- 5. Improve International Collaboration and Capacities for Antibiotic Resistance Prevention, Surveillance, Control, and Antibiotic Research and Development**

Some AR infections are already untreatable. If CDC does not work to stop these threats now, even minor infections may become life threatening and put at risk our ability to perform routine surgeries or treat diseases such as diabetes and cancer. Each year, CDC estimates that over two million illnesses and about 23,000 deaths are caused by AR. In addition, almost 250,000 people each year require hospital care for *Clostridium difficile* (*C. difficile*) infections. In most of these infections, the use of antibiotics was a major contributing factor leading to the illness.

In FY 2016, CDC received an increase of \$160 million to scale up solutions outlined in the National Action Plan by building a more robust network to save lives and reduce costs by improving detection for the AR threats outlined in [CDC's AR Threat Report](#)⁷⁴ and by protecting patients and communities from all of these threats. The FY 2017 increase will expand FY 2016 Healthcare-Associated Infections (HAI)/AR prevention efforts from 25 states to up to 50 states, six large cities, and Puerto Rico, investing in direct action to implement proven interventions that reduce emergence and spread of AR pathogens and improve appropriate antibiotic use. CDC plans to award the majority of the FY 2017 increased AR funding to states to effectively address the AR threats facing our country.

FY 2017 AR Initiative

Major Areas of Proposed Work	FY 2016 Enacted level	FY 2017 President's Budget
Stop Spread of AR Pathogens (State Prevention and Stewardship Activities for Healthcare and Community)	\$103M	\$128M
Track AR Threats and Measure Impact (AR Lab & Surveillance)	\$54M	\$69M
Global Partnerships for Prevention and Detection	\$3M	\$3M
Base AR Support	\$18M	\$18M
Total:	\$178M	\$218M

⁷⁴ <http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf>

In FY 2016, CDC is supporting and enhancing state and national AR capacity by:

- Enhancing core HAI/AR detection and prevention activities in all 50 states, six large cities and Puerto Rico to sustain and expand capacity to track and respond to HAI/AR threats, improve coordination and implementation of HAI/AR prevention efforts, and establish state or regional leadership in HAI/AR. (CARB Goal 1)
- Establishing state HAI/AR Prevention Programs in up to 25 states (in 2016) to scale up evidence-based interventions and implement best practices for reducing inappropriate inpatient antibiotic use and preventing the spread of AR threats most commonly transmitted in healthcare. [CDC's August 2015 Vital Signs](http://www.cdc.gov/vitalsigns/stop-spread/index.html)⁷⁵ outlined how a coordinated approach for action could significantly prevent AR infections and *C. difficile*. (CARB Goal 1)
- Implementing antibiotic stewardship programs that align with CDC's Core Elements for Antibiotic Stewardship in inpatient, outpatient, and long-term care settings. In addition, targeted funding to states where outpatient antibiotic use is highest will support development and implementation of new antibiotic stewardship interventions, with the goal of reducing state variations in prescribing, and refined [Get Smart](http://www.cdc.gov/getsmart/)⁷⁶ communications and partnerships to optimize reach to professional and private organizations, providers, and the public. (CARB Goal 1)
- Increasing state public health laboratory capacity in all 50 states, six large cities, and Puerto Rico to confirm resistance and detect known resistance mechanisms for CRE and carbapenem-resistant *Pseudomonas aeruginosa* using CDC recommended methods. (CARB Goal 2)
- Supporting an Antimicrobial Resistance Lab Network of up to seven AR Regional Laboratories to serve as a national resource for cutting-edge lab support to states and characterize emerging resistance. This network supports state HAI/AR Prevention Programs for early outbreak detection and response to the most concerning AR threats and works with state public health laboratories to confirm and characterize unusual or emerging AR within the region. As AR threats change, CDC tailors the testing protocols of the labs to adapt to new and emerging threats. The network also provides cutting-edge testing platforms to keep pace with rapidly mutating bacteria and ensure all labs can easily share new discoveries. This will dramatically improve our understanding of which AR threats are most common in the United States, and which will be critical for new drug and diagnostic development. (CARB Goal 2)
- Driving innovation through the CDC's Prevention EpiCenters network collaboration with academic research centers conducting applied research on interventions for infection prevention. This work provides valuable synergy with CDC's surveillance, outbreak investigations, and HAI/AR expertise. The Prevention EpiCenters will continue to conduct a variety of breakthrough research on HAI and AR topics including:
 - developing healthcare facility social networking tools to implement a coordinated approach to stop spread of AR in connected facilities, and
 - piloting a new sepsis definition as well as assessing and comparing the impact of sepsis treatment and prevention approaches. In FY 2017, CDC Prevention EpiCenters will focus on the prevention of severe sepsis outcomes through early detection and diagnosis. By understanding the factors that contribute to severe sepsis, CDC will enhance prevention strategies and save lives. (CARB Goal 1)

⁷⁵ <http://www.cdc.gov/vitalsigns/stop-spread/index.html>

⁷⁶ <http://www.cdc.gov/getsmart/>

- Expanding applied epidemiology on AR conducted by CDC's [Emerging Infections Program](#) (EIP)⁷⁷ to improve national estimates of healthcare and community AR infections and define sepsis epidemiology. CDC started and/or expanded surveillance for multidrug-resistant *Pseudomonas*, MRSA, all invasive *Staphylococcus aureus*, ESBL-producing gram-negative bacteria, and candidemia. CDC will expand the Emerging Infections Program (EIP), both in the scope of AR activities in current sites and by potentially adding 1-2 additional EIP sites to the network.
(CARB Goal 2)
- Identifying key factors that detect the transmission of pathogens from the healthcare environment (e.g., from medical equipment or the contaminated hands of healthcare providers and patients) to help determine "hot spots" in healthcare environments that are driving transmission of resistant pathogens and should be targeted for disinfection or redesigned to decrease the risk. (CARB Goal 1)
- Expanding the [National Healthcare Safety Network \(NHSN\)](#)⁷⁸ Antibiotic Use and Resistance (AUR) reporting options to additional hospital and non-hospital settings. The AUR data reported to NHSN will be used to guide local and regional efforts to reduce resistance and provide national benchmarks to promote better use. These data and new capabilities are crucial to helping clinicians, facilities, public health officials, industry, and the public understand where AR is a problem to better treat and protect patients.
- Expanding CDC's Get Smart: Know When Antibiotics Work program to raise public awareness about AR and the importance of appropriate antibiotic prescribing. (CARB Goal 1)
- Expanding health communication efforts to raise awareness and promote sepsis prevention by working with consumer groups, patient advocates, and other health partners to improve early diagnosis and identification of patients with sepsis, and integrating antibiotic stewardship programs in healthcare facilities with sepsis early recognition programs. (CARB Goal 1)
- Identifying critical new interventions against multidrug-resistant tuberculosis (TB) that have the potential for cutting the costs of TB programs and preventing the development of active multidrug-resistant TB. (CARB Goal 1)
- Expanding opportunities to screen immigrants and refugees from high burden TB countries to identify and prevent the spread of more susceptible and resistant TB cases. (CARB Goal 1)
- Better monitoring gonorrhea (GC) treatment and supporting rapid response GC prevention teams to ultimately reduce the spread of drug-resistant GC. These actions ensured high-risk jurisdictions had appropriate response capacity to rapidly detect treatment failures, evaluate treatment effectiveness, determine transmission patterns and risk factors for resistant infections, and evaluate the value of tests-of-cure for surveillance and clinical treatment through implementation and evaluation of routine tests-of-cure. (CARB Goal 1)
- Increasing state public health laboratory capacity to rapidly screen *Salmonella*, *Shigella* and *Campylobacter* isolates from those states. (CARB Goal 2)

⁷⁷ <http://www.cdc.gov/hai/eip/index.html>

⁷⁸ <http://www.cdc.gov/nhsn/>

- Integrating the AR Regional Laboratories into a domestic and international AR communication network to post “early warning” alerts and report urgent AR results and trends. The regional labs and related communication network will improve the linkage of domestic and international AR lab activities to track urgent and emerging forms of resistance across borders. Labs also support method development of novel point-of-care diagnostics that could be applied to rapidly detect resistance in patients. (CARB Goal 2, 5)
- Expanding and updating the [AR Isolate Bank](#) with curated panels of AR bacterial isolates that can be used by manufacturers, academic researchers, and pharmaceutical companies to test and design the next generation of diagnostic tests and therapeutic agents. (CARB Goal 2)
- Accelerating efforts to improve laboratory detection and surveillance of drug-resistant TB by using next generation sequencing laboratory platforms and whole genome sequencing to rapidly detect known and emerging resistance. (CARB Goal 2)
- Preventing multidrug-resistant salmonella outbreaks by attributing resistant *Salmonella* infections to specific foods more rapidly and precisely through targeted research in food animal reservoirs. (CARB Goal 2)

In FY 2017, in addition to sustaining these AR capacities, CDC will:

- Expand and establish state HAI/AR Prevention Programs in up to 50 states from the 25 programs established in 2016, the six largest local health departments, and Puerto Rico. Building on FY 2016 efforts to establish AR tracking and response in every state, these expanded programs focus on reducing inappropriate antibiotic use and preventing the spread of AR threats across all healthcare settings, including inpatient, outpatient, and long-term care settings. In addition, programs would help prevent the spread of other AR threats included in [CDC's AR Threat Report](#) such as⁷⁹: multidrug-resistant *Acinetobacter*, fluconazole-resistant *Candida*, extended-spectrum β-lactamase (ESBL)-producing Enterbacteriaceae, and vancomycin-resistant *Enterococcus*. CDC will also collaborate with CMS to extend the use of the NHSN antibiotic use (AU) reporting option from 130 facilities in 30 states (as of December 2015) to more than 750 facilities in all 50 states, and work with the Department of Defense and the Department of Veterans Affairs to facilitate AUR reporting from their healthcare facilities to better understand and prevent the spread of potentially untreatable infections in these settings. (CARB Goal 1)
- Expand state public health laboratory and epidemiological capacity in all 50 states, six large cities, and Puerto Rico to expand use of whole genome sequencing technology to rapidly screen food-borne bacteria for resistance. Building on FY 2016 efforts to expand capacity for this testing of *Salmonella*, this expansion will ensure the nation’s ability to rapidly detect and investigate AR across the country and in more enteric pathogens. (CARB Goal 2)

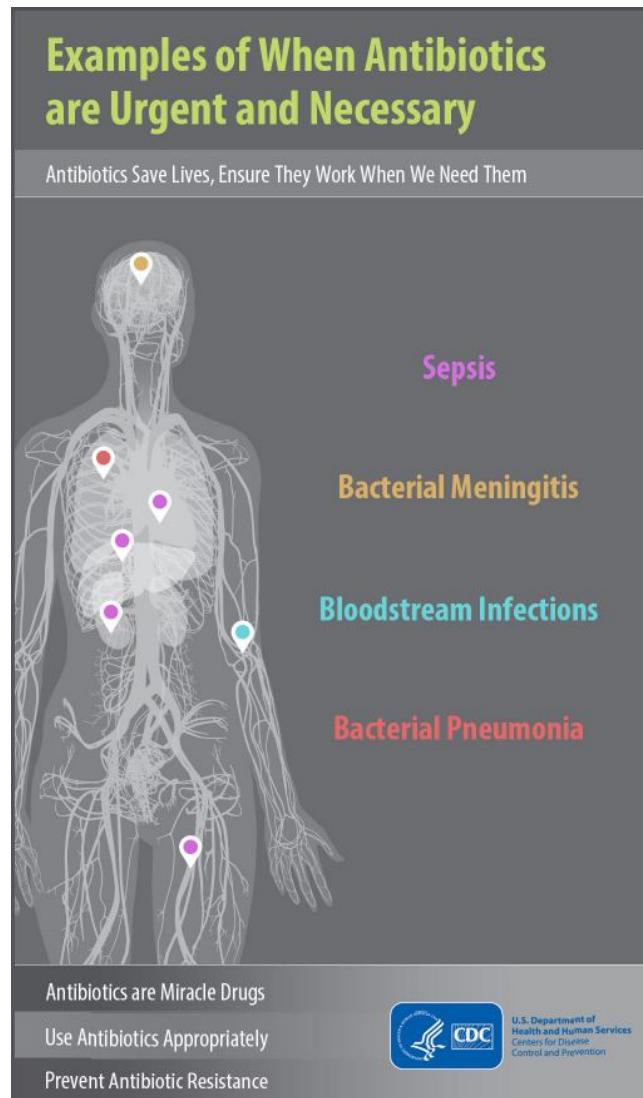
In FY 2017, core AR activities will continue through approximately \$18 million from CDC’s Core Infectious Disease line funding to:

- Support CDC’s national and international reference laboratories for antibiotic resistance to collect data and isolates of highly resistant pathogens
- Develop new clinical diagnostic tests to detect AR pathogens

⁷⁹ <http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf>

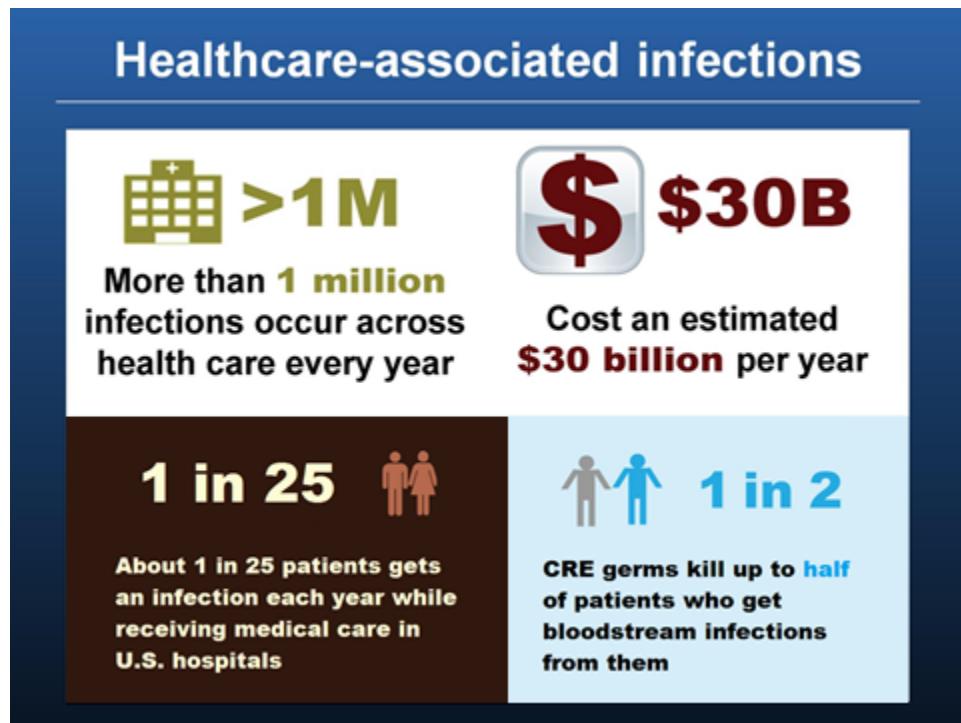
- Conduct strain typing and provide international comparisons of strain diversity for important forms of resistance.

Core funding will also continue to support CDC's subject matter experts and labs that provide assistance to state health departments, clinical diagnostic laboratories, academic researchers, and hospitals to detect new AR threats, test antibiotic susceptibility, and characterize the epidemiology of multidrug-resistant pathogens.



Healthcare-associated Infections and Adverse Event Outbreak Response

CDC estimates that at any given time, one in 25 hospitalized patients has a healthcare-associated infection (HAI). The graphic below illustrates the health and economic burden of healthcare-associated infections.



CDC provides national leadership and expertise in [healthcare-associated infection \(HAI\)](#)⁸⁰ prevention, and protects patients across healthcare through outbreak detection and control. CDC identifies emerging threats, provides laboratory testing for outbreaks related to the healthcare environment and contaminated products, develops guidelines for prevention of HAIs and related patient safety threats, and works with partners for prevention implementation. These activities complement and are informed by the National Healthcare Safety Network (NHSN) tracking capabilities described below. Outbreaks of HAIs and healthcare related adverse events are a critical public health problem, and CDC's outbreak investigations provide vital information to assess populations at risk and identify prevention strategies.

In 2015, CDC conducted HAI outbreak investigations related to the following: Emerging pathogens (e.g., Lassa Fever, CRE), contaminated devices and products, blood transfusion, organ and tissue transplantation, and major breaches in infection prevention.

In FY 2017, to prevent the spread of serious or life threatening infections within and between healthcare settings, CDC will:

- Detect and control outbreaks of HAIs across all healthcare settings
- Serve as a national and international reference laboratory for untreatable pathogens, and develop and evaluate new diagnostic tests for HAIs and drug resistant bacteria

⁸⁰ <http://www.cdc.gov/hai/>

- Develop evidence-based infection prevention guidelines to provide the scientific foundation for HAI prevention interventions and support federal initiatives such as the HHS National Action Plan to Prevent HAIs: Roadmap to Elimination and HHS Agency Priority Goals
- Work with federal partners, state and local health departments, and private sector partners to prevent HAIs, target healthcare facilities that need additional assistance using NHSN data, and to implement prevention strategies
- Redesign and expand hand hygiene awareness and educational materials for a variety of different healthcare setting and target healthcare providers in a variety of different healthcare facilities, in collaboration with CDC Foundation. Materials will complement CDC's Hand Hygiene guidelines, which includes appropriate use of alcohol-based hand sanitizers.

The following graphic illustrates CDC's critical role in HAI outbreak investigations. CDC provides technical expertise during and after an outbreak. CDC works closely with policymakers, public health and regulatory agencies on strategies to prevent HAI outbreaks with the aims of improving the quality of care, protecting patients, and saving lives.

Healthcare-associated Infections and Adverse Event Outbreak Response



- CDC works hard to protect the public's health by controlling, containing, and eliminating outbreaks of HAIs and adverse events**
- CDC's world-class scientists and researchers are committed to assisting health departments and facilities when problems arise**
- CDC labs help investigate and control outbreaks by analyzing pathogens, testing surfaces, identifying effective environmental cleaning, and working with partners to improve practices**
- Recent outbreaks CDC has assisted on include:**
 - CRE infections linked to contaminated duodenoscopes which were cleaned per manufacturer's recommendations
 - Nontuberculous Mycobacterium infections associated with devices used to warm/cool patient blood during bypass surgery
 - Inadequate cleaning of surgical instruments spreading bloodborne pathogens in patients at a pediatric clinic

National Healthcare Safety Network Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$18.032	\$21.000	\$21.000	\$0.000

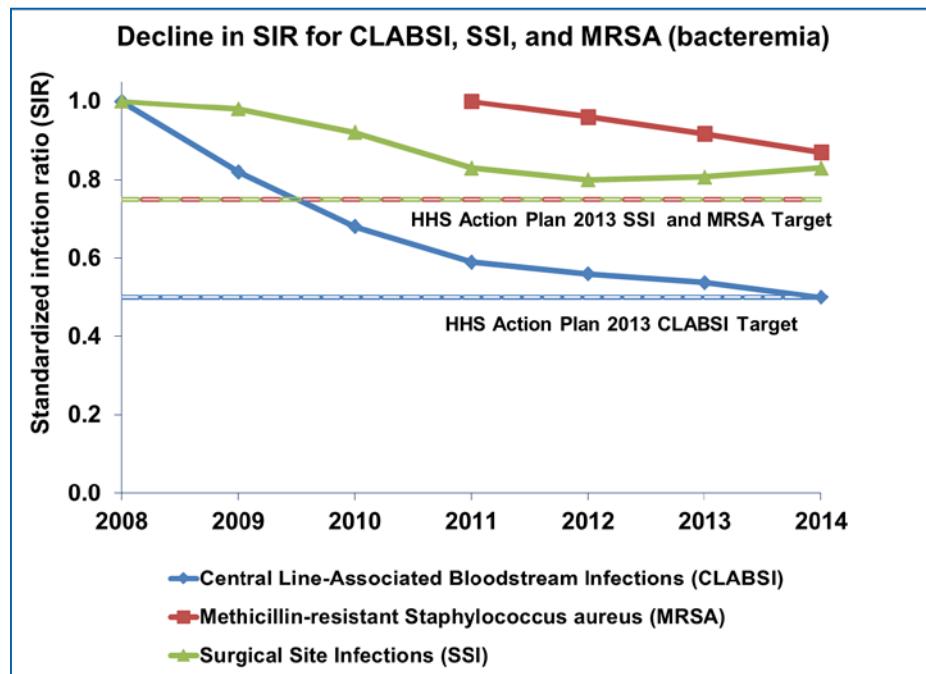
Overview

CDC operates the [National Healthcare Safety Network \(NHSN\)](#)⁸¹ to protect patients by tracking healthcare-associated infections (HAIs) and driving HAI prevention at the local, state, and national levels. NHSN is a comprehensive medical care surveillance and quality improvement system. It is the main HAI reporting system in the United States with more than 18,000 healthcare facilities participating across all 50 states. NHSN supports hospital efforts to improve the reliability of their systems and services. High reliability hospitals work to mitigate errors by consistently implementing best practices and measuring their progress. Healthcare systems that are focused on becoming high reliability can use NHSN process measures and infection data as tools to track progress for quality improvement and limits potential outbreaks. Specifically, NHSN data and the tools provided by the system are used by:

- Healthcare facilities for real-time quality assessment and local practice improvement, such as initiatives for catheter-associated urinary tract infection (CAUTI) prevention and for tracking antibiotic use (AU) and antibiotic resistance (AR)
- State health departments to implement state public reporting mandates and target prevention efforts where most needed
- The Centers for Medicare and Medicaid Services (CMS) to improve the quality of care through payment incentives, and target prevention efforts of CMS-supported Quality Improvement Organizations (QIOs) and Hospital Engagement Networks (HENs) on facilities with the greatest need
- HHS to track national progress and make decisions on which aspects of healthcare quality should be targeted next (e.g., National Action Plan to Prevent HAIs, Agency Priority Goals, the National Action Plan for Combating Antibiotic Resistant Bacteria (CARB)

The use of NHSN allows facilities to demonstrate significant reductions in central line-associated bloodstream infections (CLABSI), surgical site infections (SSI), and hospital-onset laboratory identified Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia (see graph below).

⁸¹ <http://www.cdc.gov/nhsn/>



Budget Request

CDC's FY 2017 request of **\$21,000,000** for NHSN is level with the FY 2016 Enacted level. The FY 2017 budget request will support NHSN reporting in more than 19,000 healthcare facilities (and as many as 20,000 by the end of FY 2017) across the continuum of care, including acute-care hospitals, dialysis facilities, nursing homes and ambulatory surgical centers. These funds will enable CDC to continue to provide data for national HAI elimination, and guide prevention to targeted healthcare facilities to enhance prevention efforts and decrease HAI rates, NHSN infrastructure and critical user support, and innovative HAI prevention approaches. In addition, the funds will be used to:

- Finalize and release a new NHSN Outpatient Procedure Component specifically designed for use by ambulatory surgery centers (ASCs), hospital outpatient departments, and other outpatient surgery offices and facilities to report HAI data in NHSN
- Pilot a new surveillance definition for sepsis (a potentially life-threatening inflammatory syndrome associated with severe infection) that is based on automated data collection and can be used to define healthcare quality reporting measures to assess the impact of sepsis prevention and treatment initiatives

NHSN Participation

HAI Event	Number of Facilities Enrolled in NHSN in Dec. 2015	Total Expected Number of Facilities Enrolled
ACUTE CARE HOSPITALS (including long term acute care hospitals and inpatient rehabilitation facilities)	6,250	> 5,000
Antibiotic Resistance and <i>Clostridium difficile</i>		
Antimicrobial Use	130	
Antimicrobial Resistance	0	
MRSA Bacteremia	5,100	> 3,800
<i>C. difficile</i> infection	5,100	
Device and Procedure Associated Infections		
CLABSI/CAUTI within ICUs	3,500	
CLABSI from outside ICUs	4,550	
CAUTI from outside ICUs	4,950	> 3,800
SSI (any procedure)	4,050	
DIALYSIS FACILITIES	7,150	> 5,600
AMBULATORY SURGICAL CENTERS (ASC)	4,750	> 5,000
Over 18,000 healthcare facilities currently enrolled in NHSN		

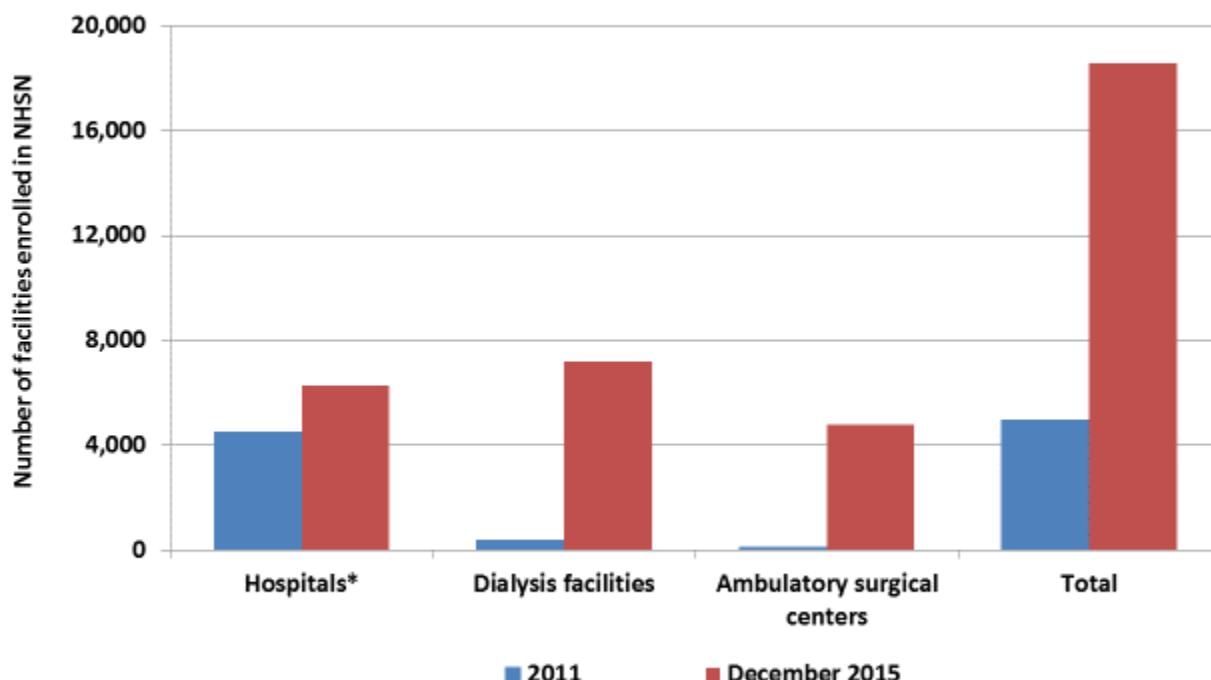
The table above provides a breakdown of the over 18,000 healthcare facilities currently enrolled in NHSN. The column labeled “Expected Number of Facilities” represents the total number of healthcare facilities within the United States that are expected to enroll in NHSN over time and does not represent targeted enrollment for a specific year. Estimated total for FY 2017 is more than 19,000.

Spurring Prevention by Extending the Reach of NHSN

Non-hospital settings in the United States continue to lag behind acute-care hospitals in HAI reporting and infection prevention. In order to improve HAI reporting for outpatient settings, CDC is developing a new Outpatient Procedure Component (OPC) in NHSN for ambulatory surgery centers (ASCs), hospital outpatient departments, and other outpatient surgery offices and facilities to report surgical site infections (SSIs) and other quality measures. In 2017, CDC will finalize and release the OPC and continue to provide technical assistance and reporting of HAIs in facilities that provide dialysis, long-term care, rehabilitation, ambulatory surgeries, and other outpatient procedures. CDC will continue prevention beyond acute-care hospitals by tracking healthcare personnel influenza immunization coverage in more than 4,500 ASCs and outpatient departments nationwide. Furthermore, CDC will continue working with CMS on including healthcare personnel immunization tracking in nursing homes and extend SSI reporting to ASCs.

In support of the HHS National Action Plan to Prevent HAIs, CDC will continue to track CLABSI, CAUTI, SSI, MRSA, and *C. difficile* infections through NHSN reporting in more than 6,000 hospitals, and bloodstream infection reporting in more than 7,000 dialysis facilities. CDC will provide these data to the CMS Hospital Compare website, giving the public facility-level data on HAI prevention, and enabling healthcare facilities to track and prevent infections locally. It will also allow state health departments and others to track HAIs and drive progress in HAI prevention across healthcare.

Breakdown of Facilities Enrolled in NHSN by Facility Type

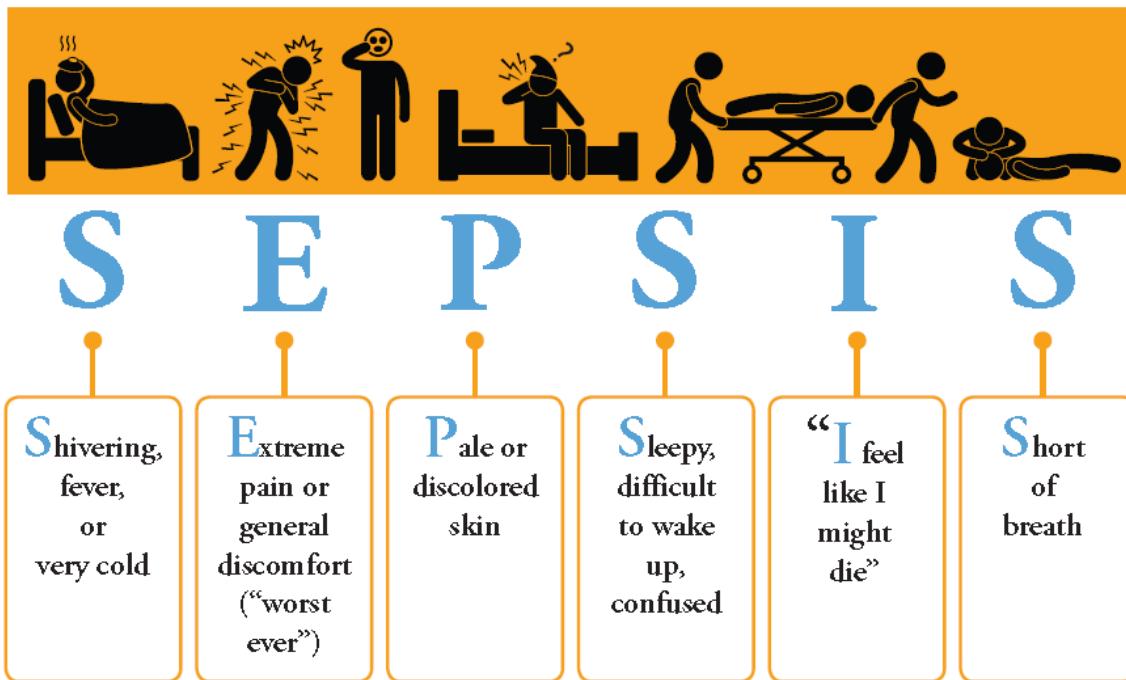


* - Includes acute care hospitals, long term acute care hospitals (LTACH), and inpatient rehabilitation facilities (IRF)

The graphic above shows the change in the breakdown of healthcare facilities enrolled in NHSN by facility type between the end of 2011 and December 2015.

In FY 2017, CDC will use its NHSN infrastructure to track antimicrobial resistant infections to target prevention efforts and to assess antibiotic prescribing for facilities in support of the National Action Plan for CARB. Measurement of antimicrobial use in hospitals is an integral part of efforts to reduce inappropriate use and stop unnecessary antibiotic exposure, which puts patients at risk of highly resistant infections and secondary complications such as *C. difficile* infection. For more additional information, please refer to the AR Solutions Initiative.

CDC will use FY 2017 resources to better understand the epidemiology of sepsis and to better detect and prevent disability and death from this potentially fatal illness. Sepsis is a serious infection that is difficult to predict, diagnose, and treat, and it is associated with higher healthcare costs and longer treatment. Current tracking of sepsis trends is inadequate, and is based on analysis of insurance claims data using various disparate medical diagnostic codes and subjective diagnostic criteria. In September 2015, CDC hosted a second meeting with experts to improve the identification of sepsis and prevention of sepsis deaths to discuss definitions for use in national surveillance in NHSN. In FY 2017, CDC will work with CMS and other partners to develop and pilot a surveillance definition algorithm for sepsis based on data routinely collected in the patient's electronic health record for reporting to NHSN. CDC will ultimately use these data to track national population-level sepsis rates, assess the impact of prevention and treatment initiatives, and facilitate comparisons between healthcare facilities to identify where the problem exists.



There is no single sign or symptom of sepsis. It is, rather, a combination of symptoms. Since sepsis is the result of an infection, symptoms can include infection signs (e.g., diarrhea, vomiting, sore throat), as well as any of the symptoms identified in the graphic above.

Promoting Technology and Innovation through Partnerships

In FY 2017, CDC will fund awardees through existing cooperative agreement programs to better detect and prevent ward-specific, facility-wide HAIs including those caused by antibiotic resistant pathogens. Funding will enable state health departments to work through partners—including group purchasing organizations, health insurers, healthcare facilities, patient advocacy and healthcare consumer organizations, quality improvement networks, professional societies, and state hospital associations—to develop or enhance HAI prevention programs. CDC awards continuation funding through a competitive process. Currently, these funds are used to improve detection and response to HAI threats, develop and implement sustainable, replicable HAI prevention strategies, and use CDC NHSN data to decrease illness and death associated with healthcare delivery.

National Healthcare Safety Network Grant^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	6	6	9	9	0
- New Awards	0	0	0	3	0	0
- Continuing Award	6	6	6	6	9	0
Average Award	\$0.111	\$0.499	\$0.499	\$0.499	\$0.499	\$0.000
Range of Awards	\$0.036-\$0.217	\$0.300-\$0.700	\$0.300-\$0.700	\$0.300-\$0.700	\$0.300-\$0.700	N/A
Total Awards	\$0.669	\$2.995	\$2.995	\$4.500	\$4.500	\$0.000

¹ Reflects awards supported with CDC's NHSN budget authority.

² These funds are not awarded by formula.

Food Safety Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$47.993	\$52.000	\$52.000	\$0.000

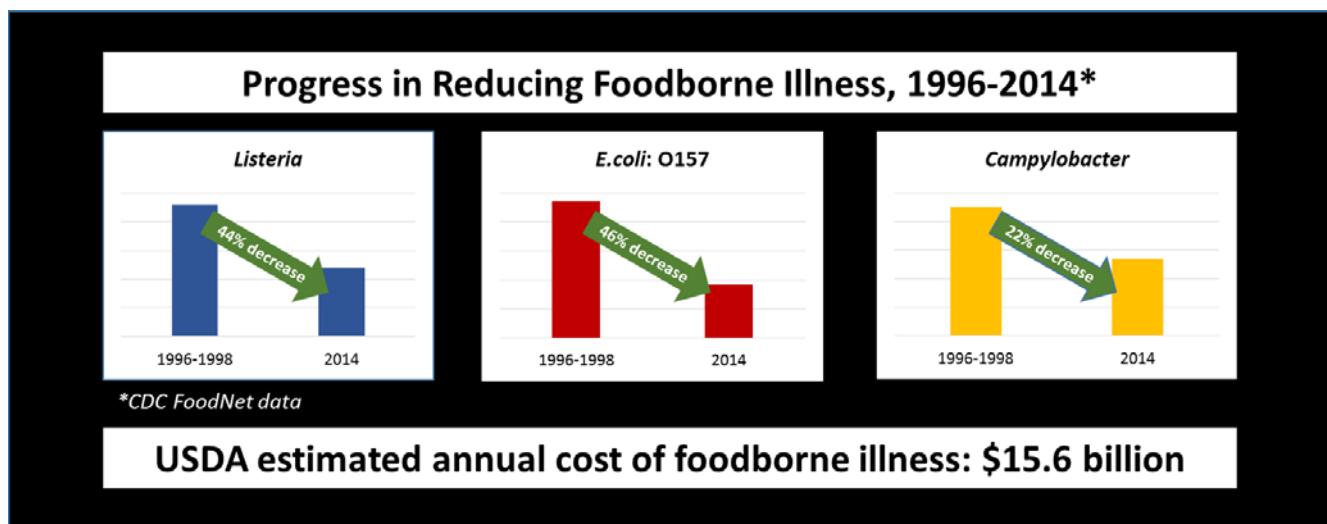
Overview

CDC works to reduce the estimated 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths each year caused by pathogens in contaminated food. These illnesses are preventable. As shown in the graphs below, significant progress has been made in reducing human illness caused by three major pathogens: *Listeria*, *E. coli O157*, and *Campylobacter*.

The number of Americans made ill by contaminated food each year—about one in six—is roughly equal to the combined populations of our nation's 35 largest cities.

CDC's unique role in addressing these food safety challenges is to:

- Detect new or unusual foodborne illnesses
- Work closely with state health departments, the Food and Drug Administration (FDA), and the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) to detect and stop outbreaks
- Track emerging and long-term illness trends to determine problems and progress
- Provide data to federal food safety regulators to improve their rules and regulations
- Provide technology, expert advice, guidance, training, and education for state and local governments, food industry partners, and consumers



Budget Request

CDC's FY 2017 request of **\$52,000,000** for food safety activities is level with the FY 2016 Enacted level. This funding will be used in part to support state and local health agencies to enhance vital national surveillance, foodborne outbreak detection and response, and food safety prevention efforts. The FY 2017 request will help address the critical unmet needs in the nation's food safety system, focusing on food safety priority areas at CDC and at state and local health departments [all of which are required provisions of the Food Safety Modernization Act (FSMA)]. These priorities are to:

- Detect, investigate, and stop foodborne outbreaks

- Drive policy and prevention with data and analysis
- Address challenges of culture-independent diagnostic testing (CIDT) by providing the means to continue delivering cultured samples of isolated foodborne pathogens to laboratories for analysis

CDC will achieve these priorities in part through programs that enhance state and local laboratory, epidemiologic, and environmental health capacity.

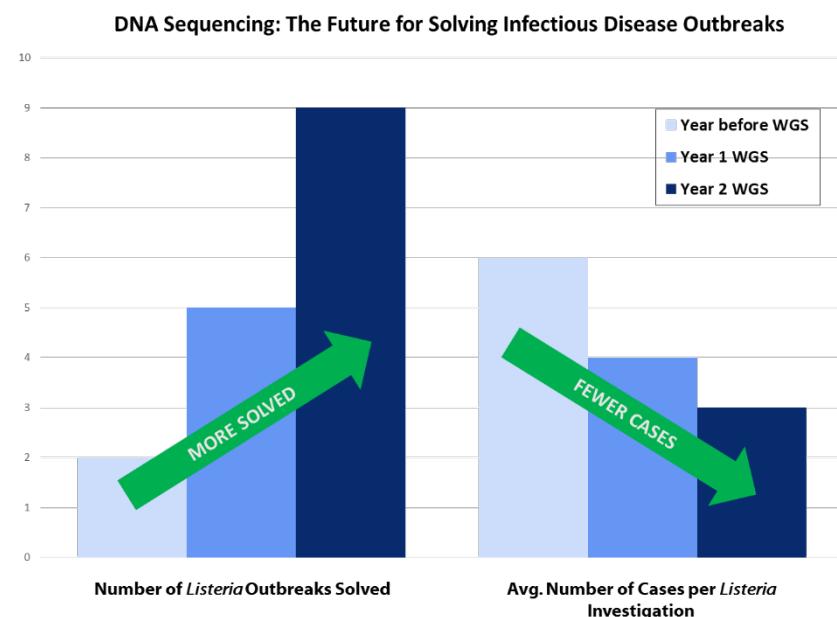
Faster, Accurate Foodborne Outbreak Detection and Response

For the past 20 years, CDC's [PulseNet](#)⁸² laboratory system has been the most effective tool for detecting foodborne disease outbreaks and correcting problems in the food production chain. However, the technology is rapidly becoming more challenging to manage because of advances in whole genome sequencing (WGS) of pathogens. CDC is beginning to implement WGS technology in PulseNet through its Advanced Molecular Detection Initiative.

CDC's PulseNet foodborne outbreak detection system requires traditional laboratory culturing of microbes. New diagnostic tests detect pathogens without culturing bacteria.

This advance in molecular biology is rapidly transforming CDC's ability to detect and respond to infectious disease threats. This is particularly true of foodborne diseases and the PulseNet program, where implementation of WGS at CDC and in state health departments is dramatically improving our ability to detect wide-spread problems in the food supply. The graph to the right shows that whole genome sequencing of the DNA of *Listeria* has resulted in solving more *Listeria* outbreaks and with fewer cases per outbreak investigation. At the same time, culture-independent diagnostic test (CIDT) technologies are

increasingly being used in clinical laboratories (e.g., laboratories in hospitals) to determine whether a patient has been infected with a foodborne pathogen. While CIDTs hold great promise for faster diagnosis of ill patients, they also create a fundamental problem for public health – a reduced ability to detect and stop multistate outbreaks. Both the traditional PulseNet methods and new WGS technology require a sample of the bacteria (this sample is called an "isolate") that can be tested by state public health laboratories in CDC's PulseNet system to determine whether state or multistate foodborne disease outbreaks are occurring. CIDTs don't result in an isolate.



CDC recently issued a [report](#)⁸³ documenting a decline in the availability of bacterial isolates due to the increasing use of CIDT testing in clinical laboratories. State health officials report that this trend is accelerating. If the flow of isolates to public health laboratories does not continue, PulseNet and the regulatory and other control programs that depend on PulseNet data cannot continue, and the advances promised by WGS technology of

⁸² <http://www.cdc.gov/pulsenet/>

⁸³ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6409a4.htm?s_cid=mm6409a4_e

foodborne pathogens will not be realized. This means that state health departments will be less able to detect and control foodborne disease outbreaks in their states, and CDC and food regulatory agencies will not be able to detect and control large multistate outbreaks. Maintaining the flow of isolates is becoming increasingly urgent and, over the coming years, will likely increase in cost as more medical laboratories adopt CIDTs.

To support the continuing function of PulseNet laboratories, FY 2017 Food Safety funds will be used to:

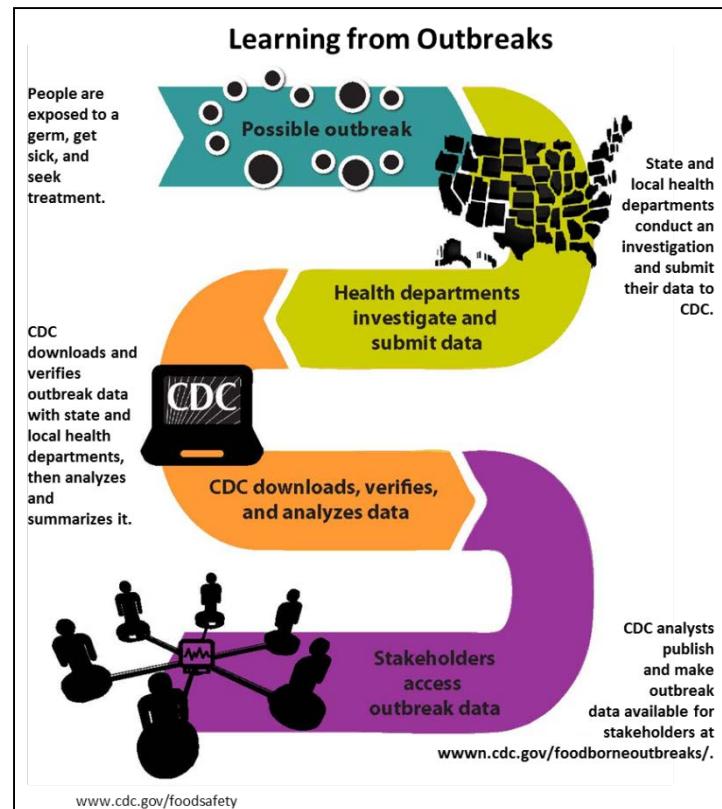
- Assess the new CIDTs being adopted in clinical laboratories
- Establish better techniques and provide funding to public health laboratories to recover bacteria from CIDT-positive specimens so that current PulseNet surveillance can continue for the short-term
- Evaluate new tools that hold the promise of obtaining genomic information necessary for advanced outbreak detection directly from clinical laboratories

Faster, Better Foodborne Disease Control and Prevention

CDC depends on state and local public health agencies to report foodborne illnesses as they occur, respond to outbreaks when they are detected, and share data as they become available to help prevent future outbreaks. The FY 2017 budget request will continue to support, coordinate and enhance the state epidemiology, laboratory, and environmental health capacity needed to track foodborne illnesses and detect and respond to foodborne outbreaks. CDC leads efforts in approximately 30 multistate foodborne outbreak investigations each year with local, state, and federal agency partners. Together, CDC and states stop outbreaks, prevent illness, and show how improved prevention policies might prevent future outbreaks.

CDC drives improvements in foodborne outbreak detection and response through the Foodborne Diseases Centers for Outbreak Response Enhancement ([FoodCORE⁸⁴](http://www.cdc.gov/features/foodcore/)) program and the [Integrated Food Safety Centers of Excellence](http://www.cdc.gov/foodsafety/centers/).⁸⁵

FoodCORE develops field-tested practices and procedures that speed up outbreak tracking and response. CDC's six Food Safety Centers of Excellence (located in Colorado, Florida, Minnesota, New York, Oregon, and Tennessee) serve as a resource for state and local public health programs to improve foodborne disease surveillance and outbreak investigation.



⁸⁴ <http://www.cdc.gov/features/foodcore/>

⁸⁵ <http://www.cdc.gov/foodsafety/centers/>

In FY 2017, CDC will increase program efforts to:

- Develop and evaluate best practices for more efficient outbreak detection and response at FoodCORE sites for use by local, state, and federal partners
- Develop and implement FoodCORE program metrics to identify strengths and weaknesses, measure program improvements and enhance accountability
- Enhance Integrated Food Safety Centers of Excellence regional support for state and local food safety programs
- Train state public health personnel in best practices for foodborne disease diagnosis, surveillance, pathogen identification, outbreak investigation and control
- Increase support to restore and improve state and local capacity to implement best practices for the monitoring of foodborne illness and response to outbreaks

Drive Prevention with Data and Analysis

Tracking trends in foodborne infections each year uncovers problems and identifies potential solutions. The FY 2017 request will support and enhance laboratory-confirmed illness surveillance, surveys, and studies through [Food Net](#),⁸⁶ including tracking the impact of CIDTs on foodborne surveillance. Using the [National Outbreak Reporting System \(NORS\)](#),⁸⁷ this request will also support our ability to [collect and analyze outbreak data](#)⁸⁸ from all states and provide the public with a [searchable database](#)⁸⁹ that offers insights into the foods, germs, and settings linked to foodborne diseases nationally. These networks contribute data used to measure progress in reaching national food safety goals and support prevention efforts to identify high-risk foods for food regulatory agencies and food industries.

To better identify foods that cause outbreaks, the [Interagency Food Safety Analytics Collaboration](#)⁹⁰—a collaboration between CDC, FDA, and USDA/FSIS—conducts studies that help regulators and industry target prevention measures to the highest risk foods to prevent foodborne disease and to measure progress.

In FY 2017, CDC will increase programs efforts to:

- Monitor foodborne pathogens (despite changing diagnostic practices) through surveys and studies, in FoodNet and foodborne outbreaks in the National Outbreak Reporting System (NORS)
- Rapidly assess trends in foodborne illness, identify high-risk foods, and assess the effectiveness of prevention strategies, in partnership with FDA and USDA/FSIS via the Interagency Food Safety Analytics Collaboration
- Improve the integration, analysis, usability, and sharing of data with food safety partners and the public
- Reduce data gaps and improve linkage across surveillance systems

⁸⁶ <http://www.cdc.gov/foodnet/>

⁸⁷ <http://www.cdc.gov/nors/>

⁸⁸ <http://www.cdc.gov/foodsafety/fdoss/index.html>

⁸⁹ <http://www.cdc.gov/foodborneoutbreaks/>

⁹⁰ <http://www.cdc.gov/foodborneburden/attribution/index.html>

Food Safety Grant^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	57	57	57	57	57	0
- New Awards	0	0	0	0	0	0
- Continuing Award	57	57	57	57	57	0
Average Award	\$0.19	\$0.270	\$0.288	\$0.377	\$0.377	\$0.000
Range of Awards	\$0.001-\$0.875	\$0.027-\$1.230	\$0.029-\$1.308	\$0.036-\$1.636	\$0.036-\$1.636	N/A
Total Awards	\$10.980	\$15.520	\$19.520	\$21.520	\$21.520	\$0.000

¹Reflects estimated awards funded by CDC's Food Safety budget authority.²These funds are not awarded by formula.

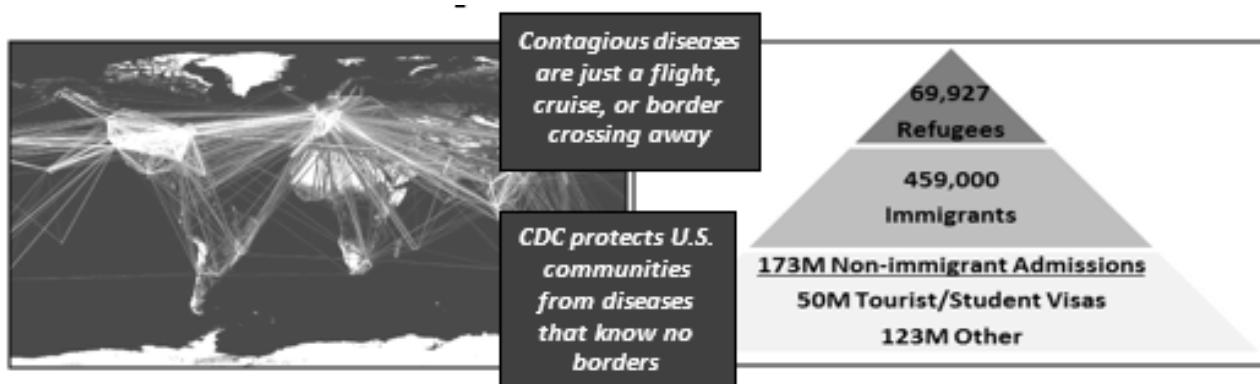
Quarantine and Migration Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$31.572	\$31.572	\$46.572	+\$15.000
Federal Isolation and Quarantine (non-add)	N/A	N/A	\$1.000	+\$1.000

Overview

Air travel today allows an infected person to carry a disease from one place in the world to another within 24 hours, less time than the incubation periods of many diseases. Infectious diseases among immigrants, refugees, international travelers, and other globally mobile populations pose not only a significant health risk to these individuals and their families, but also a public health risk to the U.S. communities they visit and/or in which they reside. CDC's global migration and quarantine activities focus on preventing the spread of infectious disease through both regulatory action, such as isolation orders to limit the spread of an infectious disease, and targeted interventions in mobile populations.

International Flight Patterns and Arrivals in the United States, 2013



CDC uses specialized knowledge of the complex issues surrounding border and migration health to carry out its unique regulatory responsibilities, to implement cost-effective public health programs, and to leverage non-traditional partnerships for a greater impact through a network of front line responders (e.g., approximately 25,000 Customs and Border Protection agents; 760 physicians; and 3,000 civil surgeons).

As part of its core work, CDC's global migration and quarantine staff have played key roles in response to the recent Ebola outbreak in West Africa. These staff implemented and enhanced land border health programs, medical screening at airports in both the United States and West Africa, and provided technical guidance on the active monitoring of persons entering the United States from countries experiencing the Ebola outbreak.

CDC also regulates mandatory health screenings for all immigrants and refugees entering the United States. These screenings prevent the importation of infectious diseases, particularly tuberculosis, from entering, and provide relevant health information for healthcare providers continuing care in the United States.

Budget Request

CDC's FY 2017 request of **\$46,572,000** for Migration Health and Quarantine is \$15,000,000 above the FY 2016 Enacted level to support the admission of at least 100,000 refugees to the United States. CDC will use these funds in FY 2017 to implement public health programs to protect U.S. communities from infectious diseases, provide cost savings to the U.S. healthcare system, and respond to the needs of people who are traveling around the world or relocating to the United States from another part of the world. Within this amount, up to \$1,000,000 is to remain available until expended for quarantine-related medical and transportation costs of travelers with highly contagious diseases such as multi-drug resistant tuberculosis (MDR-TB). Isolating and quarantining travelers with high contagious diseases such as MDR-TB protects the health security of travelers and U.S. communities.

CDC's FY 2017 request includes an increase of \$15,000,000 above the FY 2016 Enacted level. This increase will provide necessary resources to expand the current cost-effective refugee vaccination and parasite treatment program from approximately 60,000 to at least 100,000 refugees, funding operational and programmatic costs associated with safe vaccine and drug storage, handling, transportation, and administration. These funds will also establish electronic health record documentation and tracking from the required overseas medical examination to receiving U.S. healthcare providers to ensure timely medical follow-up of refugees upon arrival in the United States.

CDC's FY 2017 Global Migration and Quarantine Public Health Actions

Activities	Examples
Improving the Health of Immigrants, Refugees, and Migrants⁹¹	<ul style="list-style-type: none"> Deliver evidence-based guidelines for medical screening and comprehensive tracking of diseases Provide information to health departments and health care providers for medical follow-up Expand cost-effective overseas interventions to vaccinate and treat parasitic diseases for refugees to reach 100% of all U.S. bound refugees in FY 2017 Utilize field programs in Kenya and Thailand to monitor occurrence of disease in refugee camps and provide tailored public health interventions to high-risk refugee and immigrant populations in East Africa and Southeast Asia Establish and meet staffing needs in the Middle East to cover additional activities
Public Health at U.S. Ports of Entry⁹²	<ul style="list-style-type: none"> Operate CDC's 20 Quarantine Stations to ensure that people, animals, and animal products do not spread disease Distribute life-saving drugs (approximately 90 lives saved yearly) Respond to major health emergencies
Keeping Americans Healthy During Travel and While Living Abroad⁹³	<ul style="list-style-type: none"> Track and analyze occurrences of disease throughout the world to help U.S. travelers and healthcare providers stay informed Manage the Travelers' Health website (approximately 30 million page views yearly) Manage, promote and update two mobile phone apps that provide relevant guidance to international travelers on ways to avoid infectious disease while out of the United States Publish the <i>CDC Health Information for International Travel: The Yellow Book</i>—the gold standard travel medicine reference
Partnering to Improve U.S.-Mexico Health⁹⁴	<ul style="list-style-type: none"> Detect, notify, investigate, and respond to illness reports and infectious disease cases along the U.S.-Mexico border

⁹¹ <http://www.cdc.gov/ImmigrantRefugeeHealth/>

⁹² <http://www.cdc.gov/Quarantine/>

⁹³ <http://wwwnc.cdc.gov/travel/>

⁹⁴ <http://www.cdc.gov/USMexicoHealth/>

In FY 2016 and 2017 CDC will continue to fund domestic and international partners through existing and new cooperative agreements. The awards help protect the health of U.S. communities, migrants, immigrants, refugees, and international travelers; improve the tracking of disease outbreaks and trends; and build epidemiologic and public health capacity.

Advanced Molecular Detection and Response to Infectious Disease Outbreaks Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$30.000	\$30.000	\$30.000	\$0.000

Overview

Advanced molecular detection (AMD)⁹⁵ combines the latest pathogen identification technologies with enhanced capabilities in bioinformatics and advanced epidemiology to be more effective in understanding, preventing, and controlling infectious diseases. Examples of the public health benefits of AMD include more precise and accurate ways of:

- Diagnosing known and emerging infections
- Detecting and responding to outbreaks
- Understanding, characterizing, and controlling antibiotic resistance
- Developing and targeting prevention measures, including vaccines

Newer, more powerful, pathogen detection technologies—such as whole-genome sequencing—can determine the complete genetic makeup of organisms and deliver massive amounts of data rapidly. Although these Next-Generation Sequencing (NGS) tools carry great potential, sufficient laboratory and bioinformatics capacities and highly skilled staff are essential to extract and interpret the relevant information from the massive amounts of sequencing data.

If the U.S. public health system is not prepared for the shift from culture-based approaches to newer clinical tools and diagnostic tests, the future health of the nation will be at risk, because our current surveillance systems depend on the characterization of pure, cultured isolates to detect trends and outbreaks. As the nation's—and perhaps the world's—premier disease detection agency, CDC has been adapting these new tools and technologies for public health and ensuring America keeps pace with this rapidly changing field.

Through AMD investments, CDC is seeing improvements in both public health outcomes and preparedness. CDC is transitioning or has already transitioned laboratory practices from traditional pathogen characterization systems to genetic-fingerprint systems that take advantage of advances in next-generation DNA sequencing. For example, the foodborne disease program began by transitioning its *Listeria* monitoring system to a sequence-based approach. Data from the first two years of the program are already showing improvements—faster detection of clusters, an increase in the number of outbreaks linked to food items, and a 15-fold increase in the number of cases linked to outbreaks. This sequence-based approach is now being rolled out for other foodborne pathogens. The influenza program will have completely transition to a genetics-based approach for virus characterization by early 2016, which will result in more detailed and more timely data for yearly vaccine selection. The bacterial special pathogens laboratory has developed new genome-based tools that will be available for forensics applications in the event of a future anthrax outbreak.

Budget Request

CDC's FY 2017 request of **\$30,000,000** for Advanced Molecular Detection and Response to Infectious Disease Outbreaks activities is level with the FY 2016 Enacted level. AMD is introducing cutting edge technologies into public health microbiology and informatics that will fundamentally change the public health system and

⁹⁵ <http://www.cdc.gov/amd/>

modernize the ability of CDC and state health departments to protect Americans' health. The investment will enable CDC to continue progress on five goals:

FY 2017 AMD Goal Areas	Background and Activities
Improving pathogen identification and detection	CDC is continuing to develop AMD methods for the detection and characterization of important pathogens. As of FY 2015, 43 infectious disease programs at CDC are working to implement AMD into routine workflow, with significant program benefits. For example, in 2014 alone the CDC Meningitis Laboratory reduced by 75% the time it took to test and analyze isolates. Over the course of one year this lab increased by nine-fold the number of specimens it tested. Some programs' routine use will also include integrating AMD at the state-level. For example, starting in July 2015, CDC's <i>Listeria</i> Initiative is piloting whole genome-based real-time surveillance in 10 states to aid in the investigation of listeriosis outbreaks and clusters.
Developing new diagnostics to meet evolving public health needs	CDC is developing its pathogen discovery technologies to adapt to the next generation of rapid, semi- and fully-automated, molecular tests to meet evolving public health needs. CDC will facilitate translation of data for developing better diagnostics and analytic tools for clinical and public health use. CDC is also expanding the timely release of sequence data to public repositories, such as the National Center for Biotechnology Information (NCBI), where they may be used for drug, device and diagnostic development, and academic research.
Supporting states to coordinate meeting future bioinformatics and genomic testing needs	CDC is working with state health departments in several priority domains (such as foodborne illness, influenza, and tuberculosis) to implement advanced molecular detection methodologies. PulseNet ⁹⁶ —the nation's laboratory network for detecting and responding to foodborne disease outbreaks—is the most advanced in this regard. As of mid-2015, the system is piloting next-generation sequencing methods in 10 state health laboratories, with plans to extend to 26 state and local laboratories in early 2016. The system uses high-performance computing capabilities at CDC and is run in collaboration with FDA, NIH, and USDA. In addition, by March 2016, the national influenza surveillance system will have completed the transition to WGS, providing more timely and much richer information for annual vaccine selection. The tuberculosis control system is now rolling out WGS throughout the country. Experience so far has confirmed that the WGS can provide much finer resolution DNA fingerprinting of tuberculosis bacteria, allowing for better discrimination of locally acquired cases requiring urgent intervention from those likely to have been acquired overseas or in the past.
Implementing enhanced, sustainable, integrated laboratory information systems	CDC has greatly increased the timeliness and quantity of data being submitted to GenBank and related national databases, and is collaborating with NIH (specifically, NCBI) to make even more data accessible to researchers and health programs around the world. Within CDC, epidemiologic and genomic data are being more effectively integrated, for example, to better understand and respond to outbreaks such as the HIV outbreak shown below. Information technology is also being applied to streamline laboratory procedures.
Developing tools for the prediction, modeling, and early recognition of emerging infectious threats	At the microbe level, CDC is supporting analyses of genomic data to predict potential changes in pathogen transmission, disease severity, and antimicrobial resistance. For example, Next Generation Sequencing and bioinformatics are now being used routinely to identify and assess the likely impact of sequence variation on drug resistance, virulence and transmission dynamics in influenza and HIV. At the population level, CDC is supporting molecular epidemiologic and geospatial analyses to monitor changes in pathogen evolution and to predict potential emergence of novel or resistant pathogens.

⁹⁶ <http://www.cdc.gov/pulsenet/index.html>

AMD Helps Identify Disease Transmission in Indiana HIV Outbreak

In January 2015, public health officials began investigating an outbreak of HIV in southeastern Indiana after one rural county reported and confirmed 11 cases, over twice the number of cases typically seen there in a single year. As the investigation began, the number of cases rapidly rose to 181 in a county of just 4,200 people. Investigators linked the majority of HIV infections to syringe-sharing partners who were injecting the prescription opioid oxymorphone. In addition to being infected with HIV, the majority of patients were also diagnosed with hepatitis C virus (HCV). Officials began public health interventions in an effort to stop further infections.

As this investigation continued, CDC scientists used AMD methods to identify connections between infected people. By combining HIV laboratory data, HIV case information (including demographic data), and data on the unique genetic composition of the virus in each infected person, researchers were able to identify cases that were related to each other and how it spread. For example, this analysis showed that sexual contact also contributed to the spread of HIV in the outbreak. In addition, scientists are using AMD technology to identify the overlap of HCV and HIV transmission clusters. AMD data visualization techniques revealed how closely these two outbreaks are co-occurring with useable, easy-to-interpret graphics and showed that HCV is an old infection in this outbreak. These findings and tools will help public health officials direct additional resources to where they are needed most to prevent as many future infections as possible and to identify similar transmission clusters elsewhere in the United States.

CDC is advancing these goals by investing in these key cross-cutting categories:

- Capital investments in advanced information technologies that are critical in developing informatics capacity necessary for the next generation of public health laboratory analysis
- AMD is also working with Department of Energy national labs to accelerate information flows in and out of the agency in order to facilitate the adoption of cloud technologies
- Professional training to ensure that laboratorians and other public health professionals can best use AMD

CDC has already significantly increased its scientific capabilities through AMD investments. In the first year of AMD funding alone, CDC saw a marked increase in demand for high-performance computing, increasing from 67,252 compute-hours in FY 2013 to 806,709 compute-hours in FY 2015. Additionally, in FY 2015 there were 155,797 submissions of genetic sequences to the National Center for Biotechnology Information from known CDC authors, compared to 7,749 submissions in FY 2012. With these increased capacities, public health practice is improving. For example, as of December 2015, one of CDC's three influenza reference laboratories had already implemented whole genome sequencing (WGS) and the other two will be on board by March 2016. Compared with pre-AMD methods, WGS provides much richer data and is much quicker than traditional, culture-based methods. The resulting data is already improving vaccine strain selection, which is critical for assuring an effective vaccine.

Initial successes notwithstanding, for AMD to succeed in the long run, CDC needs continued resources that will support improvements in high-throughput sequencing and laboratory support; high-performance computing and access to cloud resources; scientific data storage, analytics, management and security; and improved access to open source scientific software. AMD-related technologies continue to advance at an exceptionally high rate. For example, a new technology called "nanopore sequencing" will likely come to market in the upcoming year, further driving down sequencing costs and opening new opportunities for the use of genomics in public health. The market for cloud storage and cloud computing is also developing in ways that will facilitate more effective use of the cloud for AMD. Investments in infrastructure must be coupled with updates to policy to ensure that data are stored, managed, and processed in accordance with changing scientific capabilities and best practices.

Ongoing efforts to increase AMD capacity include:

- As of FY 2015, supporting new Next-Generation Sequencing systems in 26 state public health laboratories and New York City. Five of these public health laboratories had no previous sequencing capacity. Additionally, seven of these states are PulseNet area labs and perform sequencing for other states in their region with no comparable capacity.
- Increasing sequencing capacity—increasing the number of infectious disease programs with ready access to NGS, and building flexible capacity in CDC's core sequencing facility
- Installing high-speed networking petabyte-scale network storage for scientific data management
- Providing cloud computing services for the analysis and management of genomic data
- Developing, validating, and implementing new AMD-based laboratory technologies and assays
- Incorporating AMD technologies into existing state-based infectious disease surveillance programs, including expanded AMD pilot projects for foodborne, tuberculosis, antimicrobial resistance and influenza surveillance
- Integrating laboratory-based surveillance infrastructure and systems
- Working with partners to develop and implement consensus standards on data and metadata management, source code management, storage, exchange, and criteria for interpretation
- Developing a quality and proficiency testing framework, which includes laboratory processes, bioinformatic analysis and the interpretation and reporting of results
- Promoting scientific collaboration, data sharing and open science, wherever possible

Training CDC scientists and state public health staff in methods for pathogen genetic sequencing, analysis, and interpretation is one of the most important functions of the AMD Initiative. This will have both immediate and lasting effects. Training efforts include:

- A CDC/Association of Public Health Laboratories (APHL) Bioinformatics in Public Health Fellowship, which was launched in January 2014 and included 11 pre- and post-doctoral fellows in its first year. Recruitment is currently underway for the second class of fellows, and of the initial cohort, nearly half have been recruited to more permanent roles at CDC.
- Collaboration with Georgia Institute of Technology for a week-long course in infectious disease genomics and bioinformatics for professionals.
- Ongoing internal training courses on high-performance computing and bioinformatics applications.
- New AMD curriculum development and delivery for public health professionals across the country.

AMD aims to transform public health agencies by incorporating advanced molecular technologies into routine public health practice. When comprehensively implemented, AMD technologies can be cheaper and faster to use. Unlike conventional technology, AMD technology allows for multiplexing, or sequencing of multiple samples at once, which can contribute significantly to reductions in the cost per specimen. Below is a comparison of CDC testing cost and timing for Hepatitis C samples – before and after AMD technology was implemented.

Hepatitis C Specimen Testing

	Processing before AMD	Processing after AMD
Average cost of testing per specimen	\$767.40	\$60 to \$80
Unique sequences analyzed per specimen	100	5000 to 6500
Time for investigation	2-4 weeks	3-5 days
Number of specimens tested per year (average)	<400	>800

National efforts to incorporate AMD into public health practice include:

- Using genomic epidemiology to improve timeliness and accuracy of epidemiologic response
- Identifying novel technology and developing tools and standardize methods for AMD
- Creating publicly accessible databases of well-characterized references pathogens
- Developing predictive modeling systems
- Implementing AMD technologies in reference laboratory workflow

By FY 2017, at least five laboratory surveillance programs will have initiated state-based activities and will have transitioned surveillance networks to AMD technologies. Efforts are underway to identify interoperable software platforms and database standards, and leverage common infrastructure and methods, across multiple infectious disease surveillance activities.

Affordable Care Act Prevention and Public Health Fund

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$52.000	\$52.000	\$52.000	\$0.000

The Affordable Care Act (ACA) Prevention and Public Health Fund (PPHF) includes the following activities:

- ELC \$40,000,000
- HAI \$12,000,000

Epidemiology and Laboratory ACA/PPHF

Through investments made by ACA/PPHF funds, grantees of the Epidemiology and Laboratory Capacity (ELC) and Emerging Infections Program (EIP) cooperative agreements are strengthening and integrating their capacity to detect and respond to infectious disease and other public health threats, including increasing the use of electronic laboratory reporting, improving their information technology infrastructures, improving program coordination, and expanding their training activities. Specific areas that ELC/EIP aims to enhance are:

- **Epidemiology capacity**—Strengthen non-categorical infectious disease epidemiology support to enhance health departments' timely detection and completeness of outbreak investigation, surveillance systems, information access and sharing with public health partners, coordination across departments, and collaboration with external partners. This support strengthens health departments' ability to shift resources and direct epidemiology personnel to areas of need. It has been critical in recent outbreaks, including those related to multi-state foodborne illness, influenza, arboviral and fungal meningitis.
- **EIP network infrastructure**—Strengthen EIP infrastructure in states and their partners to ensure successful coordination and implementation of surveillance and studies through support of personnel (e.g., supervisory scientists, program managers), education/training of staff, and information technology and exchange efforts.
- **Laboratory capacity**—Modernize, equip, and staff public health laboratories and employ high-quality laboratory processes and systems that provide accurate and timely testing for a broad range of infectious agents. Additionally, this support fosters communication and integration between laboratory and epidemiology functions.
- **Health information systems capacity**—Develop and strengthen current health information capability for public health agencies. This includes modern, standards-based, and interoperable systems that support electronic exchange of information within and between epidemiology and laboratory functions. The information exchanges occur between public health agencies (e.g., systems that support public health surveillance and investigation, laboratory information management systems); among federal, state, and local public health agencies; and between public health agencies and clinical care systems. Overall, enhancing the electronic exchange of information between public health agencies and clinical care entities will be a critical contribution to health reform in the United States and will allow health departments to engage effectively in an era of health information exchange with evolving electronic health records.

State Healthcare-Associated Infection Prevention

CDC supports the critical public health role of state health departments to implement and ensure adherence to HAI prevention practices. Funding allows states to build on the success of investments in preventing HAIs and ensure improved leadership and coordination of HAI activities by state health departments. Funding will also help states maintain and evaluate sustainable HAI programs that work across the healthcare system to maximize HAI prevention efforts through collaboration with and coordination of regional and national public health and healthcare partners.

The CDC goals for this program are to:

- Continue HAI prevention collaboratives across all healthcare settings (e.g., nursing homes, long-term acute-care facilities, dialysis facilities, rehabilitation facilities)
- Increase state and healthcare facilities' access to and use of data to detect and prevent HAIs, as well as their ability to measure the impact of prevention efforts
- Enhance state capacity for HAI prevention through partnerships, training, outbreak detection and response, and conducting HAI data validation

In FY 2017, CDC will continue work with state and local health departments and other partners to target prevention efforts to healthcare facility and ward levels. This will be accomplished by prioritizing work to analyze surveillance data and link identified facility-level problems to appropriate prevention solutions (i.e., utilizing existing tools). State Health Departments will facilitate prevention efforts within regions of healthcare facilities that share a patient population.

The Targeted Assessment for Prevention (TAP) strategy uses NHSN data and allows state agencies, hospitals, and other NHSN users to focus prevention efforts on facilities and locations with excess infections. In addition, the AP strategy guides states to do prevention efforts. Since being introduced, TAP reports have been run in NHSN over 26,000 times, and 95% of these reports were specific to acute care hospital data.

ACA/PPHF Healthcare-Associated Infections Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	50	50	52	56	56	0
- New Awards	0	0	2	4	0	-4
- Continuing Award	50	50	50	52	56	+4
Average Award	\$0.195	\$0.195	\$0.190	\$0.190	\$0.190	\$0.000
Range of Awards	\$0.006-\$0.917	\$0.006-\$0.0917	\$0.006-\$0.917	\$0.006-\$0.917	\$0.006-\$0.917	N/A
Total Awards	\$9.738	\$9.738	\$9.490	\$9.490	\$9.490	\$0.000

¹Grantees include most states, Washington, D.C., and Puerto Rico.

²These funds are not awarded by formula.

State Table¹

	2015 Actual	2016 Estimate	2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$1,432,799	\$1,432,799	\$1,432,799	\$0
Alaska	\$1,896,888	\$1,896,888	\$1,896,888	\$0
Arizona	\$2,293,742	\$2,293,742	\$2,293,742	\$0
Arkansas	\$1,386,952	\$1,386,952	\$1,386,952	\$0
California	\$4,649,648	\$4,649,648	\$4,649,648	\$0
Colorado	\$2,792,318	\$2,792,318	\$2,792,318	\$0
Connecticut	\$2,269,022	\$2,269,022	\$2,269,022	\$0
Delaware	\$860,167	\$860,167	\$860,167	\$0
Florida	\$2,793,024	\$2,793,024	\$2,793,024	\$0
Georgia	\$1,684,596	\$1,684,596	\$1,684,596	\$0
Hawaii	\$1,188,914	\$1,188,914	\$1,188,914	\$0
Idaho	\$738,499	\$738,499	\$738,499	\$0
Illinois	\$2,844,802	\$2,844,802	\$2,844,802	\$0
Indiana	\$1,578,446	\$1,578,446	\$1,578,446	\$0
Iowa	\$2,724,204	\$2,724,204	\$2,724,204	\$0
Kansas	\$1,643,757	\$1,643,757	\$1,643,757	\$0
Kentucky	\$1,285,485	\$1,285,485	\$1,285,485	\$0
Louisiana	\$1,426,342	\$1,426,342	\$1,426,342	\$0
Maine	\$1,648,486	\$1,648,486	\$1,638,486	\$0
Maryland	\$2,206,247	\$2,206,247	\$2,206,247	\$0
Massachusetts	\$2,756,501	\$2,756,501	\$2,756,501	\$0
Michigan	\$2,764,160	\$2,764,160	\$2,764,160	\$0
Minnesota	\$4,080,644	\$4,080,644	\$4,080,644	\$0
Mississippi	\$1,142,291	\$1,142,291	\$1,142,291	\$0
Missouri	\$1,181,794	\$1,181,794	\$1,181,794	\$0
Montana	\$1,269,688	\$1,269,688	\$1,269,688	\$0
Nebraska	\$1,554,926	\$1,554,926	\$1,554,926	\$0
Nevada	\$1,158,796	\$1,158,796	\$1,158,796	\$0
New Hampshire	\$1,665,398	\$1,665,398	\$1,665,398	\$0
New Jersey	\$1,800,009	\$1,800,009	\$1,800,009	\$0
New Mexico	\$1,467,992	\$1,467,992	\$1,467,992	\$0
New York	\$3,557,456	\$3,557,456	\$1,557,456	\$0
North Carolina	\$1,683,782	\$1,683,782	\$1,683,782	\$0
North Dakota	\$987,663	\$987,663	\$987,663	\$0
Ohio	\$2,534,540	\$2,534,540	\$2,534,540	\$0
Oklahoma	\$1,285,247	\$1,285,247	\$1,285,247	\$0
Oregon	\$2,535,763	\$2,535,763	\$2,535,763	\$0
Pennsylvania	\$2,011,860	\$2,011,860	\$2,011,860	\$0
Rhode Island	\$1,724,331	\$1,724,331	\$1,724,331	\$0
South Carolina	\$1,800,827	\$1,800,827	\$1,800,827	\$0
South Dakota	\$1,017,444	\$1,017,444	\$1,017,444	\$0
Tennessee	\$3,134,762	\$3,134,762	\$3,134,762	\$0
Texas	\$1,322,273	\$1,322,273	\$1,322,273	\$0
Utah	\$2,500,089	\$2,500,089	\$2,500,089	\$0
Vermont	\$1,353,290	\$1,353,290	\$1,353,290	\$0
Virginia	\$2,250,775	\$2,250,775	\$2,250,775	\$0
Washington	\$2,926,230	\$2,926,230	\$2,296,230	\$0
West Virginia	\$1,385,949	\$1,385,949	\$1,385,949	\$0
Wisconsin	\$3,028,480	\$3,028,480	\$3,028,480	\$0
Wyoming	\$1,189,531	\$1,189,531	\$1,189,531	\$0

	2015 Actual	2016 Estimate	2017 Estimate	FY 2017 +/- FY 2016
Cities				
Chicago	\$648,082	\$648,082	\$648,082	\$0
Houston	\$1,053,759	\$1,053,759	\$1,053,759	\$0
LA County	\$1,334,940	\$1,334,940	\$1,334,940	\$0
New York City	\$4,232,242	\$4,232,242	\$4,232,242	\$0
Philadelphia	\$1,061,103	\$1,061,103	\$1,061,103	\$0
Washington, D.C.	\$335,854	\$335,854	\$335,854	\$0
Territories				
American Samoa	\$118,346	\$118,346	\$118,346	\$0
Federated States of Micronesia	\$194,780	\$194,780	\$194,780	\$0
Guam	\$571,823	\$571,823	\$571,823	\$0
Marianna Islands	\$111,254	\$111,254	\$111,254	\$0
Marshall Islands	\$13,240	\$13,240	\$13,240	\$0
Republic of Palau	\$221,712	\$221,712	\$221,712	\$0
U.S. Virgin Islands	\$778,734	\$778,734	\$778,734	\$0
Puerto Rico	\$764,611	\$764,611	\$764,611	\$0
Subtotal States	\$98,416,829	\$98,416,829	\$98,416,829	\$0
Subtotal Cities	\$8,665,980	\$8,665,980	\$8,665,980	\$0
Subtotal Territories	\$2,774,500	\$2,774,500	\$2,774,500	\$0
Total Estimated for AR	NA	TBD	TBD	TBD
Additional Estimated for Food Safety		\$2,000,000	\$2,000,000	\$0
Total	\$109,857,309	TBD	TBD	TBD

¹The table includes ELC awards that fund all 50 states as well as select local and territorial/U.S. affiliated grantees. Awards include Prevention and Public Health funding and funding from other than NCEZID.

CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$747.220	\$838.146	\$679.745	-\$158.401
ACA/PPHF	\$452.000	\$338.950	\$437.400	+\$98.450
Total Request	\$1,199.220	\$1,177.096	\$1,117.145	-\$59.951
FTEs	929	929	929	0
Tobacco Prevention and Control	\$216.492	\$210.000	\$210.000	\$0.000
ACA/PPHF (<i>non-add</i>)	\$111.000	\$126.000	\$126.000	\$0.000
Nutrition, Physical Activity and Obesity	\$47.585	\$49.920	\$49.920	\$0.000
High Obesity Rate Counties (<i>non-add</i>)	\$7.500	\$10.000	\$10.000	\$0.000
ACA/PPHF (<i>non-add</i>)	\$35.000	\$0.000	\$0.000	\$0.000
School Health	\$15.383	\$15.400	\$15.400	\$0.000
Health Promotion	\$19.970	\$14.025	\$14.025	\$0.000
Prevention Research Centers	\$25.461	\$25.461	\$25.461	\$0.000
Heart Disease and Stroke	\$130.037	\$160.037	\$160.037	\$0.000
ACA/PPHF (<i>non-add</i>)	\$73.000	\$73.000	\$73.000	\$0.000
Diabetes	\$140.129	\$170.129	\$170.129	\$0.000
ACA/PPHF (<i>non-add</i>)	\$73.000	\$73.000	\$73.000	\$0.000
National Diabetes Prevention Program	\$10.000	\$20.000	\$20.000	\$0.000
Cancer Prevention and Control	\$352.649	\$356.174	\$302.173	-\$54.001
ACA/PPHF (<i>non-add</i>)	\$104.000	\$0.000	\$119.400	+\$119.400
Breast and Cervical Cancer – PL	\$206.993	\$210.000	\$169.204	-\$40.796
ACA/PPHF (<i>non-add</i>)	\$104.000	\$0.000	\$119.400	+\$119.400
WISEWOMAN (<i>non-add</i>)	\$21.114	\$21.120	\$21.120	\$0.000
Colorectal Cancer	\$43.294	\$43.294	\$39.515	-\$3.779
Prostate Cancer (<i>non-add</i>)	\$13.205	\$13.205	\$0.000	-\$13.205
All Other Cancer (<i>non-add</i>)	N/A	N/A	\$3.779	+\$3.779
Oral Health	\$15.749	\$18.000	\$18.000	\$0.000
Safe Motherhood and Infant Health	\$45.473	\$46.000	\$46.000	\$0.000
Arthritis and Other Chronic Diseases	\$23.342	\$25.000	\$25.000	\$0.000
Community Programs	\$130.950	\$50.950	\$30.000	-\$20.950
Racial and Ethnic Approaches to Community Health (REACH)	\$50.950	\$50.950	\$30.000	-\$20.950
ACA/PPHF (<i>non-add</i>)	\$30.000	\$50.950	\$30.000	-\$20.950
Partnerships to Improve Community Health	\$80.000	\$0.000	\$0.000	\$0.000
Million Hearts® (ACA/PPHF)	\$4.000	\$4.000	\$4.000	\$0.000
Workplace Wellness (ACA/PPHF)	\$10.000	\$0.000	\$0.000	\$0.000
National Early Child Care Collaboratives (ACA/PPHF)	\$4.000	\$4.000	\$4.000	\$0.000
Hospitals Promoting Breastfeeding (ACA/PPHF)	\$8.000	\$8.000	\$8.000	\$0.000
Good Health and Wellness in Indian Country	\$0.000	\$0.000	\$15.000	+\$15.000

Summary

CDC's FY 2017 request of **\$1,117,145,000** for Chronic Disease Prevention and Health Promotion is \$59,951,000 below the FY 2016 Enacted level. With this funding, CDC will continue to lead U.S. efforts to prevent and control chronic diseases and associated risk factors and reduce health disparities by:

- Implementing chronic disease prevention interventions through state, local, tribal, and territorial health departments; community-based organizations; and non-governmental partners to support a robust public health response at all levels
- Monitoring chronic diseases, conditions, and risk factors to track national trends and evaluate interventions
- Conducting and translating research and evaluation to enhance the uptake of effective strategies
- Providing national leadership and technical assistance to build the evidence-base for prevention
- Communicating to partners and the general public about chronic disease burden, risks, and prevention
- Informing sound public health policies that effectively combat chronic diseases and associated risk factors

This Request includes a decrease of \$44,575,000 below FY 2016 Enacted for Colorectal, Breast, and Cervical Cancer screening programs, reflecting increased coverage for these services through expanded insurance coverage. The FY 2017 Budget also eliminates the Prostate Cancer program. CDC and other federal agencies follow the prostate cancer screening recommendations set forth by the U.S. Preventive Services Task Force, which recommends against PSA based screening for men who do not have symptoms. The Budget also reduces funding for REACH by \$21 million. In FY 2017, CDC will launch a new REACH cooperative agreement that will promote effective, sustainable approaches to reducing disparities.

Chronic diseases are the leading cause of poor health, disability, and death in the United States. More than half of all adults have at least one chronic disease, and 7 of 10 deaths each year are caused by chronic diseases. The medical costs associated with chronic diseases, including mental and behavioral health and substance abuse, account for 86% of the nation's total health care costs, estimated at \$2.9 trillion annually. Chronic diseases and conditions—such as heart disease, stroke, diabetes, cancer, obesity, and arthritis—are among the most common, costly, and preventable health problems.

The vast majority of chronic diseases result from key risk factors. For example:

- Over 42 million Americans smoke and 480,000 Americans die every year from diseases caused by smoking and exposure to secondhand smoke⁹⁷
- 78.6 million Americans are obese. Only half of American adults and a quarter of adolescents get enough physical activity to maintain good health and avoid disease, and 87% do not consume the recommended amount of vegetables
- 36 million of the 70 million American adults with high blood pressure do not have it under control

Chronic diseases share causal pathways and are inter-related. For example, tobacco use causes heart disease, many types of cancer, diabetes, and stroke, among many other diseases. Likewise, poor nutrition and associated obesity cause high blood pressure, high cholesterol, diabetes, heart disease, and some cancers, including breast and colorectal cancer. Lack of physical activity compromises health in multiple ways and is causally associated with many chronic diseases and conditions, including heart disease, cancer, and diabetes. Chronic diseases and risk factors are also inter-connected. Diabetes increases the risk of heart disease and cancer. Obesity increases the risk of arthritis and poor reproductive outcomes. And poor oral health can exacerbate diabetes and heart disease.

⁹⁷U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.

While chronic diseases affect all populations, incidence is not evenly distributed. Disease rates vary based on race, ethnicity, education, and income level, with the most disadvantaged Americans often suffering the highest burden of disease. For example, African-American women had a 42% higher rate of breast cancer mortality (29.4 deaths per 100,000) than did white women (20.7 deaths per 100,000) in 2012. In addition, the rate of diagnosed diabetes is 66% higher among Hispanics/Latinos compared to non-Hispanic whites. Smoking was associated with less education with 31% of adults 25-64 years of age with a high school diploma or less being current smokers, compared to 9% of adults with a bachelor's degree or higher. Finally, individuals with low incomes were much more likely to suffer from high blood pressure, high cholesterol, heart attack, and stroke than individuals with higher incomes.

CDC implements a rich array of effective programs within a framework that includes four domains.⁹⁸ This framework guides CDC as it works to collaboratively build and strengthen the systems and environments that support Americans in taking charge of their own health.

CDC's Framework for Chronic Disease Prevention

Domain	Domain Description
Epidemiology and Surveillance	Provides robust data and information to understand chronic diseases and risk behaviors, inform interventions, and track progress in addressing them
Environmental approaches	Supports and reinforces healthy behaviors in communities, work places, schools, and anywhere people are located
Healthcare system interventions	Increases the effective delivery and use of clinical and other preventive services
Community programs linked to clinical services	Ensures people with or at high risk for chronic conditions have the support they need to reduce their risks, manage their conditions, and improve their quality of life

These efforts contribute to CDC's overarching goals of preventing and reducing chronic diseases, conditions, and associated risk factors and behaviors; promoting health; and eliminating health disparities.

Performance Highlights

The performance highlights below demonstrate the success of CDC's chronic disease prevention efforts across the four domains within CDC's Framework for Chronic Disease Prevention.

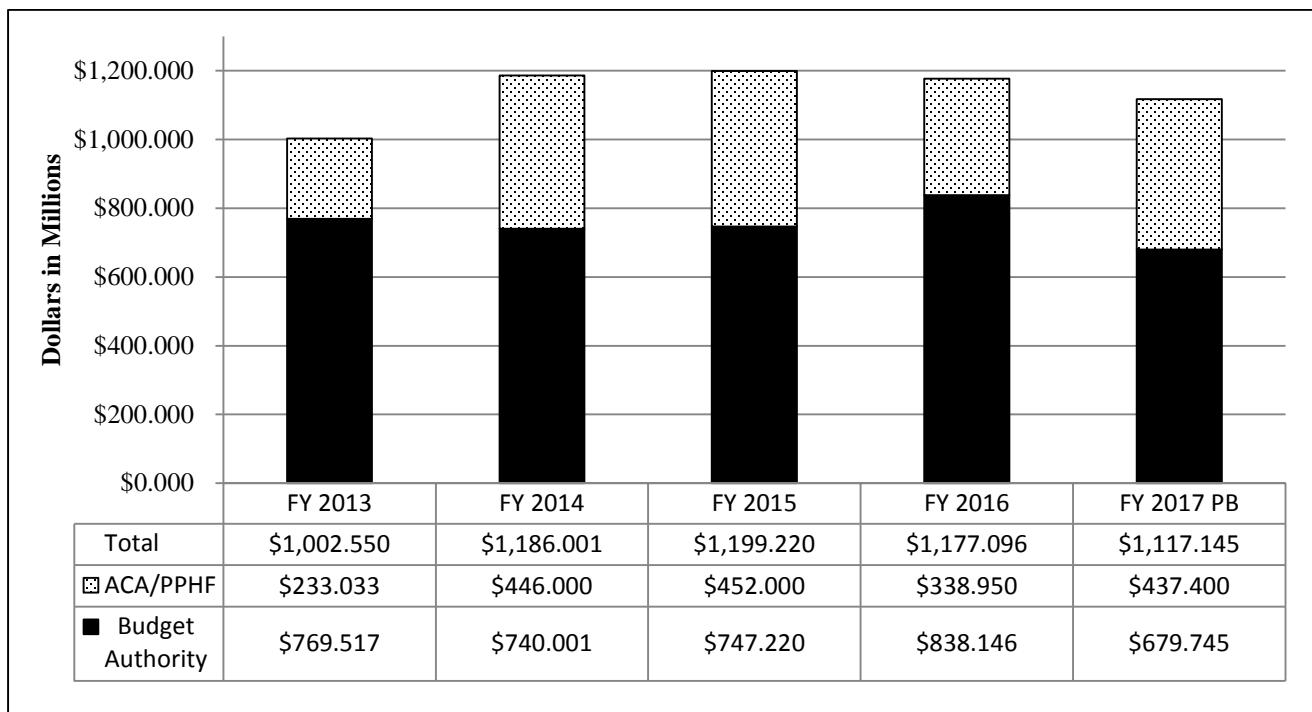
- CDC's surveillance of emerging tobacco products and their use highlighted critical national trends—particularly the rapid increase in e-cigarettes use among youth. Hookah smoking roughly doubled for middle and high school students from 2013-2014, and e-cigarette use now surpasses use of every other tobacco product overall, including conventional cigarettes for this age group
- As of 2015, through the National Diabetes Prevention Program (DPP), organizations have delivered evidence-based lifestyle change programs to approximately 32,000 people at high risk for type 2 diabetes in 49 states and Washington, D.C., and over 7,463 lifestyle coaches have been trained. The National DPP helped secure coverage for diabetes prevention for over one million employees in eight states
- CDC investments assist U.S. hospitals in becoming Baby-Friendly, a designation based on adherence to the evidence-based Ten Steps to Successful Breastfeeding. As of November 2015, CDC's promotion of Baby-Friendly hospitals contributed to 14.8% of all U.S. births (about 590,000 babies per year) occurring

⁹⁸Bauer UE Briss PA, Goodman RA, Bowman BA. Prevention of chronic disease in the 21st century: elimination of the leading preventable causes of premature death and disability in the USA. Lancet 2014;384:45-52.

at Baby-Friendly hospitals (306 hospitals across 48 states), more than double the percent of 2012 births at Baby Friendly hospitals

- 2014 Million Hearts® Hypertension Control Challenge recognized 30 public and private health care practices and systems for achieving blood pressure control for at least 70% of their patients with hypertension, reaching over 3.5 million adult patients in 19 different states. One 2014 Champion, the Peninsula Community Health Center in Bremerton, WA, increased their blood pressure control rate from 78% to 84% within one year
- CDC's Breast and Cervical Cancer Early Detection Program provided breast and cervical cancer screening to 451,209 low-income, uninsured and underinsured women in 2014, diagnosing 5,312 women or one percent with breast cancer and 3,220 women or less than one percent with invasive cervical cancer or high-grade premalignant lesions

Chronic Disease Prevention and Health Promotion Funding History¹



¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Cross-cutting Approaches

Because multiple chronic diseases can be prevented by addressing the same risk factors, through a series of cooperative agreements discussed below, CDC supports implementation of a core set of cross-cutting, evidence-based strategies to improve outcomes for multiple conditions.

Support for these cooperative agreements comes from multiple budget sub-lines. This approach allows each program to have a greater reach across states, reduces duplication and redundancy, and delivers public health value on each disease- and risk factor-specific budget line. State, tribal, local, and territorial health departments—the primary implementers of CDC's chronic disease programs—increasingly organize their programs functionally, aligning with the four domains to address many diseases and risk factors simultaneously. As such, this approach results in cross-population improvements in health, with greater gains in population subgroups, ultimately accelerating progress in achieving national health outcomes.

Budget Request

In FY 2017, CDC will continue to award approximately \$240,000,000—funded jointly by several Chronic Disease Prevention budget lines—through several cooperative agreements to continue the effectiveness and efficiency of its investments in State Public Health Actions and other national chronic disease prevention programs, including better targeting program and funding strategies to populations and areas of greatest need. These efforts build on the inter-relationships among chronic diseases and risk factors and deploy cross-cutting solutions. However, whether supporting cross-cutting approaches or supporting single disease or risk factor programs, CDC programs work through grantees at the local, state, and national levels to specifically reach populations at greatest risk, with the dual goals of improving the health of all and narrowing or eliminating gaps in health status across populations. This is because resources and implementation can be adjusted based on geographic or population burden of disease.

State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity, and Associated Risk Factors, and School Health

(Activities are also discussed under the specific budget sub-line sections that support this cross-cutting approach: Diabetes; Heart Disease and Stroke; Nutrition, Physical Activity, and Obesity; and School Health.)

The intent of the *[State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity, and Associated Risk Factors and School Health](#)*⁹⁹ cooperative agreement—funded by the following budget sublines: Diabetes; Heart Disease and Stroke; Nutrition, Physical Activity, and Obesity; and School Health—is to implement cross-cutting strategies that support the goals of each program. The cooperative agreement has two components: basic and enhanced.

Basic

Strategies funded under the Basic component support core public health functions related to cross-cutting expertise, such as epidemiology and surveillance (Domain 1), and environmental approaches (Domain 2). Examples include promoting:

- Reporting of blood pressure and A1c measures to ensure adequate control and to target interventions
- Implementation of food service guidelines in early care and education settings (ECEs), worksites, and communities to increase availability of healthful foods
- Awareness of prediabetes among people at risk for type 2 diabetes so they can take steps to delay or avert progression to type 2 diabetes

Enhanced

The Enhanced component builds on and extends activities supported with Basic funding to achieve even greater reach and impact. States further promote environmental approaches (Domain 2) and undertake more intensive work to strengthen healthcare delivery systems (Domain 3) and improve or expand community interventions linked to clinical care (Domain 4). CDC supports states to implement evidence-based and practice-informed interventions that increase:

- Access to healthy foods, beverages, physical activity, and breastfeeding-friendly environments
- Implementation of electronic health records, health information technology, and team-based care in healthcare systems to improve the management of high blood pressure and diabetes
- Availability and use of diabetes self-management programs in communities

⁹⁹<http://www.cdc.gov/chronicdisease/about/state-public-health-actions.htm>

- Availability and use of lifestyle change programs to prevent type 2 diabetes
- Use of healthcare extenders in the community to support people with high blood pressure and diabetes to manage these chronic conditions

Programs conduct trainings for community health workers and patient navigators; work with pharmacy organizations and healthcare systems to improve medication management; and work with clinics to increase use of patient-centered medical homes. They provide trainings for key stakeholders to expand access to diabetes self-management education (DSME) programs; work with providers on referrals to DSME and CDC-recognized lifestyle change programs for the prevention of type 2 diabetes, and engage payers on reimbursement for the National Diabetes Prevention Program (National DPP).

State Public Health Actions Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ²	FY 2017 +/- FY 2016
Number of Awards	51	51	51	51	TBD	TBD
- New Awards	51	0	0	0	TBD	TBD
- Continuing Awards	0	51	51	51	TBD	TBD
Average Award	\$1.325	\$0.551	\$0.551	\$0.551	TBD	TBD
Range of Awards	\$0.503-\$2.45	\$0.979-\$3.800	\$0.979-\$3.822	\$0.979-\$3.822	TBD	N/A
Total Awards	\$67.572	\$100.550	\$101.200	\$101.200	TBD	TBD

¹These funds are awarded partially by formula.

² CDC is still finalizing how additional funding in the Heart Disease and Stroke Prevention and Diabetes sub-lines used in FY 2016 for closeout of the Partnerships to Improve Community Health (PICH) cooperative agreement will be distributed in FY 2017. CDC will continue to adjust funding formulas to better incorporate burden of disease factors as criteria for State Public Health Actions Grants.

Other Cross-cutting Support to State, Tribal, Local, and Territorial Governments and Communities

State and Local Actions to Prevent Obesity, Diabetes and Heart Disease and Stroke

Supported with funding from the Diabetes and Heart Disease and Stroke budget sublines, [State and Local Public Health Actions to Prevent Obesity, Diabetes and Heart Disease and Stroke](#)¹⁰⁰ is a four-year cooperative agreement that began in FY 2014 and builds upon efforts initiated in 2013. In FY 2017, the program will continue to support intensive work in seventeen state and four large city health departments to prevent diabetes, heart disease, and stroke, and to reduce health disparities among adults. It works by ensuring individuals accessing the healthcare system have the necessary support to make critical lifestyle improvements. Strategies include:

- Increasing community environments that promote and reinforce healthful behaviors and practices related to obesity and diabetes prevention, and cardiovascular health
- Improving the quality and effective delivery and use of clinical and other preventive services to increase management of hypertension and prevention and control of type 2 diabetes
- Increasing community clinical linkages to support self-management and control of hypertension and prevention of type 2 diabetes

Grantees sub-award half of their funds to support implementation activities in four to eight communities with high burden of chronic disease or risk factors to support a collaborative approach and build community support for healthy behaviors and disease management. A total of 83 communities across 20 grantees have received funds.

¹⁰⁰<http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

The State and Local Public Health Actions Grants¹

(dollars in millions)	FY 2013 Actual ²	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ³	FY 2017 +/- FY 2016
Number of Awards	0	21	21	21	TBD	TBD
- New Awards	0	21	0	0	TBD	TBD
- Continuing Awards	0	0	21	21	TBD	TBD
Average Award	\$0.000	\$3.300	\$3.300	\$3.300	TBD	TBD
Range of Awards	\$0.000-\$0.000	\$2.600-\$3.520	\$2.600-\$3.520	\$2.600-\$3.520	TBD	N/A
Total Awards	\$0.000	\$70.000	\$70.000	\$70.000	\$70.000³	TBD

¹These funds are not awarded by formula.

² Funds were not awarded under this cooperative agreement in FY 2013.

³ CDC is still finalizing how additional funding in the Heart Disease and Stroke Prevention and Diabetes sub-lines used in FY 2016 for closeout of the Partnerships to Improve Community Health (PICH) cooperative agreement will be distributed in FY 2017. CDC will continue to adjust funding formulas to better incorporate burden of disease factors as criteria for State Public Health Actions Grants.

Good Health and Wellness in Indian Country

A [Comprehensive Approach to Good Health and Wellness in Indian Country](#)¹⁰¹ is a five-year, \$14 million per year cooperative agreement serving American Indians and Alaska Natives (AI/AN), a population that is disproportionately affected by chronic disease compared to other racial and ethnic groups in the United States.

In FY 2017, CDC proposes expanding this program, requesting an additional \$15 million, for a total of \$29 million. The expansion—which, along with the current cooperative agreement, is discussed in more detail later in this section—will build on the existing program by more comprehensively addressing chronic diseases and risk factors, plus expand activities to address depression and mental health, especially as they relate to suicide, prescription drug overdose, and alcohol-related motor vehicle injuries.

Pacific and Caribbean Islands

Due to geographic location, broadly dispersed populations, and lack of local resources, the U.S. Affiliated Pacific Islands (USAPI)—American Samoa, Commonwealth of the Northern Mariana Islands (CNMI), Federated States of Micronesia, Guam, Republic of the Marshall Islands, and Republic of Palau—the Commonwealth of Puerto Rico, and the U.S. Virgin Islands experience multiple challenges related to chronic disease prevention and health promotion. In 2014, CDC began a coordinated cooperative agreement, supported largely by Tobacco and Diabetes funds, focused on the prevention and control of tobacco use and diabetes and associated risk factors. The five-year cooperative agreement provides simplified application and reporting processes, streamlines programmatic efforts, and creates opportunities for synergy among programs. Given the small number of chronic disease prevention staff in the islands, a single grant mechanism ensures efficient, effective public health service that meets programmatic needs and offers the best value to the budget lines.

¹⁰¹ <http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

Pacific and Caribbean Island Grants¹

(dollars in millions)	FY 2013 Actual ²	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	0	8	8	8	8	0
- New Awards	0	0	0	0	0	0
- Continuing Awards	\$0.000	\$0.370	\$0.370	\$0.370	\$0.370	\$0.000
Average Award	\$0.000-\$0.000	\$0.196-\$0.898	\$0.196-\$0.898	\$0.196-\$0.898	\$0.196-\$0.898	N/A
Range of Awards	\$0.000	\$2.963	\$2.963	\$2.963	\$2.963	\$0.000
Total Awards	These funds are not awarded by formula.					
	Funds were not awarded under this cooperative agreement in FY 2013.					

Good Health and Wellness in Indian Country¹

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$N/A	N/A	\$15,000	+\$15,000

¹ CDC funded a cooperative agreement to support health and wellness in Indian Country in FY 2014 with funding from the following budget lines: Diabetes, Heart Disease and Stroke, and Nutrition, Physical Activity and Obesity. This initiative will provide dedicated funding for this program and expand on the existing activities for a total investment of \$29 million.

Overview

American Indians and Alaska Natives (AI/ANs) bear a disproportionate burden of death, disease, disability, and injury compared to other racial and ethnic groups in the United States. For example, AI/ANs have a higher prevalence of obesity than their white counterparts (33.9% vs 23.3% for men and 35.5% vs 21.0% for women), and are twice as likely to have diagnosed diabetes as non-Hispanic whites (16.1% to 7.1%). There has also been increasing concern over the persistently high rates of suicide, particularly among AI/AN youth. The most recently available death certificate data show the overall age-adjusted suicide rate for the AI/AN population was 18.3 per 100,000 in 2013, compared to 13.8 in the population overall. These and other health problems are driven by higher rates of poverty, unemployment, and low educational achievement, which in turn are linked to key risk behaviors, like alcohol and tobacco use.

Budget Request

In FY 2017, CDC requests an additional **\$15,000,000** to expand its current investment in the health of American Indians and Alaska Natives. Current cross-cutting activities, discussed below, are supported with funding from the following budget sub-lines: Diabetes; Heart Disease and Stroke; Nutrition, Physical Activity, and Obesity.

Current Activities

A [Comprehensive Approach to Good Health and Wellness in Indian Country](#)¹⁰² is a five-year, \$14 million per year cooperative agreement that began in FY 2014 that aims to prevent diabetes, heart disease and stroke, and associated risk factors through a holistic approach to population health and wellness.

The cooperative agreement supports 12 American Indian tribes and 11 Tribal Organizations to implement effective community-chosen and culturally adapted policies, systems, and environmental changes to improve health and wellness. Efforts focus on reducing commercial tobacco use and exposure, improving nutrition and physical activity, increasing support for breastfeeding, increasing health literacy, and strengthening team-based care and community-clinical links.

Directly supported tribes identify and implement effective strategies for one or more of the focus areas. Tribal Organizations provide leadership, technical assistance, training, and resources to American Indian tribes and Alaskan Native villages within their Indian Health Service (IHS) Administrative Areas to build capacity to implement effective strategies among tribes not directly funded. The cooperative agreement also supports Tribal Epidemiology Centers (TECs) to provide essential public health services—including surveillance and evaluation support—to the Tribes in their area.

Accomplishments include:

¹⁰²<http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

- The Albuquerque Area TEC has implemented an evidence-based training program that provides 200 tribal paraprofessionals from all 27 Albuquerque Area Tribes with clinical interviewing, documentation, and case presentation skills to strengthen their chronic disease prevention efforts and better motivate clients to improve healthful behaviors.
- The California Rural Indian Health Board (CHRB) has worked with 43 tribes to complete community health assessments using a culturally adapted Community Health Assessment and Group Evaluation (CHANGE) tool to prioritize and monitor community interventions to support health.

New Investments

The proposed \$15 million expansion will build on the existing program by more comprehensively addressing the leading causes of death and their associated risk factors, and further incorporating the culturally driven wellness practices that build resilience and strengthen social and emotional well-being. This investment will allow CDC to more effectively address chronic diseases, as well as depression and mental health, suicide, substance use, and alcohol-related motor vehicle injuries. CDC will:

- Support Tribes to expand access to interventions that will honor and strengthen cultural connections and links to heritage and traditional lifeways and practices
- Support Tribal organizations to increase the number of Tribes to which they provide resources, tools, and technical assistance
- Support Urban Indian Health Centers to expand community outreach programs to provide culturally tailored services to underserved urban off-reservation populations
- Support TECs to increase their capacity to provide technical assistance to obtain area- and Tribe-specific (where feasible) data on health and disease, health behaviors and health status, environmental conditions including access to healthful foods and opportunities for physical activity, among other information

Programs will emphasize strategies developed or adapted by Tribal communities that address a documented health need while promoting connections to culture and community.

Comprehensive Approach to Good Health and Wellness in Indian Country Grants^{1,4}

(dollars in millions)	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	22	23	23	49	+26
- New Awards (Tribes)	11	0	0	12	+12
- Continuing Awards (Tribes)	0	11	11	11	0
- New Awards (Tribal Orgs)	11	1	0	4	+4
- Continuing Awards (Tribal Orgs)	0	11	12	12	0
- New Awards (Urban Indian Health Centers)	0	0	0	10	+10
- Continuing Awards (Urban Indian Health Centers)	0	0	0	0	0
Average Award (Tribes)	\$0.200	\$0.200	\$0.200	\$0.200	\$0.000
Average Award (Tribal Orgs)	\$0.800	\$0.800	\$0.800	\$0.800	\$0.000
Average Award (Urban Indian Health Centers)	0	0	0	\$0.200	+\$0.200
Range of Awards (Tribes)	\$0.120-\$0.320	\$0.120-\$0.320	\$0.120-\$0.320	\$0.120-\$0.320	N/A
Range of Awards (Tribal Orgs)	\$0.650-\$1.100	\$0.650-\$1.100	\$0.650-\$1.100	\$0.650-\$1.100	N/A
Range of Awards (Urban Indian Health Centers)	0	0	0	\$0.120-\$0.320	N/A
Total Awards²	\$14.000	\$14.000	\$14.000	\$26.400	+\$12.400

¹ These funds are not awarded by formula.

² Total Award amounts include funding of \$2.14m to Tribal Epidemiology Centers (TECs) in FY 2015 and FY 2016. In FY 2017, CDC proposes making a total of \$7.54 million available to TECs.

³ Funds were not awarded under this cooperative agreement in FY 2013.

⁴ Funding in FY 2014-FY 2016 was from the following budget lines: Diabetes, Heart Disease and Stroke, and Nutrition, Physical Activity and Obesity. These lines will continue to support this program at current funding levels.

Diabetes Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$67.129	\$97.129	\$97.129	\$0.000
ACA/PPHF	\$73.000	\$73.000	\$73.000	\$0.000
National Diabetes Prevention Program	\$10.000	\$20.000	\$20.000	\$0.000
Total	\$150.129	\$190.129	\$190.129	\$0.000

Overview

About 29.1 million Americans have [diabetes](#)¹⁰³ and over 200,000 people die each year from diabetes-related complications. Additionally, CDC estimates that 86 million American adults, more than one of three, have [pre-diabetes](#),¹⁰⁴ a serious health condition that increases the risk of developing type 2 diabetes, heart disease, and stroke. CDC prevention activities are focused on improving health outcomes for people with diabetes and increasing awareness of pre-diabetes to provide interventions that delay or avert progression to type 2 diabetes.

The risk of premature death for adults with diabetes is 50% higher than for adults without diabetes.

Diabetes prevention and control activities in all 50 states and Washington, D.C. use an evidenced-based approach, with structured lifestyle improvements for people at high-risk of developing type 2 diabetes and diabetes self-management education (DSME) for those living with diabetes. DSME is the process of teaching people to manage their diabetes to support informed decision-making, self-care behaviors, problem-solving, and active collaboration with their healthcare team. The [National Diabetes Prevention Program \(National DPP\)](#)¹⁰⁵ is a structured lifestyle intervention program that teaches participants strategies for incorporating physical activity into daily life and improving nutrition by eating healthy. CDC collaborates with federal agencies, community organizations, employers, insurers, and healthcare professionals to support the National DPP and the DSME program. Both of these proven programs are supported through the cross-cutting *State Public Health Actions* and *State and Local Public Health Actions* cooperative agreements.

Budget Request

CDC's FY 2017 request of **\$190,129,000** for Diabetes, including \$73,000,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. In FY 2017, CDC will use this funding to support activities by states, localities, tribal communities, and other entities to implement diabetes prevention and control strategies across communities, health systems, and private and public partners. CDC will continue to adjust funding formulas to better incorporate burden of disease factors, including diabetes, as criteria for state grant programs that fund all 50 states and Washington, D.C.

¹⁰³<http://www.cdc.gov/diabetes/>

¹⁰⁴<http://www.cdc.gov/diabetes/prevention/prediabetes.htm>

¹⁰⁵<http://www.cdc.gov/diabetes/prevention/about.htm>

Public Health Activities to Support Diabetes Prevention and Control Efforts

Activities	Examples
Cross-cutting State, Tribal, Local, and Territorial Program Support	Continue to fund 50 states and Washington, D.C., four cities, and 11 tribes to implement improved diabetes prevention and control efforts with expanded reach and impact
	Support the implementation of enhanced strategies that address primary prevention
Diabetes Prevention	Enhance diabetes prevention efforts by expanding access to lifestyle change programs in community settings to prevent type 2 diabetes as a part of the National DPP
Surveillance	Track and monitor trends, identify disparities, and document the public health burden of diabetes and its complications through the National Diabetes Surveillance System (NDSS)
Strengthen the science of effective strategies	Conduct research and evaluation to support evidence-based practice and implement public health strategies to prevent and control diabetes (e.g., early detection of undiagnosed diabetes)

Diabetes Prevention Cooperative Agreements

Activities to prevent and control diabetes at the state, tribal, local, and territorial level are primarily funded through four cross-cutting cooperative agreements: [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health](#),¹⁰⁶ [State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke](#),¹⁰⁷ [A Comprehensive Approach to Good Health and Wellness in Indian Country](#),⁹ and the Islands Cooperative Agreement serving the U.S. API, the Commonwealth of Puerto Rico and the U.S. Virgin Islands. Through these cooperative agreements, in FY 2015, CDC directed an estimated \$71,200,000 to evidence-based diabetes interventions including:

- Increasing access to American Association of Diabetes Educators (AADE)-accredited, American Diabetes Association (ADA)-recognized, and Stanford-licensed Diabetes Self-management Education (DSME) programs to prevent or delay onset of diabetes-related complications among people with diabetes
- Increasing coverage of the National DPP's lifestyle change program among state employees and Medicaid beneficiaries to prevent or delay onset of type 2 diabetes among people at high-risk
- Increasing referrals to and enrollment in CDC-recognized lifestyle change programs

With CDC resources and assistance, grantees have accomplished the following during the first two years of State Public Health Actions cross-cutting cooperative agreement:

- Increased the number of AADE-accredited and ADA-recognized DSME programs from 2,883 to 3,109, an 8% increase over baseline
- Increased the number of Stanford-licensed Diabetes Self-management Education Program workshops offered from 548 to 692, a 26% increase over baseline
- Increased the number of counties in the United States with an AADE-accredited or ADA-recognized DSME program from 1,068 to 1,196, a 12% increase over baseline
- Increased the number of counties in the United States with Stanford Diabetes Self-management Program workshops from 159 to 213, a 34% increase over baseline

¹⁰⁶<http://www.cdc.gov/chronicdisease/about/state-public-health-actions.htm>

¹⁰⁷<http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

In addition to these critical public health investments that support cross-cutting approaches in states and communities, the Diabetes program also invests resources in the following public health efforts.

National Diabetes Prevention Program (National DPP)

CDC's FY 2017 request of **\$20,000,000** for the National DPP is level with the FY 2016 Enacted level. The program puts into practice groundbreaking clinical trial findings that type 2 diabetes can be prevented or delayed through lifestyle changes in high-risk adults. CDC estimates the National DPP could save the U.S. healthcare system \$5.7 billion over 25 years.¹⁰⁸ The program has four components:

- Training: build training infrastructure and support the diabetes prevention workforce by training lifestyle coaches to deliver the program
- Recognition: maintain quality assurance and provide recognition for organizations that deliver the lifestyle change intervention
- Intervention: fund six national organizations to sustain the lifestyle change program
- Promotion: increase participation and better educate the public about type 2 diabetes

Based on modeling studies of clinical trials, nationwide implementation of the National DPP could prevent about 885,000 cases of type 2 diabetes in 25 years. Accomplishments include:

- Since FY 2010, CDC partners have trained over 7,790 lifestyle coaches and 748 organizations are undergoing review for CDC recognition. This includes 23 virtual programs and 752 in-person programs. Forty-two organizations have achieved full recognition from CDC
- In collaboration with a chronic disease coordinating organization, states are leveraging opportunities to offer the National DPP either alone or part of a bundled package of chronic disease preventive services to Medicaid beneficiaries
- Through National DPP grantees, the program has expanded its reach to 48 states, Washington, D.C., and two U.S. territories. Collectively, the grantees have served 9,029 participants through 204 class locations with a focus on expansion of Spanish language classes, and programs targeting men. Examples of National DPP grantees increasing investments in diabetes prevention include:
 - The National Association of Chronic Disease Directors helped secure employee benefit coverage for the National DPP for one million employees in New York City and Philadelphia
 - YMCA of the USA (Y) cultivated third party payer engagement with national employers that have employees in 38 local Y communities supported by this grant to implement National DPP. The Y also secured National DPP as a covered benefit for over 500,000 employees of area businesses

National Diabetes Prevention Program Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	6	6	TBD	TBD	TBD
- New Awards	0	0	0	TBD	TBD	TBD
- Continuing Awards	6	6	6	6	TBD	TBD
Average Award	\$0.000	\$0.875	\$0.875	TBD	TBD	TBD
Range of Awards	\$0.000-\$0.000	\$0.750-\$1.003	\$0.750-\$1.003	TBD	TBD	N/A
Total Awards	\$0.000	\$6.750	\$6.750	\$16.000	\$16.000	\$0.000

¹These funds are not awarded by formula.

¹⁰⁸ Zhuo X, Zhang P, Gregg EW, et al. A nationwide community-based lifestyle program could delay or prevent type 2 diabetes cases and save \$5.7 billion in 25 years. Health Aff (Millwood) 2012;31:50–60.

Surveillance

In FY 2017, CDC will continue to fund the [National Diabetes Surveillance System \(NDSS\)](#)¹⁰⁹ to identify key disparities and document the public health burden of diabetes and its complications in the United States. The NDSS is the only surveillance system of its kind that includes county-level estimates of diagnosed diabetes and selected risk factors for all U.S. counties to help target and optimize resources for diabetes prevention and control. States, tribes, localities, and territories use the information from the NDSS to identify areas of need, guide decision-making, set priorities, plan strategies for interventions, and evaluate the impact of the intervention to achieve public health targets and performance goals.

¹⁰⁹<http://www.cdc.gov/diabetes/surveillance/index.htm>

Heart Disease and Stroke Budget Request¹

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017 FY 2016 +/-
Budget Authority	\$57,037	\$87,037	\$87,037	\$0.000
ACA/PPHF (non-add)	\$73,000	\$73,000	\$73,000	\$0.000
Total	\$130,037	\$160,037	\$160,037	\$0.000

¹WISEWOMAN, managed by the Heart Disease and Stroke Prevention program, is funded through the Breast and Cervical Cancer budget line.

Overview

In the United States, total costs associated with heart disease exceed \$320 billion annually. Recent surveillance data revealed that 70 million American adults have hypertension (high blood pressure), a leading risk factor for heart disease and stroke, of which 36 million do not have their high blood pressure under control.

CDC's Heart Disease and Stroke Prevention program supports four cross-cutting cooperative agreements: [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health](#),¹¹⁰ [State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke](#),¹¹¹ [Good Health and Wellness in Indian Country](#),¹² and the Islands Cooperative Agreement serving the U.S. API, the Commonwealth of Puerto Rico and the U.S. Virgin Islands. This program also supports the [Paul Coverdell National Acute Stroke Program](#),¹¹² the [Sodium Reduction in Communities Program](#),¹¹³ and the [WISEWOMAN Program](#).¹¹⁴

Budget Request

CDC's FY 2017 request of **\$160,037,000** for Heart Disease and Stroke, including \$73,000,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. In FY 2017, CDC will use this funding to support activities by states, localities, tribal communities, and other entities to implement heart disease and stroke prevention and control strategies across communities, health systems, and private and public partners. CDC will continue to adjust funding formulas to better incorporate burden of disease factors, including diabetes, as criteria for state grant programs that fund all 50 states and Washington, D.C.

About 800,000 people die of cardiovascular disease in the United States every year—that's one in every three deaths.

Heart disease is the leading cause of death for both men and women.

Total U.S. healthcare and lost productivity costs associated with heart disease exceed \$320 billion annually.

Public Health Activities to Support Heart Disease and Stroke Prevention

Activities	Examples
Cross-cutting State, Tribal, Local, and Territorial Program Support	Continue to fund 50 states and Washington, D.C., 11 tribes, and four large cities to implement improved heart disease and stroke prevention efforts with expanded reach and impact
Improve Clinical Performance	Engage non-physician team members (e.g., nurses, pharmacists) in hypertension management by encouraging adoption of self-measured blood pressure monitoring tied with clinical support, and leveraging the power of health information technology to improve health outcomes

¹¹⁰ <http://www.cdc.gov/dhdsp/programs/spha/index.htm>

¹¹¹ <http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

¹¹² http://www.cdc.gov/dhdsp/programs/stroke_registry.htm

¹¹³ http://www.cdc.gov/dhdsp/programs/sodium_reduction.htm

¹¹⁴ <http://www.cdc.gov/wisewoman/>

Activities	Examples
Blood Pressure Control and Cholesterol Management	<p>Improve the prevention and control of high blood pressure at the national level by funding all 50 states and Washington, D.C. to address risk factors for heart disease and stroke</p>
Sodium Management	<p>Increase support of community health workers for high blood pressure self-management through core training and training in blood pressure management</p> <p>Improve blood pressure control by supporting increased medication adherence for more than half of the population with high blood pressure through evidence-based interventions (e.g., patient education and health provider follow-up)</p>
Heart Disease Risk Factor Management	<p>Support state and local efforts to reduce sodium consumption and educate the public</p> <p>Build the evidence base to guide sodium reduction strategies through evaluation of ongoing initiatives and enhanced monitoring of sodium intake and outcomes</p>
Stroke Quality of Care	<p>Improve women's health outcomes by providing preventive services to uninsured and underinsured women ages 40-64 years old, including blood pressure, cholesterol, and diabetes testing through the WISEWOMAN program</p> <p>Provide health coaching and evidence-based lifestyle programs to help WISEWOMAN participants manage their risk factors for heart disease</p> <p>Support the Paul Coverdell National Acute Stroke Program to ensure that Americans receive high quality acute stroke care, reduce deaths, prevent disability, and avoid recurrent strokes</p>

Heart Disease and Stroke Prevention Cooperative Agreements

Heart disease and stroke prevention and control activities in states, tribes, localities, and territories are primarily funded through three cross-cutting cooperative agreements: [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health](#),¹¹⁵ [State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke, A Comprehensive Approach to Good Health and Wellness in Indian Country](#).¹¹⁶ Through these cooperative agreements, in FY 2015, CDC directed an estimated \$76,090,000 to evidence-based cardiovascular disease (CVD) interventions including:

- Increasing implementation of quality improvement processes in healthcare delivery systems (e.g., electronic health records and health information technology)
- Expanding team-based care to better manage cardiovascular disease
- Increasing use of blood pressure self-monitoring
- Creating supportive nutrition and physical activity environments

With CDC resources and assistance, grantees have accomplished the following:

- Tennessee's Department of Health is partnering with the Tennessee Primary Care Association to implement electronic health records in 15 community health centers. Community health centers are using data from these health records to design screening and treatment protocols for patients with hypertension
- Illinois is effectively using hospital discharge data to identify high prevalence of hypertension by zip code and working with healthcare practices and local communities to improve both diagnosis and control of

¹¹⁵<http://www.cdc.gov/dhdsp/programs/spha/index.htm>

¹¹⁶<http://www.cdc.gov/chronicdisease/about/foa/2014foa/>

high blood pressure. The data will be used by the six local public health departments as another information resource to improve targeted interventions and engage communities to support opportunities for healthy nutrition and physical activity

In addition to these critical public health investments supporting cross-cutting approaches in states and communities, the Heart Disease and Stroke Prevention program also invests resources in the following public health efforts.

Paul Coverdell National Acute Stroke Program

The Paul Coverdell National Acute Stroke Program began a new five-year cooperative agreement in July 2015, competitively awarded to nine states. CDC provides funding and technical assistance to states to develop, implement, and enhance stroke systems of care, with the goal of improving outcomes for people who have a stroke. Data are collected and analyzed to improve quality of care for stroke patients as they move through the healthcare system: from onset of stroke, including care provided by emergency medical services (EMS) and first responders, to in-hospital care, and finally transition to home and reintegration with their primary healthcare provider.

From July 2004 to June 2015, this program served more than 520,000 patients with more than 450 hospitals participating. As an example, in Georgia—the center of the “stroke belt,” so-called because of the high rates of strokes and stroke-related deaths in the state—the Coverdell Program worked with EMS and hospitals to improve the “door-to-needle” time to save lives and improve outcomes. “Door-to-needle” time, which measures the time between the arrival of a stroke patient at the hospital emergency department and the administration of the clot-busting drug tPA, improved by 31%, from 85 to 58 minutes. This reduction met the national standard for “door-to-needle” time response of 60 minutes or less.

In FY 2017, CDC will fund the third year of the five-year cooperative agreement to continue to build coordinated state-wide stroke systems of care. This will promote high quality acute stroke care, reduce death and disability from stroke events, prevent recurrent strokes, and raise awareness in the general public of the signs and symptoms of stroke.

Paul Coverdell National Acute Stroke Registry Program Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	11	11	9	9	9	0
- New Awards	0	0	9	0	0	0
- Continuing Awards	11	11	0	9	9	0
Average Award	\$0.346	\$0.356	\$0.750	\$0.750	\$0.750	\$0.000
Range of Awards	\$0.266-\$0.485	\$0.275-\$0.500	\$0.740-\$0.750	\$0.740-\$0.750	\$0.740-\$0.750	N/A
Total Awards	\$3.807	\$3.925	\$6.740	\$6.740	\$6.740	\$0.000

¹These funds are not awarded by formula. New grant cycle started in FY 2015.

WISEWOMAN

Heart disease and stroke are, respectively, the first and fifth leading causes of death for women in the United States. The Well-Integrated Screening and Evaluation for Women Across the Nation ([WISEWOMAN](#)) program¹¹⁷ focuses on reducing heart disease and stroke risk factors among at-risk women. WISEWOMAN provides preventive services to uninsured and underinsured women ages 40-64 years old, including blood pressure, cholesterol, and diabetes testing. Program participants are screened for heart disease and associated risk factors, and those identified as being at high risk are linked to appropriate interventions. Participants are also referred to evidence-based lifestyle programs and other community resources that promote healthy nutrition, physical activity, smoking cessation, and blood pressure control.

CDC's FY 2017 request of **\$21,170,000** for WISEWOMAN is from the Affordable Care Act Prevention and Public Health Fund (displayed as part of the Breast & Cervical Cancer budget line) and is level with the FY 2016 Enacted level. In FY 2017, CDC plans to launch a new funding opportunity, which will continue to strengthen collaborations with Federally Qualified Health Centers (FQHCs), state and local health departments, state Medicaid offices, primary care practices, and other stakeholders to target the highest risk women and deliver programming that reduces cardiovascular disease risk.

WISEWOMAN Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final ³	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	21	22	21	21	21	0
- New Awards	21	1	0	0	21	+21
- Continuing Awards	0	21	21	21	0	-21
Average Award	\$0.760	\$0.749	\$0.656	\$0.761	\$0.761	\$0.000
Range of Awards	\$0.500-\$1.472	\$0.472-\$1.600	\$0.220-\$1.750	\$0.500-\$1.472	\$0.500-\$1.472	N/A
Total Awards	\$15.983	\$16.478	\$13.778	\$15.983	\$15.983	\$0.000

¹WISEWOMAN is funded through the Breast and Cervical Cancer budget line.

²These funds are not awarded by formula.

³Award amount reflects new funding awarded; grantees used carryover funding to fully fund FY 2015 activities.

Million Hearts®

[Million Hearts](#)¹¹⁸ is a national initiative to coordinate and enhance cardiovascular disease prevention activities across the public and private sectors in an unprecedented effort to prevent one million heart attacks and strokes by 2017. Co-led by CDC and the Centers for Medicare and Medicaid Services (CMS), the initiative works alongside other federal agencies and key private-sector partners to change the environment to help prevent cardiovascular disease. Activities include smoking reduction, decreasing sodium intake, and eliminating artificial trans-fat in the food supply. The initiative also encourages providers to use health information technology to track and monitor cardiovascular disease and to deploy new models of care that focus on improving patient adherence to the ABCS of heart health (aspirin when appropriate, blood pressure control, cholesterol management, and smoking cessation).

Budget Request

¹¹⁷<http://www.cdc.gov/wisewoman/>

¹¹⁸<http://millionhearts.hhs.gov/index.html>

CDC's FY 2017 request of **\$4,000,000** for its Million Hearts program, all from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. This support will allow CDC to continue to build on successes of the current projects, focusing on detecting additional individuals with undiagnosed hypertension; connecting individuals with hypertension to services and supports through community health workers and other health connectors; and supporting self-measured blood pressure programs. These programs are helping millions of individuals control their hypertension by accelerating and scaling-up quality improvement efforts in health care systems.

Past achievements include:

- The 2014 Million Hearts® Hypertension Control Challenge recognized 30 public and private health care practices and systems for achieving blood pressure control for at least 70% of their patients with hypertension, reaching over 3.5 million adult patients in 19 different states. One 2014 Champion, the Peninsula Community Health Center in Bremerton, Washington, increased their blood pressure control rate from 78% to 84% within one year
- The YMCA of the USA (the "Y") used community health workers to recruit 1,764 participants with hypertension for self-measured blood pressure monitoring in individuals with hypertension. By June 2016, the Y expects to serve an additional 4,500 participants with hypertension at 142 locations nationwide
- CDC launched a Million Hearts® pilot project with the National Association of Community Health Centers (NACHC) to improve detection and diagnosis of hypertensive patients at federally qualified health centers (FQHCs). In FY 2015, ten FQHCs from four primary care associations/health center-controlled networks (HCCNs) identified 10,000 patients with potentially undiagnosed hypertension and made significant systems improvements to ensure better detection and diagnosis going forward for patients served in these networks. By June 2016, CDC expects to see an overall 10% improvement in hypertension at these same health centers
- With FY 2016 investments, CDC continued a three-year partnership with the [Association for State and Territorial Health Officers \(ASTHO\) Million Hearts® State Learning Collaborative](#). This partnership seeks to integrate public health and healthcare efforts to improve hypertension control. The collaborative now reaches providers serving approximately 360,000 patients in 15 states, one territory, and Washington, D.C. For example, 20 health centers in Washington, D.C. have seen their patients' blood pressure control increase by 10% following participation in the Collaborative

Nutrition, Physical Activity, and Obesity Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$12.585	\$49.920	\$49.920	\$0.000
High Obesity Rate Counties (non-add)	\$7.500	\$10.000	\$10.000	\$0.000
ACA/PPHF	\$35.000	\$0.000	\$0.000	\$0.000
Total	\$47.585	\$49.920	\$49.920	\$0.000

Overview

Poor nutrition and physical inactivity contribute to obesity and increase the risk of chronic disease for people of all sizes. Only half of American adults and a quarter of adolescents get enough aerobic physical activity to maintain good health and avoid disease. Seventy-six (76%) of [Americans](#) aged one year and older do not consume recommended amounts of fruit and 87% do not consume the recommended amount of vegetables. Healthy eating and physical activity reduce the risk for heart disease, stroke, high blood pressure, type 2 diabetes, osteoporosis, breast and colon cancer, and early death. Healthy eating for infants includes breastfeeding, which reduces the risk of diabetes, hypertension, and breast cancer in breastfeeding mothers, and reduces the risk of diabetes, and obesity in infants, as well as helping to prevent ear and respiratory infections, asthma, and sudden infant death syndrome.

50% of children who became obese between the ages of five and 14 years were overweight when they entered kindergarten.

Obesity affects 35% (78.6 million) of adults and 17% (12.7 million) of children. Persons with obesity are at higher risk for hypertension, high cholesterol, type 2 diabetes, heart disease, certain cancers, and early death. Obesity also negatively impacts our nation's businesses, economy, and military readiness. For example, obesity and related chronic diseases cost employers up to \$93 billion per year in [health insurance claims](#).²⁰ Over a quarter (27%) of all Americans 17 to 24 years—more than nine million men and women—are [too heavy](#)²⁰ to join the military.

CDC's [Nutrition, Physical Activity, and Obesity](#)¹¹⁹ activities help the entire country—not just those living with chronic disease—to eat healthy, be more active, and avoid obesity. CDC programs are especially focused on helping young children establish healthy habits that can last a lifetime. A healthy start is critical, as half of all children who become obese during elementary school are already overweight or obese when they enter kindergarten.¹²⁰

CDC investments contributed to declines in obesity among low-income, preschool-age children, and leveling of obesity rates among children and adults after decades of unprecedented increases. Significant work remains, however, to improve nutrition, increase physical activity, and prevent obesity. Progress in these areas will reduce future chronic disease rates, improve worker productivity, reduce healthcare costs, and contribute to the elimination of health disparities.

Budget Request

CDC's FY 2017 request of **\$49,920,000** for Nutrition, Physical Activity, and Obesity, is level with the FY 2016 Enacted level. At this level, CDC will continue efforts to improve nutrition and increase physical activity across the lifespan, with a special focus on young children ages 0-5 years. CDC will also continue to monitor and report

¹¹⁹ <http://www.cdc.gov/nccdpHP/dnpao/>

¹²⁰ Cunningham, S., Kramer, M. and Narayan, K. Incidence of Childhood Obesity in the United States. *New England Journal of Medicine*. January 30, 2014. Vol. 370, No. 5.

health risk behaviors and health outcomes and integrate the best science into state, tribal, local, and territorial initiatives for optimal reach and impact.

Public Health Activities to Support Nutrition, Physical Activity, and Obesity Prevention

Activities	Targeted Outcomes
Cross-cutting State, Tribal, Local, and Territorial Program Support	Decrease: <ul style="list-style-type: none"> • Nutrition, physical activity, and obesity disparities • Childhood and adult obesity
Healthy Eating	Increase: <ul style="list-style-type: none"> • Availability and promotion of healthier food options • Consumption of fruits and vegetables
Active Living	Increase: <ul style="list-style-type: none"> • Worksites that use physical activity best practices • Community planning and transportation projects that incorporate support for physical activity • Physical activity levels
Healthy Infants, Toddlers, and Preschoolers	Increase: <ul style="list-style-type: none"> • Support for breastfeeding in hospitals, worksites, and child-care settings • Health food options and physical activity opportunities in child-care settings Decrease: <ul style="list-style-type: none"> • Childhood vitamin and mineral malnutrition

Nutrition, physical activity, and obesity activities in states, tribes, localities, and territories are primarily funded through three cross-cutting cooperative agreements: [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health](#),¹²¹ [A Comprehensive Approach to Good Health and Wellness in Indian Country](#),²¹ and the Islands Cooperative Agreement serving the U.S. API, the Commonwealth of Puerto Rico and the U.S. Virgin Islands. Through these cooperative agreements, in FY 2015, CDC directed an estimated \$17,000,000 to evidence-based interventions that promote nutrition and physical activity, and obesity prevention, including:

- Increasing access to healthy food and beverages
- Increasing physical activity access and outreach
- Improving nutrition and increasing physical activity in Early Care and Education (ECE) settings
- Improving support for mothers who choose to breastfeed

With CDC resources and assistance, grantees are making significant progress during the first two years of the State Public Health Action cross-cutting cooperative agreement. Accomplishments include:

- Ohio trained over 4,600 ECE providers serving over 15,000 children, including 166 sites that serve a high proportion of low-income families, as part of the Healthy Ohio Initiative teaching comprehensive healthy eating and active living strategies
- The Missouri Department of Health's Breastfeeding Friendly Worksite Award initiative recognized 121 employers, with 72,000 employees, as being breastfeeding friendly

¹²¹<http://www.cdc.gov/chronicdisease/about/state-public-health-actions.htm>

- Indiana piloted a SNAP Fresh Bucks initiative in five farmers markets and assisted nine other markets where users purchased 11,500 pounds of fresh produce and generated \$27,000 in sales

In addition to these critical public health investments supporting cross-cutting approaches in states and communities, the Nutrition, Physical Activity, and Obesity program also invests resources in the following public health efforts.

High Obesity Rate Counties

CDC's High Obesity Rate Counties Initiative aims to reduce obesity in counties that have more than 40% prevalence of adult obesity by supporting land grant universities and cooperative extensions. Residents of these communities may have less access to healthy foods and fewer opportunities to be physically active. In FY 2015, CDC investments supported programs in 33 counties across 8 states, reaching over 1.6 million residents. With increased funding in FY 2016, CDC increased support to 5 of the 6 grantees previously funded and added the two new grantees. CDC continues to provide technical assistance to increase grantee capacity to implement and evaluate the impact of program activities. If improvements are made and continued, these programs will have long-term positive effects on the health of residents in these counties.

Healthy Eating

Initiatives to Reduce Vitamin and Mineral Malnutrition: CDC identified iodine deficiency in pregnant women and in 2014 worked with the vitamin industry to add 150 mcg of iodine to prenatal vitamins to prevent decreased brain function and avoid stunted physical and mental growth among infants. In FY 2017, CDC will continue to monitor vitamin and mineral status nationally and work with global partners to help countries implement mass food fortification, home-based food fortification, and supplementation to eliminate vitamin and mineral deficiencies in iron, vitamin A, iodine, folate, and zinc among vulnerable populations, especially children.

Healthy Food Choices in Cafeterias, Vending, and Concessions: Since 2011, CDC investments increased healthy food choices in vending and cafeterias in all 50 states, 20 federal departments, 600 hospitals, and all Government Service Administration facilities. For example, in 2015, CDC worked with New Mexico to increase healthy food options in hospital cafeterias, vending machines, and meals served to patients. In FY 2017, CDC will continue to expand access and availability of healthier food choices in the workplace.

Promotion of Healthy Foods: Since 2010, CDC investments supported a public-private partnership that provided over 4,000 salad bars to schools, reaching over 2 million children daily across the country to ensure access to healthy fruits and vegetables at school. With CDC support, in 2015 Maryland implemented a statewide incentive for federal nutrition benefit participants to shop at farmers markets. In FY 2017, CDC will continue to promote healthier food sales through state and local initiatives.

Active Living

Worksites that Support Physical Activity: In FY 2017, CDC will continue to deliver training, tools, and resources to state and local health agencies and employers to develop worksite wellness initiatives that incorporate physical activity. This effort leverages previous investments. For example, in 2015, CDC worked with Michigan to design and promote physical activity initiatives in 40 worksites.

Walkable Communities through Transportation and Planning: In FY 2017, CDC will continue to work with the transportation and planning sectors to develop best practices and models to incorporate and monitor community-level physical activity initiatives. For example, in 2015, CDC supported Arkansas to work with community design engineers and the state department of transportation to develop statewide pedestrian and bicycle plans.

Safe and Easy Opportunities for Physical Activity: In FY 2017, CDC will continue to work with the YMCA to convene community teams to support safe and easy places for physical activity. For example, in 2015, CDC worked with California and their partner, Kaiser Permanente, to expand bike share initiatives across the state.

Healthy Infants, Toddlers and Preschoolers

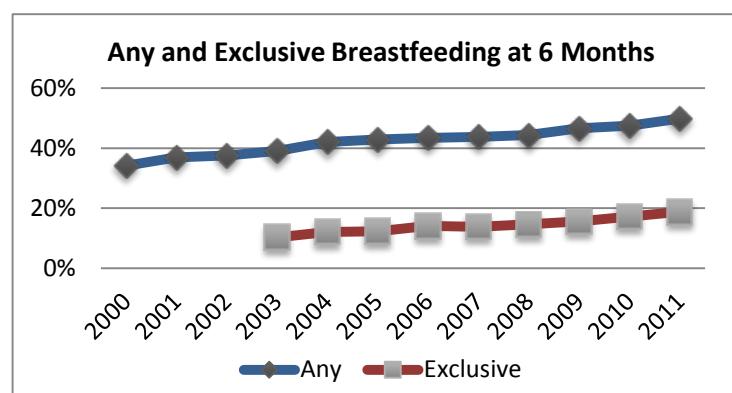
CDC uses Prevention and Public Health funds to help children 0-5 years develop healthy eating and active living behaviors to decrease their risk later in life for obesity-related illness, disability, and premature death.

Budget Request

CDC's FY 2017 request of **\$12,000,000** for its Hospitals Promoting Breastfeeding and National Early Child Care Collaboratives program, all from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. At this level, CDC will continue to assist hospitals and all states in promoting breastfeeding, and monitor and report biennial hospital breastfeeding practice results of all birth hospitals in the United States and its territories. Also in FY 2017, CDC will continue to work with every state, many localities, and thousands of early care and education (ECE) providers across the nation to adopt and implement recommended obesity prevention standards for nutrition, breastfeeding support, physical activity, and screentime.

Hospitals Promoting Breastfeeding

Supporting breastfeeding is a key CDC strategy for improving the health of mothers and infants. CDC is committed to supporting women who choose to breastfeed by supporting recommended breastfeeding practices within hospitals, early care and education, and other community settings. Breastfeeding reduces the risk of infections and Sudden Infant Death Syndrome (SIDS) in infancy, obesity in childhood, and development of type 2 diabetes in adulthood. In addition, breastfeeding reduces the risk of breast and ovarian cancer for the mother resulting in direct medical cost savings.¹²²



CDC investments have assisted 89 hospitals across 29 states (reaching an additional 218,000 babies per year) to increase support for mothers who choose to breastfeed through rooming-in, professional lactation support, and connection to other support activities. Currently, CDC supports an additional 94 hospitals, with 200,000 births per year, and all states and Washington, D.C. to improve breastfeeding support. Thirty-three of these states are working to improve hospital practices. CDC contributed to significant increases in rates of any breastfeeding at six months from 37% in 2001 to 51% in 2012, and exclusive breastfeeding at six months from 10% in 2003 to 22% in 2012.

CDC's FY 2017 request includes **\$8,000,000** in Prevention and Public Health Fund investments. In FY 2017, CDC will provide resources and assistance to hospitals, employers, and national and community organizations to improve breastfeeding practices; conduct national surveillance of breastfeeding; and work with state and community grantees to increase:

- Baby-friendly best practices in hospitals
- Availability of peer and professional lactation consultants
- Percentage of employers providing space and time for nursing mothers to express breast milk

¹²²Bartick et al Obstetrics and Gynecology 2013;0:1-9

National Early Child Care Collaboratives

Childhood obesity has more than tripled in the past 30 years, putting our nation's youth at immediate and long-term risk for developing costly, preventable chronic diseases, and early morbidity. Many of the nation's children are already obese by the time they enter kindergarten. Obese youth are more likely to have risk factors for cardiovascular disease, such as high cholesterol or high blood pressure, and to experience more severe forms of obesity as adults.

CDC's FY 2017 request includes **\$4,000,000** from the Prevention and Public Health Fund to continue CDC support for Early Child Care Collaboratives, which bring together teams of child care providers and supports them with technical assistance, tools, materials, and resources for obesity prevention.

In FY 2017, CDC will expand efforts to improve physical activity and nutrition environments in early childhood education (ECE), including limiting screen time and supporting breastfeeding, and deliver training, tools, and resources to state and local health agencies and ECE providers to help young children develop healthy habits. Also in FY 2017, CDC will continue to work with Nemours to establish learning collaboratives in states, tribes, and territories to improve nutrition and physical activity, decrease screen time, and support mothers who choose to breastfeed.

School Health Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$15.383	\$15.400	\$15.400	\$0.000

Overview

Schools are a critical partner in helping children develop lifelong, healthy habits by providing opportunities for quality physical education and [physical activity](#),¹²³ and a healthy [school food environment](#).¹²⁴ The percent of children aged 6-11 years in the United States who were obese¹²⁵ increased from 7% in 1980 to nearly 18% in 2012. Similarly, the percentage of adolescents aged 12-19 years who were obese increased from 5% to nearly 21% over the same period. Nearly one in three children is at risk for preventable chronic diseases like diabetes and heart disease due to obesity. Approximately one in four children manage a chronic condition on a daily basis that may adversely affect the ability to learn and thrive.

Each day, 132,000 schools provide a setting to 55 million students to learn about health and healthy behaviors.

Physical education and physical activity in schools improve health and academic performance.

CDC's School Health Program funds all 50 states and Washington, D.C. to promote and implement sustainable strategies in schools and school districts, and provide training in effective interventions to improve health outcomes for K-12 students. CDC also supports 17 states to help school health services improve the management of chronic conditions among students.

Budget Request

CDC's FY 2017 request of **\$15,400,000** for School Health is level with the FY 2016 Enacted level. CDC's School Health program will continue to support state health departments in working with local school districts to improve health outcomes for K-12 students and improve the management of students' chronic conditions.

Activities to Support School Health

Focus Areas	Examples of Activities
Cross-cutting State, Tribal, Local, and Territorial Program Support	Fund all 50 states and Washington, D.C. to implement improved nutrition, physical activity, and obesity prevention efforts, and 17 states to improve management of chronic conditions in schools
Physical Activity	Expand physical education/physical activity programs and opportunities for students before, during, and after school by providing guidelines and training to state and local education and public health staff
School Nutrition	Improve school nutrition environments on K-12 campuses by encouraging adoption of USDA School Meal and Competitive Foods Nutrition Standards and Food Marketing Guidelines and by providing training and tools for school and health department staff

¹²³<http://www.cdc.gov/healthyyouth/physicalactivity/facts.htm>

¹²⁴<http://www.cdc.gov/healthyyouth/nutrition/facts.htm>

¹²⁵<http://www.cdc.gov/healthyyouth/obesity/facts.htm>

Focus Areas	Examples of Activities
Managing Chronic Conditions in Schools	Help schools better identify, track, and support students with chronic conditions who may require daily or emergency management through training on specific chronic conditions (e.g., food allergies, epilepsy, and diabetes) and documentation of medication administration and health room visits, and improving communication between schools and students' medical homes
Research and Translation for the School Settings	Develop, update, and disseminate national guidelines and tools for physical activity, physical education, nutrition, and managing chronic conditions in schools Conduct cross-cutting research to show the relationship between health and academics and the importance of evidence-based policies to ensure a healthy and safe school environment

CDC school health activities in states, tribes, localities, and territories are primarily funded through the cross-cutting cooperative agreement [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health](#).¹²⁶ Through this mechanism, in FY 2015, CDC directed approximately \$6.7 million to evidence-based school health interventions to improve health outcomes for K-12 students including:

- Promoting practices that increase the quality and quantity of physical education, physical activity, and recess; and support implementation of comprehensive physical activity programs
- Promoting policies and practices that create a supportive nutrition environment, including establishment of standards for all competitive foods; prohibition of advertising of unhealthy foods; and promotion of healthy foods in schools including those sold and served within school meal programs and other venues
- Promoting implementation of policies, processes, and protocols to meet daily management and emergency care needs of students with chronic conditions (e.g., asthma, food allergies, food anaphylaxis, epilepsy, and diabetes) and to strengthen linkages with students' medical home

With CDC resources and assistance, grantees have accomplished the following:

- In FY 2015, staff from more than 1,400 schools in 47 states were trained to develop and implement a Comprehensive School Physical Activity Plan (CSPAP). These trained staff impact more than 967,000 students. CSPAP gives students opportunities to be physically active, meet the nationally recommended 60 minutes of physical activity each day, and develop the knowledge, skills, and confidence to be physically active for a lifetime
- Educators in every state have been trained on one or more CDC evidence-based guidelines or tools including CDC's School Health Guidelines, the School Health Index, the CSPAP Guide, or the Physical Education or Health Education Curriculum Analysis Tools. These tools help educators give better access for students to physical activity and healthy nutrition environments, promoting academic achievement
- Seventeen CDC-funded states focused on managing chronic conditions have partnered with national organizations to train school nurses on diabetes management and managing food allergies in schools. This has resulted in the documenting of health causes for absenteeism and increasing the number of students with chronic conditions that have a medical home

¹²⁶<http://www.cdc.gov/chronicdisease/about/state-public-health-actions.htm>

National Non-governmental Organizations

In addition to these critical public health investments, the School Health program also funds national, non-governmental organizations (NGOs) to improve physical activity and physical education, nutrition, and management of chronic conditions including school health services such as case management, self-management education, and improving communication between school nurses and students' primary providers. These NGOs support state and local health and education departments to ensure that evidence-based interventions increase the impact of programs in all 50 states and Washington, D.C.

CDC-funded NGO achievements include:

- Trained over 2,000 school nurses, pediatricians, and allied health professionals in skills, policies, and practices to support managing food allergies, diabetes case management, and/or asthma self-management in schools
- Provided essential tools, guidance, and training to support state implementation of school-based key provisions of the Healthy Hunger Free Kids Act
- Trained over 1,400 educators to develop and implement a Comprehensive School Physical Activity Program reaching over 946,000 students

In FY 2017, CDC will continue to fund NGOs to create and sustain school-based physical activity, nutrition, and health services policies, practices, and environmental influences to improve the health and well-being of youth.

School Health Grants for Non-governmental Organizations¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	7	7	7	4	4	0
- New Awards	0	0	0	4	0	-4
- Continuing Awards	7	7	7	0	4	+4
Average Award	\$0.248	\$0.248	\$0.247	\$0.350	\$0.350	\$0.000
Range of Awards	\$0.150–\$0.300	\$0.150–\$0.300	\$0.150–\$0.300	\$0.350	\$0.350	N/A
Total Awards	\$1.736	\$1.736	\$1.728	\$1.400	\$1.400	\$0.000

¹These funds are not awarded by formula. In FY2016, CDC anticipates reducing total grant funding and decreasing the number of grantees. Remaining grantees are expected to focus their efforts on one school health priority area each.

Guidance and Tools

In FY 2017, CDC will continue to support the availability and dissemination of critical technical guidance and tools in areas like physical activity and food allergy management. For example, the American Academy of Pediatrics, Food Allergy Research and Education, and the National Association of School Nurses conducted training and dissemination of the [Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Centers](#),¹²⁷ reaching more than 2,000 physicians and school nurses. In addition, the [Comprehensive School Physical Activity Program \(CSPAP\)](#)¹²⁸ provides a framework for effective physical education programs in schools. CDC also provides extensive training and tools to school food service administrators in support of [USDA's Smart Snacks Program](#).¹²⁹ Smart Snacks requires all foods sold during the school day meet specified nutrition standards.

¹²⁷<http://www.cdc.gov/HealthyYouth/foodallergies/>

¹²⁸<http://www.cdc.gov/healthyyouth/physicalactivity/cspap.htm>

¹²⁹http://www.fns.usda.gov/sites/default/files/allfoods_infographic.pdf

Community Programs Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$100.950	\$0.000	\$0.000	\$0.000
ACA/PPHF	\$30.000	\$50.950	\$30.000	-\$20.950
Total	\$130.950	\$50.950	\$30.000	-\$20.950
Racial and Ethnic Approaches to Community Health	\$50.950	\$50.950	\$30.000	-\$20.950
ACA/PPHF (<i>non-add</i>)	\$30.000	\$50.950	\$30.000	-\$20.950
Partnerships to Improve Community Health	\$80.000	\$0.000	\$0.000	\$0.000

Overview

CDC has developed, implemented, evaluated, and refined locally-based programs that improve the health of communities. CDC programs have improved access to healthier environments, prevented and controlled the risk behaviors that lead to chronic disease, and improved quality of life. As a result of community-based programs, millions more Americans now have increased access to healthy foods and opportunities for physical activity, as well as increased protections from deadly secondhand smoke exposure in workplaces, restaurants, bars, schools, multi-unit housing complexes, campuses, and parks. Research shows that healthier people enjoy increased academic achievement, improved productivity on the job, and reduced need for healthcare. By reducing tobacco use and exposure, improving nutrition and physical activity, and increasing access to opportunities for chronic disease prevention, risk reduction, and disease management, community-based programs support and encourage health and wellness among their residents.

Findings from local evaluation efforts indicate CDC's community investments produce health benefits for awarded communities. For example:

- The Seattle, Washington, community program found a decline in obesity prevalence in CDC-supported low-income school districts, while neighboring school districts showed no such decline. The community program promoted exercise and healthier eating in seven low-income school districts. Those seven districts experienced a 17% decline in the rate of obesity between 2010 and 2012
- In Los Angeles County, California, community members' use of school facilities for physical activity was 16 times higher in schools involved in the program than in other schools. About two-thirds of all community members using school facilities participated in moderate or vigorous physical activity

CDC's [Racial and Ethnic Approaches to Community Health \(REACH\)](#)¹³⁰ program exemplifies what CDC can accomplish through community programs. REACH, is designed exclusively to reduce health disparities experienced by racial and ethnic groups. Recent accomplishments include:

- Cholesterol screening increased from 75% to 78% among African-Americans, 58% to 71% among Hispanics, and 53% to 72% among Asians in REACH communities, while the general trend from 2009 to 2011 in the United States overall decreased or remained constant
- The Cherokee Nation now requires all contractors working with the Cherokee Nation to be tobacco-free, including casinos, hotels and resorts, and other businesses. This affects the community's approximately 2,400 contractors and vendors working both indoors and outdoors. This policy will ensure that more than 300,000 Cherokee Nation residents and visitors are not exposed to the dangers of secondhand smoke in their everyday lives

¹³⁰<http://www.cdc.gov/hccdphp/dch/programs/reach/index.htm>

- As of September 2014, an estimated 12,000 Hispanic youth in Hays County, Texas, have increased access to physical activity opportunities as a result of the Hays County Independent School District implementing wellness programs throughout the district. Students, parents and community residents can now access school gyms before- and after-school hours for physical activity.
- In the cities of Brockton and Stoughton, Massachusetts, as of Fall 2014, an estimated 19,000 students have increased access to health eating opportunities. Through collaborations with the National Council of the YMCA, 27 school and/or childcare centers now offer healthy food and beverage options in vending machines, and serve whole grains, fruits, low-fat dairy products, and vegetables during school breakfast and lunch.

Budget Request

CDC's FY 2017 request of **\$30,000,000** for Community Programs, all from the Prevention and Public Health Fund, is \$20,950,000 below the FY 2016 Enacted level. The request will be used to fund the most effective and evidence-based REACH programs. REACH will award a new cooperative agreement in FY 2017 that will incorporate lessons learned from prior community grant programs, resulting in a stronger, more robust REACH that is evidence based.

Racial and Ethnic Approaches to Community Health (REACH)

Building upon its legacy of successfully reducing health disparities, REACH 2017 will incorporate the effective strategies identified during prior iterations of the program to continue to measurably improve the health status of racial and ethnic minorities, building on the growing evidence base. The intent of REACH 2017 is to implement, disseminate, and evaluate high-impact approaches that capitalize on the unique assets of the targeted communities and populations to reduce disease burden and the high health care and societal costs associated with chronic diseases.

REACH 2017 will be supported through a five-year cooperative agreement that will promote effective, sustainable approaches to reducing disparities. Awardees will:

- Implement evidence-based interventions to produce cost savings and improved health outcomes in communities with high burden of chronic diseases and the risk factors associated with chronic diseases.
- Engage members of the targeted communities in program implementation.
- Collect data and conduct evaluations to identify the health impacts of programmatic strategies.

Approaches will focus on improving poor nutrition, lack of physical activity, tobacco use, and limited access to clinical and community services by increasing access to healthier environments and quality preventive services within health care settings. CDC will also translate and disseminate interventions that have demonstrated cost savings and improvement across health outcomes to communities and sectors not supported through the program, magnifying the program's impact.

Awardees will conduct an evaluation in partnership with academic or research institutions to document health impacts and cost savings. CDC will simultaneously launch a national evaluation of REACH 2017 to ensure standardization and consistency across communities. Components of this evaluation could include: economic analyses, clinical data extraction from electronic medical records, and the modification of existing BRFSS indicators.

Racial and Ethnic Approaches to Community Health Grants¹

CDC FY 2017 Congressional Justification

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	49	49	49	40-50	N/A
- New Awards	0	49	0	0	40-50	N/A
- Continuing Awards	6	0	49	49	0	-49
Average Award	\$0.300	\$0.700	\$0.700	\$0.700	\$0.400-\$500	N/A
Range of Awards	\$0.300	\$0.313-\$1.000	\$0.313-\$1.000	\$0.313-\$1.000	\$0.313-\$0.600	N/A
Total Awards	\$1.800	\$35.000	\$35.000	\$35.000	\$20.000	-\$15.000

¹ These funds are not awarded by formula.

Health Promotion Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$19.970	\$14.025	\$14.025	\$0.000

Overview

CDC collects health data and conducts critical epidemiological research to define the public health burden and impact of chronic disease risk factors, and identify how public health can most effectively reduce their consequences. CDC also applies innovative approaches to disease surveillance and epidemiology to complement existing chronic disease programs and provide support and data for federal, state, and local public health officials. Major areas currently being addressed include:

- Alzheimer's Disease
- Chronic Kidney Disease (CKD)
- Excessive Alcohol Use Prevention
- Glaucoma
- Inflammatory Bowel Disease (IBD)
- Interstitial Cystitis (IC)
- Visual Screening Education

Alzheimer's disease is the sixth leading cause of death among U.S. adults and the fifth leading cause of death among adults 65 years and older.

Budget Request

CDC's FY 2017 request of **\$14,025,000** for Health Promotion activities is level with the FY 2016 Enacted level. CDC will use FY 2017 funding to continue an overarching approach to Health Promotion activities, leveraging modest investments to strengthen the science base for the prevention of the leading and cross-cutting causes of disease, disability, and death. At this funding level CDC will:

- Advance science and public health response across cross-cutting risk factors and conditions
- Improve surveillance and define the burden of specific conditions
- Develop effective public health interventions, including tools and resources, to implement prevention strategies for specific diseases
- Provide leadership through partnerships and collaboration with non-governmental organizations, universities, and public health entities

CDC will also assess disease and risk factor trends, correlating trends (such as the aging of the U.S. population) with future chronic disease burden so the public health community can prepare for the chronic disease issues of the future.

Activities to Support Health Promotion

Focus Areas	Examples of Activities
Alzheimer's Disease	Enhance state surveillance of cognitive decline and caregiving, and release a new BRFSS data report on caregiving

Focus Areas	Examples of Activities
	Complete the Guide to Community Preventive Services review of caregiver practices to increase knowledge about the consequences of caregiving and inform public health policies and programs to promote caregiver health
Chronic Kidney Disease (CKD)	Enhance surveillance, coordinate state demonstration projects, and conduct economic studies on the annual health care cost associated with CKD to provide comprehensive public health strategies for promoting kidney health
Excessive Alcohol Use Prevention	<p>Improve public health surveillance of excessive alcohol use, particularly underage and binge drinking, and related harms</p> <p>Build state and local public health capacity in alcohol epidemiology</p> <p>Develop and disseminate translation tools to inform public health practice</p>
Glaucoma	Strengthen glaucoma detection by refining innovative, evidence-based interventions to promote increased access and use of eye care among high-risk populations
Inflammatory Bowel Disease	<p>Support partners in estimating IBD prevalence and incidence</p> <p>Assess the impact of clinical practices on managing the disease</p> <p>Develop evidence-based interventions to improve disease outcomes</p> <p>Better understand the impact of disease on people with IBD</p>
Interstitial Cystitis	<p>Support a research study to obtain estimates of the prevalence and incidence of Interstitial Cystitis (IC) in adult populations</p> <p>Define the demographic and clinical characteristics of IC and its impact on health from a population perspective</p>
Visual Screening	Develop, test, and implement a vision and eye health surveillance system
Education/Vision Health Initiative	<p>Assess the capacity of states to integrate vision and eye health into the state and community public health infrastructure</p> <p>Ensure broad dissemination of research findings to provide recommendations to improve the vision and eye health of the nation</p>

Alzheimer's disease

Alzheimer's disease is the sixth leading cause of death among U.S. adults and the fifth leading cause of death among adults aged 65 years and older. Through its [Healthy Brain Initiative](http://www.cdc.gov/aging/healthybrain/),¹³¹ CDC funds surveillance efforts and works to translate research into public health practice in states and communities. Building on the congressionally mandated “[National Plan to Address Alzheimer’s Disease](http://aspe.hhs.gov/daltcp/napa/NatlPlan2013.pdf)”¹³² (National Plan), CDC and partners released “[The Public Health Road Map for State and National Partnerships, 2013–2018](http://www.cdc.gov/aging/pdf/2013-healthy-brain-initiative.pdf)”¹³³ (Road Map) detailing key roles that state and local public health agencies can play in addressing cognitive impairment and caregiving, and increasing cognitive health awareness among the public and health professionals.

In 2015, CDC supported 35 states to collect, analyze, and disseminate data from CDC’s state Behavioral Risk Factor Surveillance System (BRFSS) on Cognitive Decline and an additional 24 states are using the BRFSS Caregiving Module. The cognitive decline survey questions examine adult perceptions about increased confusion

¹³¹<http://www.cdc.gov/aging/healthybrain/>

¹³²<http://aspe.hhs.gov/daltcp/napa/NatlPlan2013.pdf>

¹³³<http://www.cdc.gov/aging/pdf/2013-healthy-brain-initiative.pdf>

and memory loss. In FY 2016, CDC funded two national partners, the Alzheimer's Association and the Balm in Gilead, through a new cooperative agreement to promote implementation of the Road Map at the national, state, and local levels. In FY 2017, CDC and national partners will continue to implement this work. Similarly, the Healthy Brain Research Network, a thematic network of CDC's Prevention Research Centers Program, will help to implement key actions from the Road Map focused on communication and education. CDC also will continue co-leading the Healthy People 2020 topic areas for "Dementia" and "Older Adults" and continue to fund related surveillance efforts.

Chronic Kidney Disease

Kidney Disease is the ninth leading cause of death in the United States. More than 20 million—or more than one in 10 U.S. adults aged 20 years or older—have chronic kidney disease (CKD) and most are unaware of their condition. By 2030, one in six U.S. adults aged 30 years or older is projected to have CKD. In 2012, treating Medicare patients aged 65 years or older with CKD cost the United States \$44.6 billion, a total that doubles when taking into consideration those with CKD under age 65 years and those being treated for kidney failure.

In recognition of the growing problem of kidney disease in the United States, [CDC's CKD Initiative](#)¹³⁴ is designed to provide public health strategies for promoting kidney health. In FY 2017, CDC will continue to work with partners to support and enhance the [CKD Surveillance System](#),¹³⁵ which is crucial to documenting the burden of CKD and its risk factors and tracking progress towards achieving Healthy People 2020 objectives related to CKD prevention, detection, and management.

Excessive Alcohol Use Prevention

[Excessive alcohol use](#),¹³⁶ [including binge and underage drinking](#),¹³⁷ is responsible for 88,000 deaths annually. It shortens lives by an average of 30 years, and, in 2010, cost about \$249 billion, or \$2.05 per drink consumed annually. Binge drinking is responsible for more than half of deaths attributed to excessive alcohol use, and about three-quarters of the cost of excessive alcohol use in the United States.

Excessive alcohol use accounts for 1 in 10 deaths among working-age adults ages 20-64 in the United States.

CDC strengthens the science for preventing excessive alcohol use by:

- Improving public health monitoring of excessive alcohol use and related harms
- Advancing the science for preventing excessive alcohol use
- Translating recommendations on excessive drinking into public health practice by supporting state adoption of evidence-based interventions on excessive drinking

In FY 2015, CDC supported alcohol epidemiology in four state health departments; improved data collection on excessive drinking and related harms; monitored and identified strategies to reduce youth exposure to alcohol marketing; and developed translation tools to help states and communities with evidence-based strategies to reduce excessive alcohol use.

In FY 2017, CDC funding will support:

- Alcohol epidemiology in up to eight state health departments
- Improved data collection on excessive drinking and related harms

¹³⁴ <http://www.cdc.gov/diabetes/pdfs/programs/CKDBrief.pdf>

¹³⁵ <http://nccd.cdc.gov/CKD/default.aspx>

¹³⁶ <http://www.cdc.gov/alcohol/>

¹³⁷ <http://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

- Dissemination of translation tools and technical assistance to inform public health practice at the local and state level.

Inflammatory Bowel Disease

In the United States, as many as one million to 1.3 million people suffer from [Inflammatory Bowel Disease \(IBD\)](#).¹³⁸ Working with partners, CDC builds the science base to better understand IBD and factors that predict the disease course. CDC supports an epidemiologic research study to understand the causes of IBD, learn why the course of illness varies among individuals, and determine what factors may improve outcomes.

In FY 2017, CDC will:

- Analyze surveillance data and enhance existing data systems to capture IBD data
- Contribute to the base of scientific evidence on IBD
- Increase applied research capacity through the Ocean State Crohn's and Colitis Area Registry

Interstitial Cystitis

[Interstitial Cystitis \(IC\)](#),¹³⁹ a chronic bladder condition that results in recurring discomfort or pain in the bladder or surrounding pelvic region, is more common in women than men. Recent research suggests that up to 12% of women have early symptoms of IC. CDC works to provide the public health data necessary for a better understanding of the epidemiology and treatment of IC. This information is essential to delivering effective provider and public education, informing clinical best practices, and targeting interventions to groups at high-risk for IC.

In FY 2017, CDC will continue to fund the competitive five-year cooperative agreement, "Interstitial Cystitis Epidemiologic Study, Translation and Education." This opportunity is designed to fill current epidemiologic research gaps to inform ways to improve the effectiveness of IC education and awareness activities. Results from this study will increase understanding of the epidemiology of and treatment for the disease, as well as inform provider and patient education.

Vision Health

More than 3.4 million Americans aged 40 years and older are either blind or visually impaired, and millions more are at risk for developing vision impairment and blindness. CDC's Vision Health Initiative (VHI) invests in activities to improve vision and eye health, including working with state partners to assess and develop their capacity to integrate vision and eye health into the state and community public health infrastructure.

In FY 2017, CDC's VHI will develop, test, and implement a vision and eye health surveillance system using existing surveys and other administrative and electronic data sources. The system will provide population estimates of vision loss function, eye diseases, health disparities, and barriers and facilitators to accessing vision and eye care at the national, state, and community levels. This system will be disseminated and shared with researchers, epidemiologists, decision makers, providers, and other end users for implementation and evaluation purposes. The VHI—in collaboration with the Institute of Medicine—will also release a CDC-sponsored report titled "Public Health Approaches to Reduce Vision Impairment and Promote Eye Health" that will provide recommendations to improve the vision and eye health of the nation. CDC will ensure broad dissemination of the report to key stakeholders.

Additionally in FY 2017, CDC will continue support for two research demonstration projects examining methods to improve glaucoma detection, referral, and treatment for high risk populations. The project funds Johns

¹³⁸<http://www.cdc.gov/ibd/index.htm>

¹³⁹<http://www.cdc.gov/ic/>

Hopkins to develop a practical algorithm targeting high-risk minority populations to detect glaucoma cases in the community and identify other eye conditions (e.g., refractive error, cataract, and diabetic retinopathy). Wills Eye Hospital is funded to test a telemedicine, community-based intervention using fundus photography to increase the detection of previously undiagnosed glaucoma and other eye diseases in high-risk populations. This project is done in conjunction with Federally Qualified Health Centers and primary care providers. The demonstration projects will assess the cost of the public health interventions to detect and manage glaucoma among high-risk populations.

Prevention Research Centers Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$25.461	\$25.461	\$25.461	\$0.000

Overview

[Prevention Research Centers](#)^{140,141} (PRCs) are a network of 26 U.S. academic institutions that research and disseminate valuable, cost-effective prevention interventions. PRCs design, test, and share innovative and practical strategies to protect the health of the American people, maximize public health resources, and reduce healthcare costs. The PRC network allows CDC and other federal agencies to support specific, short-term research projects, with an emphasis on the leading causes of disease—including diseases that disproportionately affect certain populations—and disability. This dynamic program combines the strength of academic institution-based research with the power of community partnerships. PRCs collaborate with health departments, educational boards, and the private sector on research projects, and work closely with community partners to translate promising research findings into practical, cost-effective prevention programs. For example, an economic analysis of Medicare enrollees who participated in [EnhanceFitness](#),¹⁴² a PRC-developed program, found that participants had significantly fewer hospitalizations and lower average healthcare costs.

[EnhanceFitness](#)³⁹ is now recommended by the CDC Arthritis program and the Department of Health and Human Services' Administration for Community Living, reaching more than 25,000 older adults in a wide variety of settings, including YMCAs, primary care clinics, and community centers.

Budget Request

CDC's FY 2017 request of **\$25,461,000** for Prevention Research Centers is level with the FY 2016 Enacted level. The current cooperative agreement to 26 academic institutions in 24 states provides funding to study how individuals and communities can avoid or counter the risks for chronic illnesses (e.g., heart disease, obesity, and cancer). CDC works with PRCs to ensure their research has direct application in real-world settings. PRCs provide assistance to states and communities by serving as expert consultants, through assessment and evaluation of existing health programs or policies, and providing technical assistance to health departments, schools, workplaces, and community-based organizations. In FY 2017, CDC will continue to support 26 PRCs with the goal of quickly leveraging research findings to build a collection of proven health interventions for use nationwide. The PRCs exemplify how CDC puts science into action, conducting innovative, practical research to improve the health of all Americans.

In 2013, for every \$1 invested in PRCs, the PRCs generated an average of \$7.93 in additional research funds.

Special Interest Projects (SIPs)

SIPs allow other CDC programs and federal agencies to leverage the prevention research expertise of PRCs and their established relationships with community partners to investigate community health promotion and disease prevention strategies. In FY 2015, 65 SIPs were awarded to 21 of the 26 PRCs to design, test, and disseminate effective applied public health prevention research strategies. Funding for SIPs come from the program sponsoring the SIP.

¹⁴⁰<http://www.cdc.gov/prc/>

¹⁴¹ Authorized under Public Health Service Act, Section 1706

¹⁴²<http://www.projectenhance.org/enhancefitness.aspx>

For example, the Arizona Prevention Research Center (AzPRC) is collaborating with three federally qualified health centers across three counties in Arizona to develop best practice guidelines for clinic based community health workers (CHWs). They are examining the variation in CHW activities, including roles for chronic disease prevention and management, and evaluating the effectiveness of CHWs in improving client process outcomes and health metrics. An evaluation of a prevention program, developed by the AzPRC, called *Pasos Adelante*¹⁴³ ("Steps Forward"), found that CHWs were effective in motivating Latino adults to reduce their risk of heart disease, diabetes, and other chronic diseases related to diet and physical activity. Improvements were reported in participants' body mass index, blood pressure, total cholesterol, and glucose levels.

Current SIPs address gaps in knowledge and focus on the following topics:

- Arthritis
- Aging
- Dementia and Alzheimer's Disease
- Alcohol and Youth
- Epilepsy
- Cancer
- Falls Prevention
- HIV and Sexual Health
- Nutrition
- Obesity and Physical Activity
- Tobacco Use
- Workplace Health
- Global Health

Prevention Research Centers Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	+/- FY 2016
Number of Awards	37	26	26	26	26	0
- New Awards	0	26	0	0	0	0
- Continuing Awards	37	0	26	26	26	0
Average Award	\$0.490	\$0.750	\$0.733	\$0.733	\$0.733	\$0.000
Range of Awards	\$0.272-\$0.536	\$0.750	\$0.733	\$0.733	\$0.733	N/A
Total Awards	18.138	\$19.500	\$19.058	\$19.058	\$19.058	\$0.000

¹These funds are not awarded by formula.

² Amounts include only core funding only, not funding for Special Interest Projects (SIPs).

¹⁴³ <http://www.cdc.gov/prc/prevention-strategies/chronic-disease-risks.htm>

Arthritis and Other Chronic Diseases Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$23.342	\$25.000	\$25.000	\$0.000

Overview

Arthritis¹⁴⁴ is a leading cause of disability in the United States, with approximately [52.5 million adults reporting arthritis diagnosis](#)¹⁴⁵ and 22.7 million reporting arthritis-attributable activity limitations. CDC's arthritis program goals are to decrease pain and disability and to improve physical, psychosocial, and work function among persons with arthritis. CDC works with state health departments and national organizations to promote self-management and physical activity interventions in community and clinical service organizations and health care systems.

Nearly two-thirds of people with arthritis are working age adults, younger than 65 years of age.

Lupus¹⁴⁶ is a rheumatic autoimmune disease that can cause inflammation and tissue damage to virtually any organ system in the body and result in serious disability, pain, and premature death. It affects women far more than men and it affects African Americans far more than whites. Lupus is difficult to diagnose; therefore, it has been extremely difficult to estimate the severity and corresponding burden on society. CDC-funded population-based registries and cohort studies are increasing public health knowledge about lupus.

Epilepsy¹⁴⁷, a chronic neurological condition, affects about 2.4 million adults and over 460,000 children from birth to 17 years of age. CDC's Epilepsy Program works with the National Epilepsy Foundation to strengthen professional and public education about seizures and epilepsies to increase awareness, reduce stigma, and enhance care and safety for people with epilepsy.

Budget Request

CDC's FY 2017 request of **\$25,000,000** for Arthritis and Other Chronic Diseases is level with the FY 2016 Enacted level.

In FY 2017, CDC will address the burden of Arthritis and Other Conditions by:

- Increasing access and availability of evidence-based interventions
- Conducting data collection and epidemiological analyses to measure burden
- Maintaining the science base of effective strategies
- Promoting awareness and health equity

Arthritis Program

In FY 2017, CDC will work closely with grantees to improve and increase self-management attitudes and behaviors among persons with arthritis. CDC's Arthritis Program funds twelve state health departments to expand access to proven arthritis interventions. Specifically, the competitive five-year cooperative agreements require grantees to embed arthritis interventions that also benefit other chronic conditions—such as the

¹⁴⁴<http://www.cdc.gov/arthritis/>

¹⁴⁵http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a1.htm?s_cid=mm6244a1_w

¹⁴⁶<http://www.cdc.gov/arthritis/basics/lupus.htm>

¹⁴⁷<http://www.cdc.gov/epilepsy/index.htm>

Chronic Disease Self-management Program¹⁴⁸ and EnhanceFitness¹⁴⁹—in healthcare and community delivery systems. At the end of this project period, CDC expects grantees to reach more than 450,000 individuals with arthritis-appropriate, proven programs and strategies; conduct surveillance and use data to inform priority setting and decision making; and implement health communications campaigns.

In FY 2017, CDC will continue to work with national partner organizations first funded in FY 2016 to make physical activity and self-management education interventions more accessible throughout the country for individuals with arthritis.

Arthritis State Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	12	12	12	12	12	0
- New Awards	0	0	0	0	0	0
- Continuing Awards	12	12	12	12	12	0
Average Award	\$0.405	\$0.406	\$0.332	\$0.332	\$0.332	\$0
Range of Awards	\$0.200-\$0.500	\$0.209-\$0.461	\$0.188-\$0.413	\$0.188-\$0.413	\$0.188-\$0.413	N/A
Total Awards	\$4.869	\$4.869	\$3.985	\$3.985	\$3.985	\$0

¹ These funds are not awarded by formula.

Lupus Program

In FY 2015, CDC's lupus program activities included assessing the natural history, treatment, health care access, and risk factors for lupus among African-Americans and Whites in Michigan and Georgia, and among Hispanics and Asians in California. CDC has worked to address priorities from the public health agenda for lupus, and continues to research ways to support lupus self-management, with the aim of developing interventions to address gaps in lupus self-management.

Through a new five-year cooperative agreement (FY 2015 through FY 2020) with the Lupus Foundation of America and the American College of Rheumatology, CDC is researching:

- Ways to support lupus self-management, with the aim of developing interventions to address gaps in lupus self-management resources
- How to increase awareness, improve health communication, and enhance knowledge among at-risk individuals and their healthcare providers. This effort includes developing a national partnership network to create sustainable lupus awareness and improve lupus-related health communications to decrease the time between onset of symptoms and diagnosis and to improve self-management of lupus and related comorbidities

In FY 2017, lupus program activities will include:

- Publishing results from lupus registries focused on Hispanics and Asians to inform how lupus occurs in these populations
- Increasing awareness, improving health communication, and enhancing knowledge among at-risk individuals and their healthcare providers
- Working with a national partnership network to create sustainable lupus awareness and improve lupus-related health communications

¹⁴⁸<http://patienteducation.stanford.edu/programs/cdsmp.html>

¹⁴⁹<http://www.projectenhance.org/enhancefitness.aspx>

Lupus Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	3	4	5	5	5	0
- New Awards	0	3	2	0	0	0
- Continuing Awards	3	1	3	5	5	0
Average Award	\$1.075	\$.798	\$0.873	\$0.873	\$0.873	\$0.000
Range of Awards	\$0.750-\$1.238	\$0.450-\$0.999	\$0.750-\$1.200	\$0.750-\$1.200	\$0.750-\$1.200	N/A
Total Awards	\$3.227	\$3.192	\$4.366	\$4.366	\$4.366	\$0.000

¹These funds are not awarded by formula.

Epilepsy Program

CDC supports the [Managing Epilepsy Well Network](#) (MEW),¹⁵⁰ through the CDC-funded Prevention Research Centers (PRCs), to conduct innovative research for epilepsy self-management and identify and fill gaps. For example, [WebEASE](#)¹⁵¹ is the first evidence-based online epilepsy self-management program. Most recently, the MEW Network trained 41 healthcare providers representing 26 states to deliver [Project UPLIFT](#)¹⁵², a telehealth depression treatment program for adults with epilepsy and depression.

For over 15 years, CDC has worked with national partners to carry out multidimensional public education and awareness campaigns, and to educate target audiences (such as school personnel, first responders, and health care providers) on how to respond effectively if someone has a seizure. In FY 2014, the most current data available, CDC's national partner, the Epilepsy Foundation:

- Reached 38,200 middle and high school students and teachers through the Seizures and Youth: Take Charge programs
- Trained 5,600 school nurses with the Managing Students with Seizures curriculum
- Trained 16,067 school staff and personnel with the Seizure Training for School Personnel curriculum
- Trained 1,860 staff in adult care settings to recognize seizures
- Trained 2,411 EMS and law enforcement professionals in seizure awareness and response

In FY 2017, CDC will sustain activities in alignment with Institute of Medicine recommendations on epilepsy, including:

- Epidemiology and surveillance:
 - Conduct population surveys of epilepsy burden (prevalence, comorbidities, quality of life impairment, gaps in access to care, and related factors)
 - Research epilepsy prevalence and incidence, risk factors, outcomes, healthcare needs, and health disparities
 - Conduct population studies on stigma associated with epilepsy
- Public Health Research:
 - Support the MEW Network, an association of seven universities and epilepsy stakeholders
 - Work with the MEW network to advance the science on epilepsy self-management by conducting research in collaboration with community stakeholders and people with epilepsy and broadly disseminate research findings

¹⁵⁰<http://web1.sph.emory.edu/ManagingEpilepsyWell/>

¹⁵¹<http://www.epilepsyfoundation.org/livingwithepilepsy/Webease/index.cfm>

¹⁵²<http://web1.sph.emory.edu/ManagingEpilepsyWell/programs/uplift.php>

- Public Awareness/Communication:
 - Support studies to test new communication methods to combat stigma associated with epilepsy

Safe Motherhood and Infant Health Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$45.473	\$46.000	\$46.000	\$0.000

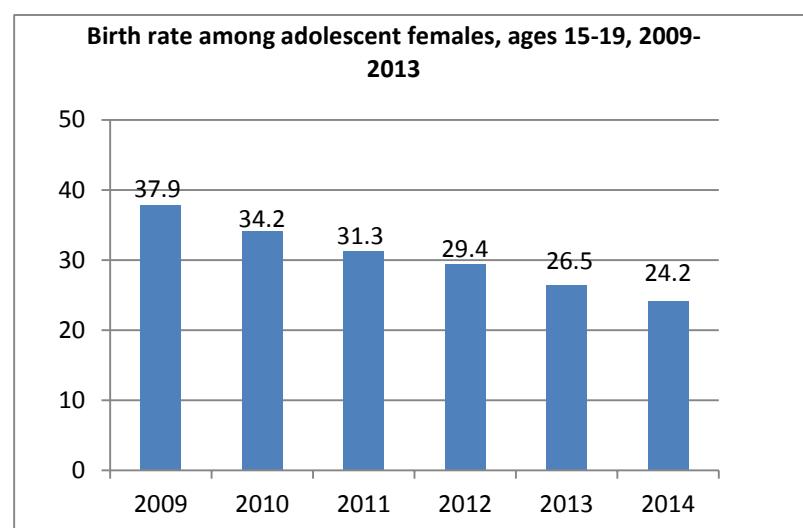
Overview

The annual cost of unintended pregnancy and birth in the United States in 2010 was approximately \$21 billion, of which \$14.6 billion were federal expenditures and \$6.4 billion were state expenditures. Unintended births place both mother and child at greater risk for adverse social, economic, and health outcomes. Preterm birth costs the U.S. healthcare system more than \$26 billion per year.

CDC leads national, state, and local initiatives to promote best practices, evaluate outcomes, and identify changes and trends in reproductive, maternal, and infant health and maternal mortality. CDC collects vital information on these issues through three major data systems:

- The [Pregnancy Mortality Surveillance System](#)¹⁵³ (PMSS) collects information on the causes of pregnancy-related deaths and risk factors associated with those deaths
- The [Pregnancy Risk Assessment Monitoring System \(PRAMS\)](#)¹⁵⁴ collects population-based data on maternal attitudes, experiences, and health before, during, and shortly after delivery and on infant health
- The [National Assisted Reproductive Technology \(ART\) Surveillance System \(NASS\)](#)¹⁵⁵ collects data from clinics in the United States that use ART to treat infertility

These data show significant improvements in reproductive, maternal, and infant health. For example, the rate of teen birth amount 15-19 year olds decreased by 9% between 2013 and 2014, from 26.5 per 1,000 to 24.2 per 1,000. The preterm birth rate (less than 37 weeks) was 9.57% in 2014, a decline of 8% from 2007; and the U.S. infant mortality rate decreased in 2014 to an historic low of 582.1 infant deaths per 100,000 live births. In addition, the percentage of women at risk for unintended pregnancy currently using a form of long-acting, reversible contraception (LARC) increased from 5.0% in 2006-2010 to 9.5% in 2011-2013, nearly doubling the percentage of women using LARC. Although these are important achievements, much work remains.



¹⁵³ <http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PMSS.html>

⁴⁹ <http://www.cdc.gov/prams>

¹⁵⁵ <http://www.cdc.gov/art/>

Budget Request

CDC's FY 2017 request of **\$46,000,000** for Safe Motherhood and Infant Health is level with the FY 2016 Enacted level. Within this level, roughly \$17,215,000 is included for Teen Pregnancy prevention from CDC appropriations and other sources.

In FY 2017, CDC will continue funding two cooperative agreements for teen pregnancy prevention. The first cooperative agreement, issued in collaboration with HHS's Office of Adolescent Health, funds three grantees to rigorously evaluate innovative interventions designed for young men 15-24 years old to reduce their risk of fathering a child born to a teen mother. The second cooperative agreement funds three grantees to enhance publicly funded health centers' capacity to provide youth-friendly sexual and reproductive health services, and increase the number of youth accessing these services. This second objective will be accomplished by working with youth-serving systems (i.e., juvenile justice, foster care) to develop strategies to refer and link vulnerable youth to care and by increasing awareness of the health centers' services in the local community through communication efforts.

In FY 2017, CDC will also continue studying preterm birth to better understand its impact and advance new strategies for prevention by funding six state-based Perinatal Quality Collaboratives (PQCs) to improve the quality of maternity care and health outcomes for women and newborns. Since the initiation of the PQCs in FY 2011, grantees have accomplished the following:

- The California PQC has shown a 57% decrease in the percentage of elective deliveries (37-38 weeks gestation)
- The New York State PQC has shown a 92% decrease in elective deliveries (36-38 weeks gestation) including an 86% decrease in labor inductions and a 94% decrease in scheduled C-sections without a medical indication
- The Ohio PQC, from September 2008 to March 2014, saw an estimated cost savings of over \$27.789 million associated with a shift of 48,400 births to 39 weeks gestation or greater and a 68% decline in the rate of deliveries less than 39 weeks without a medical indication

Twelve states will be funded for the Sudden Unexpected Infant Death Case Registry in FY 2017. The Registry monitors risk factors associated with infant deaths at less than one year of age and provides comprehensive information about the circumstances associated with these deaths to develop targeted prevention and intervention strategies and improve medical and legal practices.

FY 2017 Activities to Support Reproductive, Maternal, and Infant Health

Focus Areas	Examples of Activities
Monitor behaviors, health disparities, and health care outcomes	<p>Fund 12 states for the Sudden Unexpected Infant Death (SUID) Case Registry¹⁵⁶ to improve data collection on infant deaths and promote consistent reporting of SUID cases</p> <p>Collect and publish data through the National ART Surveillance System (NASS) from U.S. clinics that use ART, including clinic success rates. Data are used for research and public health practice related to the health of patients, pregnancies, and infants</p>

¹⁵⁶<http://www.cdc.gov/sids/CaseRegistry.htm>

Focus Areas	Examples of Activities
	Fund three states for data linkages via States Monitoring ART (SMART) collaborative to monitor short- and long-term maternal and child health outcomes of ART treatments (e.g., pregnancy and birth complications, prematurity, birth defects, etc.)
Clinical performance and quality improvement	Fund six state-based Perinatal Quality Collaboratives ¹⁵⁷ to identify interventions to improve quality of maternity care and health outcomes for women and newborns
Technical Assistance and Consultation	<p>Conduct national surveillance through the Pregnancy Mortality Surveillance System (PMSS)¹⁵⁸ to help clinicians, public health professionals, and others develop interventions to address pregnancy-related deaths and non-fatal complications</p> <p>Provide technical expertise and support to state health departments, federal agencies, and ministries of health to establish and conduct maternal and neonatal mortality surveillance</p> <p>Provide maternal and child health epidemiologists and graduate fellows to 16 state, local, and tribal public health agencies to build expertise</p>
Teen Pregnancy Prevention	<p>Conduct research and translate science into practice to reduce sexual risk behaviors and teen pregnancy.</p> <p>Develop innovative interventions for 15- to 24-year old young men to reduce their risk of fathering a teen pregnancy.</p> <p>Collaborate with health centers and youth serving organizations to implement evidence-based reproductive health services for adolescents and high-risk youth.</p>

Pregnancy Risk Assessment Monitoring System (PRAMS) Grants

In FY 2017, PRAMS will continue to fund a cooperative agreement that supports 50 sites—representing approximately 90% of all U.S. live births—to collect and analyze population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. The PRAMS program helps to:

- Identify factors that put women and infants at risk for health problems
- Monitor access to care and services
- Identify trends in behavior and health status
- Measure progress in improving the health of mothers and infants

For example, the Massachusetts Department of Health (DOH) used their data to identify a lack of breastfeeding support services in the early weeks of post-hospital discharge, especially in specific communities. Using a multi-pronged approach, Massachusetts DOH improved post-discharge breastfeeding support services.

¹⁵⁷<http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm>

¹⁵⁸<http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PMSS.html>

Pregnancy Risk Assessment Monitoring System (PRAMS) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	41	41	41	50	50	0
- New Awards	0	0	0	50	0	-50
- Continuing Awards	41	41	41	0	50	+50
Average Award	\$0.143	\$0.143	\$0.143	\$0.140	\$0.140	\$0.000
Range of Awards	\$0.121–\$0.190	\$0.121–\$0.190	\$0.121–\$0.190	\$0.121–\$0.190	\$0.121–\$0.190	N/A
Total Awards	\$5.863	\$5.863	\$5.863	\$7.000	\$7.000	\$0.000

¹These funds are not awarded by formula.

Tobacco Prevention and Control Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$105.492	\$84.000	\$84.000	\$0.000
ACA/PPHF	\$111.000	\$126.000	\$126.000	\$0.000
Total	\$216.492	\$210.000	\$210.000	\$0.000

Overview

Tobacco use is the leading preventable cause of disease, disability, and death in the United States. While cigarette smoking has decreased, 42 million Americans still smoke, and 480,000 Americans still die every year from smoking and exposure to secondhand smoke.¹⁵⁹ Most smokers—seven of ten—want to quit, but struggle with doing so and often lack adequate access to cessation methods.¹⁶⁰

States with strong tobacco control programs have demonstrated achievement of a \$55:\$1 return on their investment.

According to the U.S. Surgeon General, “given the level of evidence linking tobacco product use to ill health, all products containing tobacco and nicotine should be assumed to be both harmful and addictive.”⁵³ The Surgeon General has also stated that youth use of tobacco in any form, whether combustible, noncombustible, or electronic, is unsafe. This is because nicotine exposure during adolescence, regardless the mode of delivery, may have lasting adverse consequences for brain development, cause addiction, and lead to sustained use of tobacco products.^{53,161} Given smoking and smokeless tobacco use are initiated primarily during adolescence, preventing youth use of all tobacco products is essential.

Also of concern over the last few years has been a marked increase in the use of other tobacco products, especially emerging products such as electronic nicotine delivery systems (ENDS).¹⁶² A recent study by CDC, done in collaboration with the Food and Drug Administration (FDA), identified that from 2013 to 2014, past 30 day use of e-cigarettes increased from 4.5% to 13.4% among high school students.⁵⁶ These new products and shifting patterns of use threaten to undermine the gains in tobacco prevention and control achieved in recent decades.

CDC is the lead federal agency for comprehensive tobacco control and prevention efforts. Tobacco prevention and control is one of the “best buys” in public health: states with strong tobacco control programs have demonstrated achievement of a \$55:\$1 return¹⁶³ on their investment.

CDC also conducts surveillance and evaluation on tobacco use and tobacco use behaviors, and translates science into best practices that help the public health community—including states—plan, implement, evaluate, and sustain their tobacco prevention and control programs. In FY 2014, CDC provided updated guidance in Best

¹⁵⁹U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.

¹⁶⁰http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6044a2.htm?s_cid=mm6044a2.htm_w

¹⁶¹U.S. Department of Health and Human Services. The health consequences of smoking: nicotine addiction: a report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, CDC; 1988. Available at <http://profiles.nlm.nih.gov/NN/B/B/Z/D>.

¹⁶²<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6414a3.htm>

¹⁶³<http://www.ncbi.nlm.nih.gov/pubmed/23418411>

Practices for Comprehensive Tobacco Control Program,¹⁶⁴ an evidence-based guide to help states plan and establish comprehensive tobacco control programs.

In implementing these activities, CDC collaborates with the National Institutes of Health, the Food and Drug Administration, and the Substance Abuse and Mental Health Services Administration to ensure its work complements that being performed by these other agencies.

Budget Request

CDC's FY 2017 request of **\$210,000,000** for Tobacco Prevention and Control activities is level with the FY 2016 Enacted level. At this funding level, CDC will continue to implement comprehensive tobacco control and prevention activities and enhance educational efforts, including through a national tobacco education campaign. CDC-supported tobacco cessation quitlines in states will also continue to respond to smokers seeking help to quit, and CDC will work to expand tobacco cessation quitline capacity.

National Tobacco Control Program

CDC's National Tobacco Control Program¹⁶⁵ helps states, tribes, localities, and territories prevent tobacco use initiation among youth and young adults, promote cessation, eliminate secondhand smoke exposure, and identify and eliminate tobacco-related disparities. In FY 2017, CDC will provide expertise and guidance on tobacco control efforts at the state and local level. In addition, CDC will fund national networks to provide guidance to states on reducing tobacco use among certain population groups and address tobacco-related cancer issues. CDC funds state and territorial grantees based on burden of tobacco use.

The California tobacco control program, which has achieved an almost 50% decline in smoking prevalence among adults (from 22.7% in 1988 to 11.9% in 2010) has a lung cancer rate that is declining nearly four times faster than the national average.

These activities will advance CDC's strategies to:

- Eliminate death and disease caused by tobacco use, including educating about the danger of tobacco use and promoting quitting
- Enhance surveillance, research, and evaluation
- Build state and local capacity
- Eliminate tobacco-related disparities

Tobacco Prevention and Control Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	51	51	51	51	51	0
- New Awards	0	0	51	0	0	0
- Continuing Awards	51	51	0	51	51	0
Average Award	\$1.181	\$1.181	\$1.137	\$1.137	\$1.137	\$0.000
Range of Awards	\$0.532–\$1.872	\$0.532–\$1.872	\$0.669–\$2.710	\$0.669–\$2.710	\$0.669–\$2.710	N/A
Total Awards	\$60.321	\$60.321	\$57.970	\$57.970	\$57.970	\$0.000

¹These funds are awarded by formula.

¹⁶⁴http://www.cdc.gov/tobacco/stateandcommunity/best_practices/index.htm

¹⁶⁵http://www.cdc.gov/tobacco/tobacco_control_programs/ntcp/index.htm

National Tobacco Education Campaign

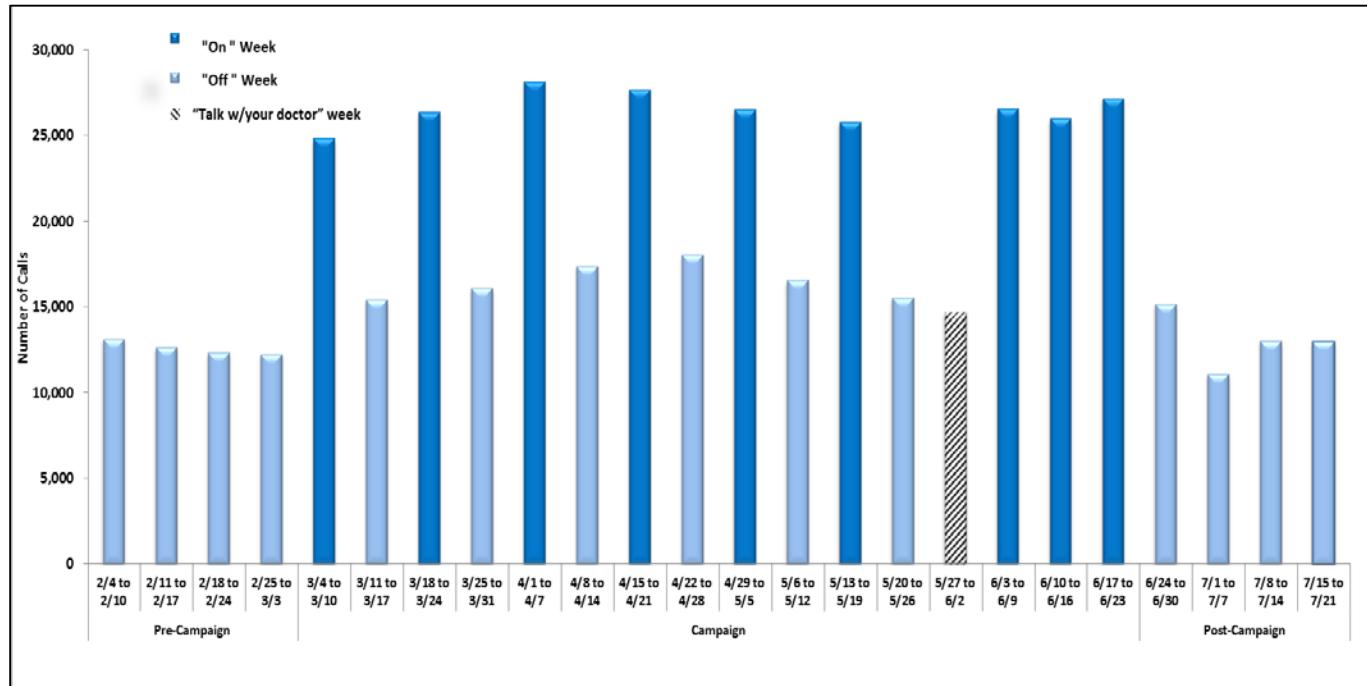
The Institute of Medicine, National Cancer Institute, and Surgeon General all recommended a national media campaign as part of a comprehensive approach for ending the tobacco use epidemic. CDC warns the public about the consequences of tobacco use and encourages smokers to quit through the national tobacco education campaign, [Tips From Former Smokers](#).¹⁶⁶

In 2015, CDC launched the fourth Tips from Former Smokers campaign, with a new round of advertisements featuring additional health conditions that the most recent Surgeon General's report found were caused by smoking, as well as the harms of using multiple forms of tobacco without quitting smoking completely. Tips ads respond to CDC research showing that smokers who want to quit identify as helpful hearing from others like them who have suffered from tobacco-related health consequences.

Overall, the Tips from Former Smokers campaign has proven to be remarkably effective. CDC estimates that the first three years of the Tips from Former Smokers campaign has helped about five million smokers make a quit attempt, 300,000 smokers quit for good, and saved at least 50,000. A study of the 2012 campaign found that the campaign alone encouraged approximately 1.64 million Americans to try and quit smoking, and about 100,000 smokers are expected to stay quit for good.¹⁶⁷ Furthermore, an estimated six million nonsmokers talked with friends and family about the dangers of smoking, and an estimated 4.7 million additional nonsmokers recommended cessation services to their friends and family because of the campaign.¹⁶⁸

The campaign has also demonstrated strong cost-effectiveness, costing approximately \$393 per year of life saved (well under the widely accepted limit for the cost-effectiveness of a public health program of \$50,000 per year of life saved).

1-800-QUIT-NOW before, during, and after CDC's 2013 Tips from Former Smokers campaign



¹⁶⁶<http://www.cdc.gov/tobacco/campaign/tips/>

¹⁶⁷[http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(13\)61686-4.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)61686-4.pdf)

¹⁶⁸[http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(13\)61686-4.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)61686-4.pdf)

FY 2017 priority areas for CDC are:

- Sustaining state tobacco prevention, control, and surveillance programs, which are the foundation of the National Tobacco Control Program
- Through a national paid media campaign, informing the public about harms of smoking and encouraging smokers to quit smoking for good
- Identifying and informing partners and the general public on emerging tobacco products and trends by:
 - Exploring new ways to better capture the extent of ENDS use, frequency of use, reasons for use, and timing of use among adults and youth
 - Conducting analyses to better understand the health effects of ENDS use and providing guidance to states on how these products fit into the larger tobacco control framework
 - Disseminating the findings of the planned FY 2016 U.S. Surgeon General's Call to Action on Electronic Nicotine Delivery Systems
- Addressing tobacco-related disparities by:
 - Supporting the national networks' expanded reach and information sharing on evidence-based strategies to reduce tobacco use among specific populations
 - Disseminating the findings of the [50th Anniversary Surgeon General's report](#)¹⁶⁹—including specific findings on the nation's tobacco-related disparities
- Supporting tobacco cessation and quitline services in 50 states, two territories, and Washington, D.C., and maintaining the national network of tobacco cessation quitlines. This will ensure capacity to deal with increases in quit attempts due to national education campaign efforts. Stakeholders will use data from the National Quitline Data Warehouse to evaluate state quitline progress
- Examining the harmful effects of tobacco use through support for [The Tobacco Laboratory](#),¹⁷⁰ which examines toxic and addictive substances in tobacco products, tobacco smoke, tobacco users, and people exposed to secondhand smoke

¹⁶⁹<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>

¹⁷⁰<http://www.cdc.gov/biomonitoring/tobacco.html>

Cancer Prevention and Control Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$248.649	\$356.174	\$182.773	-\$173.401
ACA/PPHF	\$104.000	\$0.000	\$119.400	+\$119.400
Total	\$352.649	\$356.174	\$302.173	-\$54.001
Cancer Prevention and Control	\$352.649	\$356.174	\$302.173	-\$54.001
ACA/PPHF (<i>non-add</i>)	\$104.000	\$0.000	\$119.400	+\$119.400
Breast and Cervical Cancer	\$206.993	\$210.000	\$169.204	-\$40.796
ACA/PPHF (<i>non-add</i>)	\$104.000	\$0.000	\$119.400	+\$119.400
WISEWOMAN (<i>non-add</i>) ¹	\$21.114	\$21.120	\$21.120	\$0.000
Colorectal Cancer (<i>non-add</i>)	\$43.294	\$43.294	\$39.515	-\$3.779
Prostate Cancer (<i>non-add</i>)	\$13.205	\$13.205	\$0.000	-\$13.205
All Other Cancer (<i>non-add</i>)	N/A	N/A	\$3.779	+\$3.779

¹WISEWOMAN is funded through the Breast and Cervical budget line and managed under the Heart Disease and Stroke budget line.

Overview

Cancer affects an estimated one in three Americans, either through their own diagnosis or that of a loved one. Cancer is the second leading cause of death in the United States, resulting in over 600,000 American deaths annually—nearly as many people as the total population of the state of Vermont. Cancer is responsible for more years of life lost than all other causes of death combined. Every year, cancer is responsible for \$116 billion in direct medical costs alone. More than half of the cancer deaths in the United States could be prevented with adoption of strategies for which the evidence is already known, such as early screening and detection and lifestyle modifications.

Budget Request

CDC's FY 2017 request of **\$302,173,000** for Cancer Prevention and Control, including \$119,400,000 from the Affordable Care Act Prevention and Public Health Fund, is \$54,001,000 below the FY 2016 Enacted level. This reduction includes the elimination of \$13,205,000 for prostate cancer activities. CDC's prostate cancer funding supports applied research and other prostate cancer activities through the Comprehensive Cancer Control Program. While the evidence on prostate cancer screening remains unclear, CDC will continue to share resources and lessons learned to support appropriate public health strategies for prostate cancer. The request also includes reductions to cancer screening programs including the National Breast and Cervical Cancer Early Detection Program and the Colorectal Cancer Control Program that are now covered through expanded health insurance. ACA has increased the availability of health insurance coverage to millions of people through new state health insurance exchanges and Medicaid. Through ACA, health plans are now required to cover breast, cervical, colorectal screening without co-pays or deductibles.

To address the burden of cancer in the United States, CDC funds cooperative agreements with states, territories, and tribes or tribal organizations to implement four major cancer control programs:

- [National Breast and Cervical Cancer Early Detection Program \(Nbccedp\)¹⁷¹](http://www.cdc.gov/cancer/nbccedp/index.htm)
- [Colorectal Cancer Control Program \(Crccp\)¹⁷²](http://www.cdc.gov/cancer/colorectal/)
- [National Program of Cancer Registries \(Npcr\)¹⁷³](http://www.cdc.gov/cancer/npcr/)

¹⁷¹<http://www.cdc.gov/cancer/nbccedp/index.htm>

¹⁷²<http://www.cdc.gov/cancer/colorectal/>

¹⁷³<http://www.cdc.gov/cancer/npcr/>

- National Comprehensive Cancer Control Program (NCCCP)¹⁷⁴

CDC also conducts education, awareness, and applied research related to breast cancer in young women, and prostate, ovarian, skin, and gynecologic cancers. CDC enhances support for these activities with funding awarded to eight academic institutions in the Cancer Prevention and Control Research Network (CPCRN), other academic institutions, and NGOs.

Activities to Support Cancer Prevention and Control

Initiatives	Example of Activities
Screening and Early Detection	<p>Provide breast and cervical cancer screening, education, and health promotion to low-income, uninsured, and underinsured women through the Nbccedp—the only national organized cancer screening program</p> <p>Implement population-based approaches through the CRCCP to increase colorectal screening rates using evidence-based interventions</p>
<u>Surveillance</u> ¹⁷⁵	Collect data on the occurrence of cancer; the type, extent, and location of the cancer; and the type of initial treatment for 96% of the U.S. population through the NPCR
<u>Comprehensive Cancer Control</u> ¹⁷⁶	Unite robust coalitions of key public and private partners to prioritize prevention, targeting the reduction of the highest burden cancers within states, tribes, and territories
Research and Dissemination	Promote the translation of scientific knowledge to inform public health practice and programs, for example through the release of a special issue in the journal <u>Cancer Causes and Control</u> ¹⁷⁷ which included 16 articles that evaluated the reach and health impact of the Nbccedp
<u>Health</u> ¹⁷⁸ Communications	Increase awareness of breast cancer and improve the health and quality of life of <u>young breast cancer survivors and young women</u> ¹⁷⁹ who are at higher risk of getting breast cancer

National Breast and Cervical Cancer Early Detection Program

Breast cancer is the second leading cause of cancer deaths among women in the United States. However, the burden of breast cancer is not distributed equally, and disparities exist among certain populations. Persistent lower mammography use among certain minority populations will continue to result in patients receiving a diagnosis of breast cancer at later stages and a potentially slower decrease in breast cancer death rates. One study addressing preventable deaths in the United States estimated that a 5% increase in mammography use could prevent 560 deaths from breast cancer each year.

The Nbccedp prioritizes women never or rarely screened for cervical cancer and women 50 years and over as the incidence of breast cancer is highest among this population. In FY 2017, grantees will continue providing direct screening services to eligible women who remain uninsured or underinsured. Grantees will also work to affect systems-level change within clinical care delivery systems to address barriers to screening and increase overall screening rates, especially among women who may have access to insurance, but have never had a medical home or who lack experience with the health care system. Grantees may expand the use of broader

¹⁷⁴<http://www.cdc.gov/cancer/ncccp/index.htm>

¹⁷⁵<http://www.cdc.gov/cancer/npcr/>

¹⁷⁶<http://www.cdc.gov/cancer/ncccp/>

¹⁷⁷<http://link.springer.com/journal/10552/26/5/page/1>

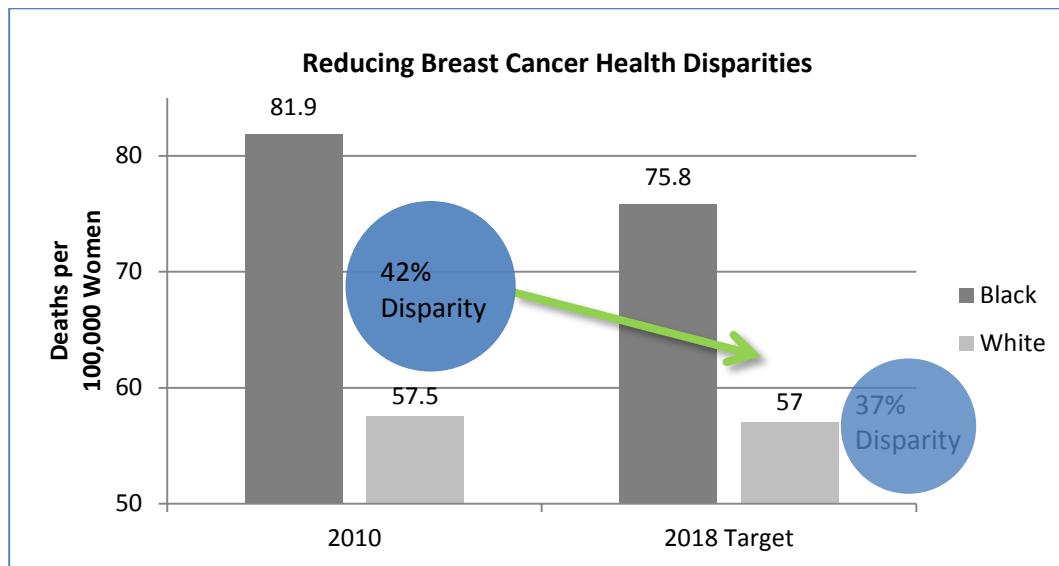
¹⁷⁸http://www.cdc.gov/cancer/breast/young_women/what_cdc_is_doing.htm

¹⁷⁹http://www.cdc.gov/cancer/breast/young_women/what_cdc_is_doing.htm?s_cid=dcpc_budget_011

evidence-based interventions to identify and bring women (uninsured and insured) into screening, and ensure they receive quality screening including timely follow-up diagnostic testing and treatment if necessary.

CDC programs have demonstrated success in increasing breast and cervical cancer screening rates.

- In 2010, CDC supported New York to initiate a collaboration with a network of 12 Federally Qualified Health Centers (FQHCs) in a five-county, underserved, rural area to identify women (insured or uninsured) in need of breast or cervical cancer screening services. As a result, the FQHC network implemented systems changes and recommended interventions such as client reminders and one-on-one education. Practice-wide screening rates increased from 55% in 2013 to 65% in 2014 for cervical cancer and from 65% to 69% for breast cancer
- The Montana Cancer Control Program (MCCP) is working with three large worksites to develop cancer prevention policies as part of a worksite wellness program. Between 2012 and 2013, the number of women at these worksites who had received mammograms as recommended increased from 74.7% to 78.2% and the number who had received Pap tests increased from 87.4% to 93.1%
- More than 50% of all new cervical cancers are in women who have never been screened or have not been screened in the previous 5 years of their lives. The Maine Breast and Cervical Cancer Program (MBCHP) supported a cervical cancer screening pilot to increase screening among women aged 22-29 years who have never been screened. The MBCHP supported the screening costs for women who were not insured. Between July 2013 and June 2014, approximately 2,000 women received a Pap test, of whom 589 (30%) had never been screened
- The Alabama Breast and Cervical Cancer Early Detection Program (ABCEDP) partnered with the state Medicaid program to increase breast cancer screening among women with Medicaid coverage. The ABCEDP conducted an analysis and determined less than 35% of women were up-to-date with screenings. Mailings were sent to approximately 20,000 women. This project aimed to increase screening rates in women who were eligible to receive program services through the ABCEDP and Medicaid



In FY 2017, the NBCEDP will begin a new competitively awarded, five-year cooperative agreement. CDC anticipates to continue funding all 50 states and Washington, D.C., five territories, and 11 tribal organizations. The proposed budget request for this program will require a reduction in funding to all grantees. Because the

ACA affords greater access to coverage for these screening services, the size of the populations eligible for the NBCCEDP and CRCCP are expected to shrink.

National Breast and Cervical Cancer Early Detection Program (NBCCEDP) Grants¹

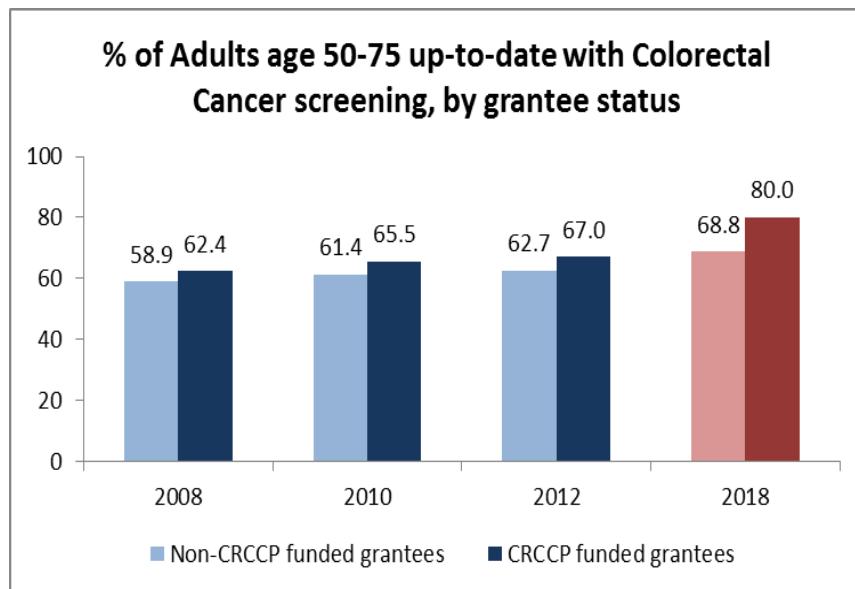
(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ²	FY 2017 +/- FY 2016
Number of Awards	67	67	67	67	TBD	TBD
- New Awards	0	0	0	0	TBD	TBD
- Continuing Awards	67	67	67	67	TBD	TBD
Average Award	\$2.260	\$2.260	\$2.237	\$2.237	TBD	TBD
Range of Awards	\$0.238-\$8.693	\$0.238-\$8.172	\$0.212-\$8.269	\$0.212-\$8.269	TBD	N/A
Total Awards	\$151.441	\$151.441	\$149.944	\$149.944	TBD	TBD

¹These funds are partially awarded by formula. In FY 2014, 60% of the National Breast and Cervical Cancer grants were awarded by formula.

² A new FOA will be competed in FY 2017.

Colorectal Cancer Control Program

Colorectal cancer is the second leading cause of cancer deaths in the United States for men and women. Every year, about 140,000 Americans are diagnosed with colorectal cancer, and more than 50,000 people die from it. Colorectal cancer screening is a high-impact, cost-effective service. Unfortunately, national screening rates are about 65%, meaning approximately one in three (23 million) age-appropriate adults are not getting screened. CDC, in collaboration with the American Cancer Society and many other partners, has committed to the “80% by 2018” initiative to increase national screening rates.



In FY 2017, the proposed budget request for the Colorectal Cancer Control Program (CRCCP) will fund year three of a five year cooperative agreement focused on increasing colorectal screening rates. Activities include interventions such as: use of patient and provider reminder systems; provider assessment and feedback; small media; and patient navigation. Among these 31 grantees, six received additional funds to provide direct screening and diagnostic follow-up services to low-income, uninsured, or underinsured men and women aged 50 to 65 years.

The current cooperative agreement built on the success of the program which began in 2009. For example, in 2011 the Washington State Department of Health, with CDC support, partnered with a network of non-profit community health centers to implement evidence-based interventions with the goal of increasing the proportion of the clinic population aged 50-75 years who were up-to-date with CRC screening. Specific strategies implemented included: 1) funding Patient Care Coordinators in each of the clinics to outreach and navigate patients through the screening process, 2) establishing provider reminder systems, 3) waiving lab process costs, and 4) upgrading clinic electronic health records. In 2011, the baseline proportion of adults aged 50-75 years who were up-to-date with CRC screening was 24%. By 2014, this proportion had doubled to 48%. All clinics that participated showed increases in the proportion of adults that were up-to-date with CRC screening.

In FY 2017, the proposed budget request for this program will require a reduction in funding to all grantees. Because the ACA affords greater access to coverage for these screening services, the size of the populations eligible for the CRCCP are expected to shrink.

Colorectal Cancer Control Program (CRCCP) Grants¹

(dollars in millions)

	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	29	29	31	31	31	0
- New Awards	0	0	31	0	0	0
- Continuing Awards	29	29	0	31	31	0
Average Award	\$0.810	\$0.790	\$0.759	\$0.759	\$0.662	\$0.000
Range of Awards	\$0.327–\$1.300	\$0.118–\$1.303	\$0.434–\$1.647	\$0.434–\$1.647	\$0.378–\$1.436	N/A
Total Awards	\$23.496	\$22.801	\$23.553	\$23.553	\$20.522	-\$3.031

¹These funds are not awarded by formula.

National Program of Cancer Registries

Reliable cancer data is critical to improving the health of individuals and reducing the nation's cancer burden. The National Program of Cancer Registries (NPCR)¹⁸⁰ provides such quality data by funding central cancer registries to collect, manage, and analyze data about cancer cases for 96% of the U.S. population, effectively providing a census of all cancer cases in the nation. These data are essential to:

- Evaluating progress in cancer prevention, diagnosis, and treatment
- Identifying populations at increased risk
- Identifying cancers which are increasing and pose new threats to public health

In addition, health agencies and researchers can use these data to study the effectiveness of interventions to reduce the cancer burden including screening programs and conduct fundamental cancer research.

As technology changes, CDC is adapting NPCR to operate more effectively. In 2014, the number of CDC-funded state cancer registries that electronically received physician cancer reports from EHR/Electronic Medical Record (EMR) systems increased from a baseline of zero in 2013 to 13 (28% of registries). This increase was due in large part to CDC's successful efforts to establish cancer reporting from providers to state cancer registries as an optional objective in the Centers for Medicaid and Medicare Services and Office of the National Coordinator for Health IT's [Stage 2 Final Rule for Meaningful Use for Electronic Health Records \(EHRs\)](#).¹⁸¹ CDC also developed a standard for the format and content of the electronic reports, which is a critical factor for success in electronic reporting.

As electronic reporting continues, state cancer registries expect to see better identification of cancer cases and treatments that are known to be under-reported through more traditional reporting mechanisms. Enhanced use of EHRs will improve the timeliness, completeness and quality of cancer data reported from non-hospital facilities and increase public health programs' ability to plan and target health care interventions designed to reduce cancer incidence or improve early detection.

One project that has benefitted from the increased use of electronic reporting is the early case capture (ECC) project. In 2014, CDC funded seven states in a new five-year cooperative agreement to enhance cancer registries

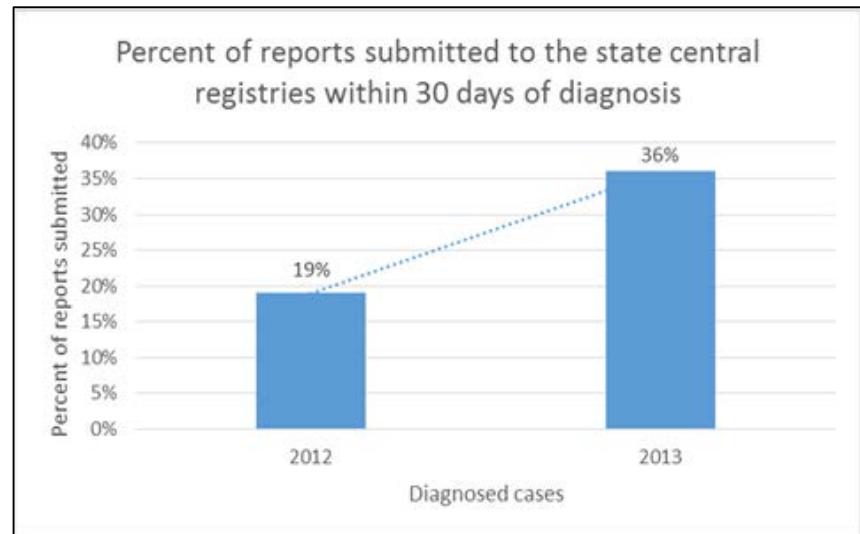
¹⁸⁰<http://www.cdc.gov/cancer/npcr/>

¹⁸¹http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRI incentive Programs/Stage_2.html

for ECC of pediatric and young adult cancer cases. The seven funded states represent about 14% of the expected number of childhood cancers. Project funding was used to expand electronic reporting, support more rapid incidence reporting, and direct reporting from out-of-state facilities to the central registry. The new funding builds on the successes of the previous round of funding in which funded grantees reduced reporting and data turnaround from a two year data lag to only nine months. For example, by implementing ECC, data for pediatric cases are now reported within weeks to seven central cancer registries and 97% are more rapidly available for research, incidence reporting, and public health action at the state level. The rapid reporting allows researchers to identify children and young adults for clinical trials—especially for rare cancers—sooner, and update research findings that can inform the success and impact of clinical trials.

In addition to the ongoing work to improve cancer reporting and research, CDC has demonstrated that routine surveillance data can also be used to inform patients directly about their cancer care. The [Colorado Central Cancer Registry](#),¹⁸² with funding from CDC, developed a web-based application that allows healthcare providers to use previously collected cancer surveillance data to pre-populate and semi-automate survivorship care plans. Through this application, the provider has access to the information available in the cancer registry and can contribute to the patient's diagnosis and treatment information. CDC is currently integrating the application into NPCR's suite of publicly available cancer registry software and plans to make the application available to central cancer registries funded by NPCR.

The NPCR is funded through a five-year cooperative agreement in 45 states, Washington, D.C., Puerto Rico, and the U.S. Pacific Island jurisdictions. In FY 2017, CDC will continue to collect vital data about cancer cases and deaths. The current funding cycle for program runs through FY 2017. Through a new cooperative agreement, CDC expects to continue collection of data that will support public health but will also meet the evolving needs of cancer patients, epidemiology, and medicine.



¹⁸² <https://www.colorado.gov/pacific/cdphe/cancerregistry>

National Program of Cancer Registries (NPCR) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ²	FY 2017 +/- FY 2016
Number of Awards	48	48	48	48	TBD	TBD
- New Awards	0	0	0	0	TBD	TBD
- Continuing Awards	48	48	48	48	TBD	TBD
Average Award	\$0.769	\$0.769	\$0.769	\$0.769	TBD	TBD
Range of Awards	\$0.275-\$3.045	\$0.275-\$3.045	\$0.298-\$2.498	\$0.275-\$3.045	TBD	N/A
Total Awards	\$37.423	\$37.423	\$38.320	\$37.423	TBD	TBD

¹These funds are not awarded by formula.

² A new FOA will be competed in FY 2017.

National Comprehensive Cancer Control Program

The [National Comprehensive Cancer Control Program \(NCCCP\)](#)¹⁸³ brings together coalitions of community and partner organizations to develop and implement cancer plans and to reduce the highest-burden cancers within their state, territory, or tribal organization. Comprehensive cancer control plans identify how individual states, tribes, and territories address cancer burden as a significant public health challenge. Plans are data-driven, evidence-based blueprints for action which guide cancer control activities within a particular jurisdiction.

The NCCCP uses evidence-based approaches aimed at primary prevention (e.g., increasing physical activity), detecting cancers earlier when they are more treatable (e.g., colorectal cancer screening), increasing access to treatment, and improving the quality of life of cancer survivors. In addition to these priorities, in FY 2017 the NCCCP is focusing efforts on achieving an 80% screening rate for colorectal cancer by 2018, increasing HPV vaccination completion rates, and decreasing the use of tobacco by cancer survivors.

Accomplishments include:

- In FY 2015, the Iowa Comprehensive Cancer Control Program funded a program called *Body & Soul*, which targeted the African American population through grants to community organizations including African American churches. The funded organizations provided outreach and information about the benefits of physical activity, healthy eating, and regular screenings, all of which are associated with a lower risk for cancer. *Body & Soul* now reaches almost 10% of the approximately 97,000 African Americans living in Iowa
- Commercial indoor tanning by young people under the age of 18 years was prohibited in Minnesota as of July 2014, reducing the risk of developing skin cancer due to indoor tanning for nearly 362,000 youth. State cancer registry data showed that melanoma was the second-most common cancer among females ages 15–29. To build awareness among teens, the Minnesota Comprehensive Cancer Control Program (MNCCCP) challenged high school students to make videos about the dangers of tanning. Winners of the UVVideo Challenge received a donated cash prize and the top two videos got 30 seconds of air time on “The Vampire Diaries,” a top-rated young adult television series

The NCCC five-year cooperative agreement is competitively awarded to 50 states and Washington, D.C., seven tribal organizations, and seven U.S. territories. In FY 2017, CDC will continue to support NCCCP grantees to maintain and strengthen cancer coalitions of community and partner organizations to reduce the highest burden cancers in their respective jurisdiction.

¹⁸³<http://www.cdc.gov/cancer/ncccp/>

National Comprehensive Cancer Control Program (NCCCP) Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ³	FY 2017 +/- FY 2016
Number of Awards	65	65	65	65	TBD	TBD
- New Awards	0	0	0	0	TBD	TBD
- Continuing Awards	65	65	65	65	TBD	TBD
Average Award	\$0.340	\$0.337	\$0.323	\$0.323	TBD	TBD
Range of Awards	\$0.195-\$0.722	\$0.095-\$0.731	\$0.096-\$0.731	\$0.096-\$0.731	TBD	N/A
Total Awards	\$22.058	\$21.906	\$21.009	\$21.009	TBD	TBD

¹These funds are not awarded by formula.²Includes funding from multiple Cancer lines.³ A new FOA will be competed in FY 2017.**CDC's Cancer Prevention Efforts and the Affordable Care Act**

CDC cancer screening programs provide recommended breast, cervical, and colorectal cancer screening and diagnostic services to age-appropriate low-income, uninsured, and underinsured adults. The programs also supports public health activities such as education and outreach, quality assurance, surveillance, and patient navigation/case management to help both uninsured and insured people receive quality screening. Although the Affordable Care Act (ACA) has increased access to health insurance coverage for these screening services, data show that access to health insurance is not the only factor that limits participation in cancer screening. Numerous barriers to screening—even among those with insurance—will continue to exist, including:

- Patient factors, such as:
 - Education
 - Limited English proficiency
 - Lack of awareness or health literacy
 - Geographic isolation
- Provider or clinical system factors, such as:
 - Lack of physician availability or physician recommendation
 - Absence of reminder systems
 - Not using provider assessment and feedback

With an additional \$3.779 million in FY 2017, CDC's cancer screening programs will continue to complement changes in the health insurance market by implementing broad, population-based activities designed to increase screening rates for all age-appropriate individuals, while still providing direct screening or diagnostic services to people who remain uninsured or underinsured. CDC screening programs will leverage their experience and expertise in working with Federally Qualified Health Centers (FQHCs), state Medicaid offices, primary care associations, employers, and private insurers to increase widespread participation in cancer screening. Programs will put greater emphasis on evidence-based interventions to improve systematic delivery of screening services and help people receive quality screening and follow-up, especially for those who have had little or no experience using health care systems. These interventions include:

- Increasing the use of provider assessment and feedback, patient/provider reminders, and strategies to reduce structural barriers to screening
- Using small media (e.g. brochures/booklets, electronic media, flyers, or posters) and patient navigation to educate patients and providers about the importance of screening and to assist in navigating the health system through the entire screening process

- Expanding efforts to support quality screening for all people by adapting CDC's existing quality assurance tracking systems to other health care settings

Oral Health Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$15.749	\$18.000	\$18.000	\$0.000

Overview

Tooth decay is one of the most common chronic diseases in children aged 6-11 years (53% in primary and permanent teeth) and adolescents aged 12-19 years (59% in permanent teeth). CDC's [Division of Oral Health](#)¹⁸⁴ leads federal and state initiatives to prevent oral diseases by monitoring health trends, translating research into practice, and advancing safe and effective strategies to improve oral health and reduce dental care expenditures. The two primary population-based strategies to decrease oral disease are community water fluoridation and dental sealants. Community water fluoridation is one of the most practical, cost-effective, equitable and safe measures communities can take to prevent tooth decay and improve their oral health. School-based dental sealant programs reduce tooth decay by about 50% within four years. CDC targets high-risk children through school-based dental sealant programs in schools where at least 50% of students participate in free and reduced-cost meal programs.

In 2010 - 2014, 9.9 million new people gained access to fluoridated water.

Budget Request

CDC's FY 2017 request of **\$18,000,000** for Oral Health is level with the FY 2016 Enacted level. CDC funds 21 programs in [state health departments](#)¹⁸⁵ to strengthen the nation's oral health infrastructure, extend the use of proven prevention strategies, and reduce disparities in oral healthcare. CDC also funds eight programs to build models of integration between oral health and other select chronic conditions or risk behaviors, including heart disease, diabetes, obesity, and tobacco use.

In FY 2015, CDC:

- Collaborated with Centers for Medicare and Medicaid Services (CMS) and Health Resources and Services Administration (HRSA) to increase access to preventive oral health services, including dental sealants, among Medicaid and State Children's Health Insurance Program (SCHIP) beneficiaries.
- Enhanced state leadership and technical expertise nationwide through a partnership with the [Association of State and Territorial Dental Directors](#).¹⁸⁶

Every \$1 invested in community water fluoridation saves \$38 in dental treatment costs

In FY 2017, CDC will continue to conduct research, analysis, and translation of national- and state-level data on oral disease burden, dental care service use, preventive services, and cost-effectiveness data. CDC will also continue to support a two-year pilot project begun in FY 2016 to test models of collaboration between different state chronic disease (e.g., tobacco, diabetes, nutrition) and oral health programs.

¹⁸⁴<http://www.cdc.gov/oralhealth/>

¹⁸⁵http://www.cdc.gov/OralHealth/state_programs/index.htm

¹⁸⁶<http://www.astdd.org/>

Oral Health State Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	21	21	21	29	29	0
- New Awards	21	0	0	8	0	-8
- Continuing Awards	0	21	21	21	29	+8
Average Award	\$0.298	\$0.284	\$0.297	\$0.289	\$0.289	\$0.000
Range of Awards	\$0.150–\$0.370	\$0.150–\$0.311	\$0.228–\$0.309	\$0.200–\$0.350	\$0.200–\$0.350	N/A
Total Awards	\$5.965	\$5.965	\$6.243	\$8.381	\$8.381	\$0.000

¹These funds are not awarded by formula.

State Table: State and Local Public Health Actions to Prevent Chronic Disease Program^{1,2,3}

	FY 2015 Actual Diabetes	FY 2015 Actual Heart Disease & Stroke	FY 2015 Actual Nutrition, Physical Activity & Obesity	FY 2015 Actual School Health
Alabama	553,538.00	653,474.00	140,416.00	57,620.00
Alaska	332,635.00	543,324.00	117,051.00	48,033.00
Arizona	855,491.00	991,602.00	423,021.00	207,105.00
Arkansas	860,508.00	798,005.00	415,125.00	216,682.00
California	6,768,899.00	6,700,868.00	596,691.00	316,139.00
Colorado	818,990.00	934,418.00	410,705.00	148,241.00
Connecticut	737,852.00	848,467.00	373,956.00	181,260.00
Delaware	363,828.00	566,853.00	117,247.00	48,112.00
District of Columbia	445,588.00	574,458.00	139,351.00	57,184.00
Florida	1,116,457.00	1,273,484.00	527,149.00	189,973.00
Georgia	468,145.00	733,746.00	147,932.00	60,705.00
Hawaii	1,770,338.00	1,919,661.00	117,718.00	48,306.00
Idaho	822,404.00	724,521.00	369,027.00	134,540.00
Illinois	512,083.00	746,504.00	129,305.00	53,061.00
Indiana	838,623.00	973,565.00	435,127.00	212,733.00
Iowa	801,777.00	747,346.00	373,432.00	196,010.00
Kansas	2,441,323.00	2,383,711.00	383,823.00	202,056.00
Kentucky	794,763.00	910,109.00	410,454.00	197,976.00
Louisiana	364,362.00	602,976.00	143,119.00	58,730.00
Maine	740,135.00	837,125.00	376,977.00	137,249.00
Maryland	2,572,511.00	2,700,935.00	418,557.00	204,196.00
Massachusetts	2,609,111.00	2,723,219.00	419,323.00	152,134.00
Michigan	2,680,967.00	2,832,938.00	475,558.00	233,379.00
Minnesota	2,566,604.00	2,694,525.00	418,070.00	203,996.00
Mississippi	790,839.00	906,215.00	419,155.00	202,125.00
Missouri	826,540.00	959,019.00	429,325.00	209,773.00
Montana	718,095.00	829,892.00	381,936.00	185,693.00
Nebraska	2,060,033.00	2,155,895.00	372,205.00	135,647.00
Nevada	401,463.00	553,904.00	119,077.00	48,865.00
New Hampshire	336,297.00	536,421.00	117,661.00	48,283.00
New Jersey	1,047,508.00	917,675.00	463,910.00	167,583.00
New Mexico	381,392.00	601,105.00	141,780.00	58,181.00
New York	4,647,114.00	4,806,223.00	532,850.00	191,956.00
North Carolina	2,713,229.00	2,865,050.00	500,105.00	244,032.00
North Dakota	412,281.00	543,282.00	117,022.00	48,021.00
Ohio	2,205,711.00	2,448,928.00	127,970.00	52,514.00
Oklahoma	1,741,835.00	1,834,362.00	120,154.00	49,306.00
Oregon	863,168.00	763,950.00	379,542.00	138,303.00
Pennsylvania	2,425,704.00	2,574,502.00	515,491.00	185,545.00
Rhode Island	2,496,752.00	2,593,453.00	376,698.00	137,136.00
South Carolina	2,744,691.00	2,620,572.00	452,753.00	164,783.00
South Dakota	315,568.00	498,214.00	117,162.00	48,079.00
Tennessee	1,005,542.00	883,190.00	454,329.00	165,435.00
Texas	505,227.00	847,792.00	162,980.00	66,880.00
Utah	2,488,524.00	2,598,149.00	373,184.00	180,935.00
Vermont	383,873.00	534,870.00	116,946.00	47,990.00
Virginia	2,219,484.00	2,365,736.00	463,180.00	227,141.00
Washington	2,637,845.00	2,784,715.00	467,194.00	229,369.00
West Virginia	403,261.00	587,792.00	137,797.00	56,546.00

	FY 2015 Actual Diabetes	FY 2015 Actual Heart Disease & Stroke	FY 2015 Actual Nutrition, Physical Activity & Obesity	FY 2015 Actual School Health
Wisconsin	816,985.00	947,223.00	423,732.00	206,900.00
Wyoming	407,227.00	535,366.00	116,904.00	47,973.00
Total	70,833,120.00	76,509,329.00	16,280,176.00	7,110,414.00

¹This state table is a snapshot of budget sublines that fund most states (and in some cases local, tribal, and territorial grantees) through [State Public Health Action to Prevent Chronic Disease Cooperative Agreement](#). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>.

²These amounts include awards made under *State Public Health Actions* (1305) and *State and Local Public Health Actions* (1422).

³Amounts above include carry-over funding.

State Table: National Breast and Cervical Cancer Early Detection Program^{1,2,3}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- 2016
Alabama	\$3,398,658	3,398,658	TBD	TBD
Alaska	\$2,136,852	2,136,852	TBD	TBD
Arizona	\$2,522,130	2,522,130	TBD	TBD
Arkansas	\$1,753,869	1,753,869	TBD	TBD
California	\$7,155,172	7,155,172	TBD	TBD
Colorado	\$2,729,974	2,729,974	TBD	TBD
Connecticut	\$1,254,562	1,254,562	TBD	TBD
Delaware	\$1,013,485	1,013,485	TBD	TBD
Florida	\$5,231,968	5,231,968	TBD	TBD
Georgia	\$4,068,653	4,068,653	TBD	TBD
Hawaii	\$868,465	868,465	TBD	TBD
Idaho	\$1,533,538	1,533,538	TBD	TBD
Illinois	\$6,943,244	6,943,244	TBD	TBD
Indiana	\$2,059,021	2,059,021	TBD	TBD
Iowa	\$1,534,770	1,534,770	TBD	TBD
Kansas	\$2,828,713	2,828,713	TBD	TBD
Kentucky	\$2,724,889	2,724,889	TBD	TBD
Louisiana	\$1,803,125	1,803,125	TBD	TBD
Maine	\$1,569,032	1,569,032	TBD	TBD
Maryland	\$3,887,620	3,887,620	TBD	TBD
Massachusetts	\$1,942,502	1,942,502	TBD	TBD
Michigan	\$6,940,763	6,940,763	TBD	TBD
Minnesota	\$4,082,684	4,082,684	TBD	TBD
Mississippi	\$2,310,701	2,310,701	TBD	TBD
Missouri	\$2,730,904	2,730,904	TBD	TBD
Montana	\$2,167,744	2,167,744	TBD	TBD
Nebraska	\$2,681,281	2,681,281	TBD	TBD
Nevada	\$2,213,678	2,213,678	TBD	TBD
New Hampshire	\$1,424,596	1,424,596	TBD	TBD
New Jersey	\$2,207,475	2,207,475	TBD	TBD
New Mexico	\$2,922,688	2,922,688	TBD	TBD
New York	\$8,269,773	8,269,773	TBD	TBD
North Carolina	\$3,172,314	3,172,314	TBD	TBD
North Dakota	\$1,687,944	1,687,944	TBD	TBD
Ohio	\$4,137,359	4,137,359	TBD	TBD
Oklahoma	\$1,106,875	1,106,875	TBD	TBD
Oregon	\$2,517,094	2,517,094	TBD	TBD
Pennsylvania	\$2,547,613	2,547,613	TBD	TBD
Rhode Island	\$1,544,551	1,544,551	TBD	TBD
South Carolina	\$2,994,017	2,994,017	TBD	TBD
South Dakota	\$830,826	830,826	TBD	TBD
Tennessee	\$1,692,396	1,692,396	TBD	TBD
Texas	\$6,037,691	6,037,691	TBD	TBD
Utah	\$2,715,210	2,715,210	TBD	TBD
Vermont	\$623,315	623,315	TBD	TBD
Virginia	\$2,443,763	2,443,763	TBD	TBD
Washington	\$4,121,807	4,121,807	TBD	TBD
West Virginia	\$2,126,955	2,126,955	TBD	TBD
Wisconsin	\$3,011,814	3,011,814	TBD	TBD
Wyoming	\$680,928	680,928	TBD	TBD
Territories				
American Samoa	\$238,338	238,338	TBD	TBD

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- 2016
Guam	\$392,283	392,283	TBD	TBD
Northern Mariana Islands	\$212,015	212,015	TBD	TBD
Palau	\$566,269	566,269	TBD	TBD
Other Grantees		TBD	TBD	TBD
Indian Tribes	\$6,802,102	6,802,102	TBD	TBD
University of Puerto Rico	\$319,500	319,500	TBD	TBD
Washington, D.C.	\$509,289	509,289	TBD	TBD
Subtotal, States	\$140,905,001	140,905,001	TBD	TBD
Subtotal, Territories	\$1,408,905	1,408,905	TBD	TBD
Subtotal, Other Grantees	\$6,802,102	6,802,102	TBD	TBD
Total	\$149,944,797	149,944,797	TBD	TBD

¹This state table is a snapshot of selected programs that fund most states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>.

² A new FOA will be competed in FY 2017.

³ CFDA Number: 93.919, Discretionary

State Table: National Comprehensive Cancer Control Program ^{1,2,3}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$297,420	\$297,420	TBD	TBD
Alaska	\$375,451	\$375,451	TBD	TBD
Arizona	\$282,412	\$282,412	TBD	TBD
Arkansas	\$294,094	\$294,094	TBD	TBD
California	\$0	\$0	TBD	TBD
Colorado	\$451,929	\$451,929	TBD	TBD
Connecticut	\$223,000	\$223,000	TBD	TBD
Delaware	\$276,176	\$276,176	TBD	TBD
Florida	\$382,547	\$382,547	TBD	TBD
Georgia	\$244,349	\$244,349	TBD	TBD
Hawaii	\$257,365	\$257,365	TBD	TBD
Idaho	\$294,116	\$294,116	TBD	TBD
Illinois	\$222,057	\$222,057	TBD	TBD
Indiana	\$277,695	\$277,695	TBD	TBD
Iowa	\$501,647	\$501,647	TBD	TBD
Kansas	\$380,585	\$380,585	TBD	TBD
Kentucky	\$0	\$0	TBD	TBD
Louisiana	\$0	\$0	TBD	TBD
Maine	\$391,900	\$391,900	TBD	TBD
Maryland	\$249,854	\$249,854	TBD	TBD
Massachusetts	\$721,954	\$721,954	TBD	TBD
Michigan	\$731,443	\$731,443	TBD	TBD
Minnesota	\$468,877	\$468,877	TBD	TBD
Mississippi	\$234,300	\$234,300	TBD	TBD
Missouri	\$251,108	\$251,108	TBD	TBD
Montana	\$316,140	\$316,140	TBD	TBD
Nebraska	\$338,877	\$338,877	TBD	TBD
Nevada	\$252,445	\$252,445	TBD	TBD
New Hampshire	\$258,919	\$258,919	TBD	TBD
New Jersey	\$464,800	\$464,800	TBD	TBD
New Mexico	\$327,964	\$327,964	TBD	TBD
New York	\$639,000	\$639,000	TBD	TBD
North Carolina	\$504,465	\$504,465	TBD	TBD
North Dakota	\$362,792	\$362,792	TBD	TBD
Ohio	\$353,169	\$353,169	TBD	TBD
Oklahoma	\$148,000	\$148,000	TBD	TBD
Oregon	\$499,807	\$499,807	TBD	TBD
Pennsylvania	\$530,605	\$530,605	TBD	TBD
Rhode Island	\$324,256	\$324,256	TBD	TBD
South Carolina	\$318,238	\$318,238	TBD	TBD
South Dakota	\$234,001	\$234,001	TBD	TBD
Tennessee	\$304,351	\$304,351	TBD	TBD
Texas	\$422,463	\$422,463	TBD	TBD
Utah	\$606,928	\$606,928	TBD	TBD
Vermont	\$255,033	\$255,033	TBD	TBD
Virginia	\$229,383	\$229,383	TBD	TBD
Washington	\$568,660	\$568,660	TBD	TBD
West Virginia	\$299,469	\$299,469	TBD	TBD
Wisconsin	\$279,861	\$279,861	TBD	TBD
Wyoming	\$252,572	\$252,572	TBD	TBD
Washington, D.C.	\$198,000	\$198,000	TBD	TBD
University of Kentucky	\$440,657	\$440,657	TBD	TBD

CDC FY 2017 Congressional Justification

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Louisiana State University	\$415,523	\$415,523	TBD	TBD
CA Public Health Institute	\$433,189	\$433,189	TBD	TBD
Indian Tribes	\$1,827,347	\$1,827,347	TBD	TBD
American Samoa	\$198,000	\$198,000	TBD	TBD
Guam	\$247,500	\$247,500	TBD	TBD
Marshall Islands	\$198,000	\$198,000	TBD	TBD
Micronesia	\$513,583	\$513,583	TBD	TBD
Northern Mariana Islands	\$95,997	\$95,997	TBD	TBD
Palau	\$203,666	\$203,666	TBD	TBD
Puerto Rico	\$0	\$0	TBD	TBD
University of Puerto Rico	\$232,037	\$232,037	TBD	TBD
Virgin Islands	\$0	\$0	TBD	TBD
Total	\$21,905,976	\$21,905,976	\$21,905,976	TBD

¹This state table is a snapshot of selected programs that fund most states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>.

² A new FOA will be competed in FY 2017.

³ CFDA Number: 93.283, Discretionary

State Table: Tobacco Prevention and Control Program^{1,2}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$1,058,178	\$1,058,178	\$1,058,178	\$0
Alaska	\$923,653	\$923,653	\$923,653	\$0
Arizona	\$1,031,452	\$1,031,452	\$1,031,452	\$0
Arkansas	\$956,355	\$956,355	\$956,355	\$0
California	\$2,710,387	\$2,710,387	\$2,710,387	\$0
Colorado	\$1,233,019	1,233,019	\$1,233,019	\$0
Connecticut	\$860,335	\$860,335	\$860,335	\$0
Delaware	\$684,184	\$684,184	\$684,184	\$0
Florida	\$1,710,858	\$1,710,858	\$1,710,858	\$0
Georgia	\$1,139,101	\$1,139,101	\$1,139,101	\$0
Hawaii	\$857,590	\$857,590	\$857,590	\$0
Idaho	\$914,306	\$914,306	\$914,306	\$0
Illinois	\$1,193,934	\$1,193,934	\$1,193,934	\$0
Indiana	\$1,020,612	\$1,020,612	\$1,020,612	\$0
Iowa	\$898,954	\$898,954	\$898,954	\$0
Kansas	\$1,015,232	\$1,015,232	\$1,015,232	\$0
Kentucky	\$1,172,908	\$1,172,908	\$1,172,908	\$0
Louisiana	\$967,501	\$967,501	\$967,501	\$0
Maine	\$845,672	\$845,672	\$845,672	\$0
Maryland	\$967,914	\$967,914	\$967,914	\$0
Massachusetts	\$1,846,014	\$1,846,014	\$1,846,014	\$0
Michigan	\$1,427,120	\$1,427,120	\$1,427,120	\$0
Minnesota	\$1,030,259	\$1,030,259	\$1,030,259	\$0
Mississippi	\$880,815	\$880,815	\$880,815	\$0
Missouri	\$1,175,917	\$1,175,917	\$1,175,917	\$0
Montana	\$876,206	\$876,206	\$876,206	\$0
Nebraska	\$992,417	\$992,417	\$992,417	\$0
Nevada	\$828,558	\$828,558	\$828,558	\$0
New Hampshire	\$834,840	\$834,840	\$834,840	\$0
New Jersey	\$1,008,186	\$1,008,186	1,008,186	\$0
New Mexico	\$991,138	\$991,138	\$991,138	\$0
New York	\$2,358,238	\$2,358,238	\$2,358,238	\$0
North Carolina	\$1,595,610	\$1,595,610	\$1,595,610	\$0
North Dakota	\$913,858	\$913,858	\$913,858	\$0
Ohio	\$1,374,118	\$1,374,118	\$1,374,118	\$0
Oklahoma	\$1,090,323	\$1,090,323	\$1,090,323	\$0
Oregon	\$1,013,634	\$1,013,634	\$1,013,634	\$0
Pennsylvania	\$1,291,458	\$1,291,458	\$1,291,458	\$0
Rhode Island	\$1,507,878	\$1,507,878	\$1,507,878	\$0
South Carolina	\$1,124,509	\$1,124,509	\$1,124,509	\$0
South Dakota	\$863,407	\$863,407	\$863,407	\$0
Tennessee	\$1,119,313	\$1,119,313	\$1,119,313	\$0
Texas	\$1,710,171	\$1,710,171	\$1,710,171	\$0
Utah	\$1,374,096	\$1,374,096	\$1,374,096	\$0
Vermont	\$909,248	\$909,248	\$909,248	\$0
Virginia	\$946,289	\$946,289	\$946,289	\$0
Washington	\$1,125,557	\$1,125,557	\$1,125,557	\$0
West Virginia	\$985,106	\$985,106	\$985,106	\$0
Wisconsin	\$1,061,549	\$1,061,549	\$1,061,549	\$0
Wyoming	\$882,742	\$882,742	\$882,742	\$0
Indian Tribes	\$1,752,000	\$1,752,000	\$1,752,000	\$0
American Samoa	\$135,000	\$135,000	\$135,000	\$0

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Guam	\$207,000	\$207,000	\$207,000	\$0
Marshall Islands	\$100,000	\$100,000	\$100,000	\$0
Micronesia	\$210,000	\$210,000	\$210,000	\$0
Northern Mariana Islands	\$145,000	\$145,000	\$145,000	\$0
Palau	\$130,000	\$130,000	\$130,000	\$0
Puerto Rico	\$625,000	\$625,000	\$625,000	\$0
Virgin Islands	\$200,000	\$200,000	\$200,000	\$0
Washington, D.C.	\$669,280	\$669,280	\$669,280	\$0
Total	\$61,473,999	\$61,473,999	\$61,473,999	\$0

¹This state table is a snapshot of selected programs that fund most states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>.

² CFDA Number: 93.919, Discretionary

BIRTH DEFECTS, DEVELOPMENTAL DISABILITIES, DISABILITIES AND HEALTH

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$131.781	\$135.610	\$67.644	-\$67.966
ACA/PPHF	\$0.000	\$0.000	\$67.966	+\$67.966
Total Request	\$131.781	\$135.610	\$135.610	\$0.000
FTEs	201	201	201	0
Child Health and Development	\$64.232	\$65.800	\$65.800	\$0.000
- Budget Authority	\$64.232	\$65.800	\$50.274	\$15.526
- ACA/PPHF (non-add)	\$0.000	\$0.000	\$15.526	+\$15.526
Health and Development with Disabilities	\$52.440	\$54.710	\$54.710	\$0.000
- Budget Authority				
- ACA/PPHF (non-add)	\$0.000	\$0.000	\$52.440	+\$52.440
Public Health Approach to Blood Disorders	\$15.109	\$15.100	\$15.100	\$0.000
- Public Health Approach to Blood Disorders	\$4.500	\$4.500	\$4.500	\$0.000
- Hemophilia	\$3.504	\$3.500	\$3.500	\$0.000
- Hemophilia Treatment Centers	\$5.000	\$5.000	\$5.000	\$0.000
- Thalassemia	\$2.105	\$2.100	\$2.100	\$0.000

Summary

CDC's FY 2017 request of **\$135,610,000** for [Birth Defects, Developmental Disabilities, Disabilities and Health](#),¹⁸⁷ including \$67,966,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level.

CDC programs enhance the potential for full, productive living for a large and diverse segment of the American public by focusing on four areas:



SAVING BABIES
THROUGH BIRTH DEFECTS
PREVENTION AND RESEARCH



HELPING CHILDREN
LIVE TO THE FULLEST BY UNDERSTANDING
DEVELOPMENTAL DISABILITIES



PROTECTING PEOPLE
AND PREVENTING COMPLICATIONS
OF BLOOD DISORDERS



IMPROVING HEALTH
OF PEOPLE WITH DISABILITIES

Our mission to promote the health of babies, children, and adults is driven by the fact that:

- One in 33 babies are born with a major birth defect—one every 4.5 minutes.
- One in six children have developmental disabilities.
- Millions of people are affected by blood disorders like venous thromboembolism, hemophilia, and thalassemia.
- 56 million Americans live with a disability—approximately equivalent to the combined populations of New York and California.

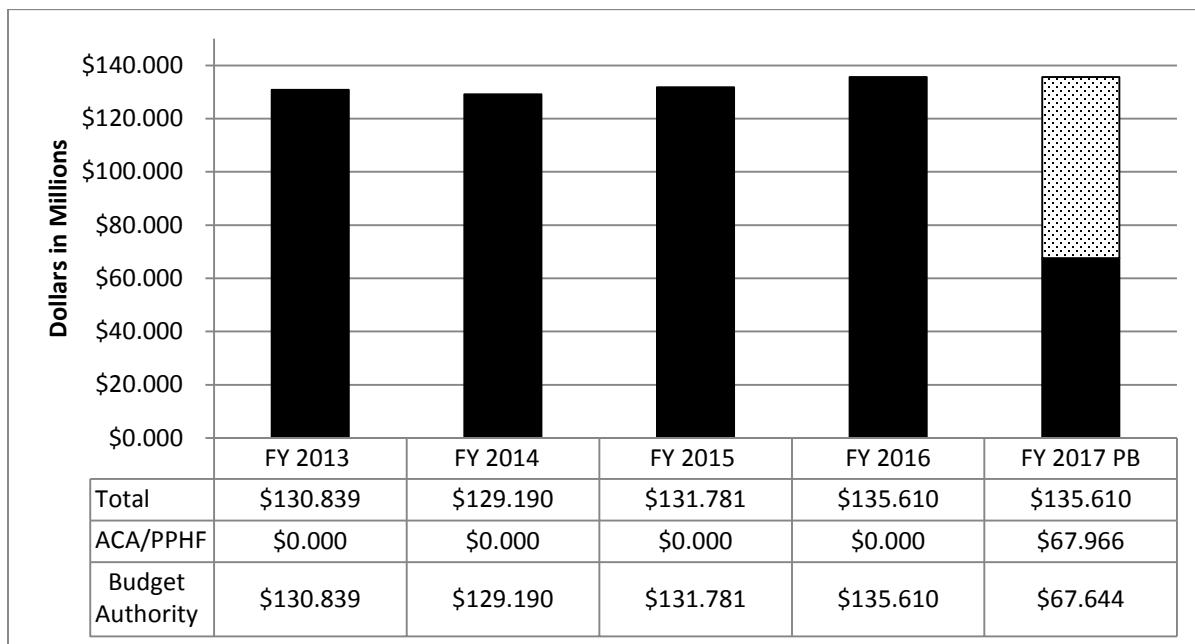
These programs further CDC's mission by preventing the leading causes of disease, disability, and death, and promoting the health of people of all ages. CDC measures the impact of birth defects, disabilities, and blood

¹⁸⁷<http://www.cdc.gov/hcbddd/index.html>

disorders using cutting-edge surveillance, research, and science. CDC puts these research findings and recommendations into public health action to foster a safer, healthier population. Through this essential work, CDC prevents birth defects and developmental disorders where possible and enhances the health and quality of life for individuals who live with them.

Performance Highlights

- CDC completed the first nationally-representative U.S. study on ADHD treatment that considered medication, behavioral therapy, and dietary supplements. This report, published in the Journal of Pediatrics, describes parent-reported treatment of ADHD among children with special health care needs, and how this reported treatment aligns with the current American Academy of Pediatrics (AAP) guidelines. These data were collected just before the release of the current AAP medical practice guidelines, so this information can be used as a benchmark for how the state of medical practice at the time that the guidelines are published. They found that just before the release of the 2011 guidelines, most children with ADHD received either medication treatment or behavioral therapy; however, many were not receiving treatment as outlined in the 2011 best practice guidelines. Current AAP guidelines recommend that for school-aged children (6-18 years of age) with ADHD, treatment include ADHD medication with or without behavioral therapy, with both medication and behavioral therapy as the preferred treatment. Behavioral therapy is recommended first for preschoolers (4-5 years of age) with ADHD.
- CDC achieved 98.5% participation in Community Counts bleeding disorders surveillance project in funded hemophilia treatment centers. CDC supported consumer and provider education to promote best practices to reduce the complications of inhibitors by conducting targeted consumer education, including sessions at the National Hemophilia Foundation, about the signs, symptoms and risk factors of inhibitors and the importance of regular screening.
- Recent CDC research with the Centers for Birth Defects Research and Prevention demonstrated that certain antidepressant medications increase the risk for some serious birth defects. This information can help women and their healthcare providers make more informed treatment decisions to appropriately treat maternal health conditions such as depression just before and during pregnancy.

Birth Defects and Developmental Disabilities Funding History^{1,2,3}

¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

²FY 2013 Health and Development with Disabilities is comparably adjusted to reflect the transfer of \$6.7 million for Paralysis Resource Center to the Administration for Community Living.

³FY 2013 and FY 2014 Health and Development with Disabilities are comparably adjusted to reflect the transfer of \$2.8 million for Limb Loss to the Administration for Community Living.

Child Health and Development Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$64.232	\$65.800	\$50.274	-\$15.526
ACA/PPHF (non-add)	\$0.000	\$0.000	\$15.526	+\$15.526
Total	\$64.232	\$65.800	\$65.800	\$0.000
Child Health and Development	\$64.232	\$65.800	\$65.800	\$0.000
--Autism - BA (non-add)	\$23.002	\$23.100	\$23.100	\$0.000

Overview

Birth defects are common, costly, and critical. They include conditions such as fetal alcohol spectrum disorders (FASDs), spina bifida and other neural tube defects, congenital heart defects, and craniofacial defects—birth defects of the head and face.

Developmental disabilities—including autism and cerebral palsy—are an impairment in physical, learning, language, or behavioral areas. CDC uses surveillance and science to understand the characteristics of birth defects and developmental disabilities and then applies the findings to help prevent these conditions and enhance the health of people affected by them.

CDC's Core Child Health and Development Activities

Activities	Description
State based birth defects program ¹⁸⁸	State-based birth defects surveillance, intervention, and prevention programs work to understand the characteristics and prevalence of birth defects and fetal deaths.
National Birth Defects Prevention Network ¹⁸⁹	A national network of state and population-based birth defects programs, which assess the impact of birth defects, identify strategies for reducing birth defects, and help families and healthcare providers to prevent secondary disabilities.
Centers for Birth Defects Research and Prevention ¹⁹⁰	Research centers across the United States that conduct and collaborate on one of largest studies to investigate risk factors for birth defects: the National Birth Defects Prevention Study ¹⁹¹ (NBDPS, births from 1997-2011) and the Birth Defects Study to Evaluate Pregnancy exposures (BD-STEPS, births from 2014 forward). ¹⁹²
Autism and Developmental Disabilities Monitoring (ADDM) Network ¹⁹³	Studies the number and characteristics of children with autism at different points in time and among different groups to guide research into potential risk factors and to help communities strategically direct outreach.

¹⁸⁸ <http://www.cdc.gov/ncbddd/birthdefects/states/index.html>

¹⁸⁹ <http://www.nbdpn.org/>

¹⁹⁰ <http://www.cdc.gov/ncbddd/birthdefects/cbdrp.html>

¹⁹¹ <http://www.nbdps.org/>

¹⁹² <http://www.cdc.gov/ncbddd/birthdefects/bd-steps.html>

¹⁹³ <http://www.cdc.gov/ncbddd/autism/addm.html>

Activities	Description
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE)¹⁹⁴ Fetal Alcohol Spectrum Disorder (FASD) Practice and Implementation Centers¹⁹⁶	<p>Research centers across the United States that conduct and collaborate on the Study to Explore Early Development (SEED),¹⁹⁵ which is the largest study of its kind in the United States working to identify factors that may put children at risk for autism and other developmental disabilities.</p> <p>Work to achieve practice and systems-level change by improving the knowledge and skills of healthcare professionals on the prevention, identification, and management of FASDs.</p>

Budget Request

CDC's FY 2017 request of **\$65,800,000** for Child Health and Development, including \$15,526,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. These funds enable CDC to monitor birth defects and developmental disabilities—uncovering their causes and modifiable risk factors, and turning these findings into real-world practice and prevention strategies. CDC's continuing work will focus on eight main areas: birth defects, congenital heart defects, fetal death, fetal alcohol spectrum disorders, folic acid, spina bifida, infant health, and autism.

Birth Defects

Every 4.5 minutes, a baby is born with a [birth defect](#)¹⁹⁷ in the United States. Major birth defects account for over \$2.6 billion in hospitalization costs each year.

Recent CDC accomplishments with birth defects include:

- Releasing reports aimed at helping states increase the impact of newborn screening for critical congenital heart defects
- Expanding the science-base for safer medication use in pregnancy and to inform clinical decisions by reporting on the association between specific medications used by reproductive aged women and birth defects
- Estimating the impact of optimal pre-pregnancy diabetes control on the prevalence of congenital heart defects



In FY 2015, CDC invested in state and local programs that gather data needed to understand how birth defects can be prevented and how to improve the lives of people who have them. This included funding 23 continuing competitive awards to track birth defects, collect and analyze data on risk factors, refer individuals born with birth defects to appropriate medical and social services, and implement prevention strategies to reduce the number of babies affected by major birth defects. In addition, CDC funded two programs to incorporate fetal deaths into an ongoing epidemiological study of risk factors for major birth defects ([BD-STEPS](#))¹⁹⁸ to pilot efforts to understand the preventable risk factors for fetal death while leveraging the existing infrastructure of BD-STEPS.

¹⁹⁴ <http://www.cdc.gov/ncbdd/autism/caddir.html>

¹⁹⁵ <http://www.cdc.gov/ncbdd/autism/seed.html>

¹⁹⁶ <http://www.cdc.gov/ncbdd/fasd/training.html>

¹⁹⁷ <http://www.cdc.gov/ncbdd/birthdefects/index.html>

¹⁹⁸ <http://www.cdc.gov/ncbdd/birthdefects/bd-steps.html>

CDC will continue the collaboration of the Centers for Birth Defects Research and Prevention on the BD-STEPS to better understand how to prevent birth defects. BD-STEPS uses previous studies of birth defects, such as the National Birth Defects Prevention Study ([NBDPS](http://www.nbdps.org/))¹⁹⁹ and builds on that work to identify modifiable maternal exposures in early pregnancy that may increase the risk of birth defects, focusing on:

- Maternal diabetes, obesity, and physical activity
- Chronic maternal medical conditions
- Infertility
- Medication use during pregnancy

CDC's research efforts will support the [Treating for Two: Safer Medication Use in Pregnancy Initiative](#),²⁰⁰ which aims to:

- Expand research to learn more about the risk of birth defects associated with commonly used medications to treat maternal health conditions during pregnancy. This will address critical gaps in information currently available to women and their healthcare providers.
- Deliver this information to support shared decision-making among prescribers, pharmacists, and patients.
- Evaluate evidence to facilitate reliable guidance for treating maternal conditions in pregnancy.

To improve the lives of people who have birth defects, CDC will continue working with state-based programs and academic partners to:

- Assess the use of health services, longer-term health outcomes, and healthcare costs for individuals with birth defects
- Identify effective interventions that reduce disparities in care and outcomes and improve the length and quality of life

In FY 2016, CDC will fund 13 new awardees for state-based birth defects surveillance, research, and prevention activities. CDC will also continue to support state-based birth defects surveillance to learn more about risk factors for birth defects and to inform strategies for improving the outcomes of babies born with birth defects. CDC will maintain efforts to improve understanding of the causes of fetal deaths using the resources of existing birth defects epidemiological studies.

In FY 2017, CDC will continue to build the science base needed to develop and strengthen birth defects prevention strategies. Grantee funding will primarily support birth defects surveillance, research, intervention, and prevention activities. The majority of grantees will consist of state or territorial health departments and academic research centers.



¹⁹⁹<http://www.nbdps.org/>

²⁰⁰[Treating for Two: Safer Medication Use in Pregnancy Initiative](#)

Birth Defects and Surveillance of Fetal Deaths Grants^{1,2}

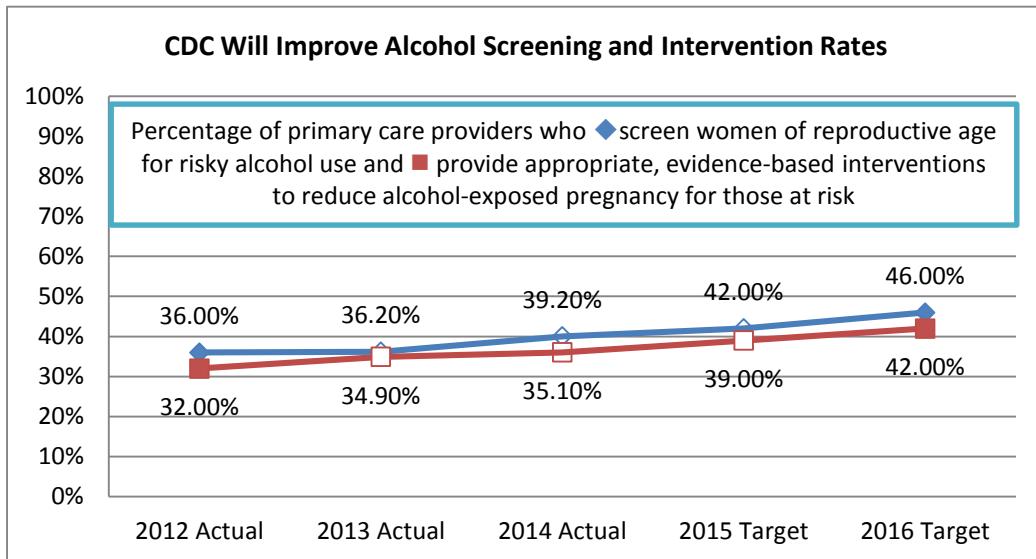
(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	31	25	30	29	28	-1
- New Awards	7	3	7	13	0	-13
- Continuing Awards	24	22	23	16	28	+12
Average Award	\$0.281	\$0.314	\$0.290	\$0.291	\$0.294	\$0.000
Range of Awards	\$0.005-\$0.571	\$0.005-\$0.765	\$0.005-\$0.850	\$0.020-\$0.800	\$0.020-\$0.800	N/A
Total Awards	\$8.712	\$7.859	\$8.714	\$8.435	\$8.435	\$0.000

¹Included for each program is the percentage of funds awarded by formula and non-formula.

²These funds are not awarded by formula.

Fetal Alcohol Syndrome

Fetal Alcohol Syndrome (FAS) costs the United States over \$4 billion annually. Research estimates that as many as one in 500 babies are born with FAS. [Fetal alcohol spectrum disorders \(FASDs\)](#)²⁰¹ prevalence and costs estimates likely far exceed these numbers. These lifelong conditions can result in physical, behavioral, and



learning problems of varying severity. FASDs are completely preventable if a woman does not drink alcohol during pregnancy, but about one in 13 pregnant women report recent alcohol use, and the Indian Health Service estimates that rates are one in two for American Indian women.

In partnership with organizations serving American Indian communities, CDC has implemented strategies to reduce risky alcohol use among women who may become pregnant and to prevent exposure to alcohol during pregnancy, which can result in FAS or other FASDs.

These strategies involve training and implementation support on alcohol screening and brief intervention approaches, including [CHOICES](#),²⁰² an intervention for preventing alcohol-exposed pregnancy in high risk women before they become pregnant. CDC also recently released new resources [on alcohol use and pregnancy](#)²⁰³ and [an alcohol screening and brief intervention implementation guide for primary care practices](#).²⁰⁴

In FY 2015, through enhanced collaboration with 14 competitively selected [FASD Practice and Implementation Centers](#),²⁰⁵ [medical societies, national partners](#), and academic institutions, CDC improved the knowledge and skills of healthcare professionals on the prevention, identification, and management of FASDs. CDC will continue to focus on a national approach to these training efforts. This approach will help to strengthen FASD expertise and capacity and improve provider practice throughout the nation. In FY 2015, CDC also funded a national organization to promote alcohol screening and a brief intervention at the state and local level.

In FY 2016, CDC will continue to fund 14 FAS grants and work collaboratively with the selected FASD Practice and Implementation Centers, medical societies, national partners, and academic institutions to implement national, discipline-specific approaches to FASD-related training for physicians, nurses, social workers, and other healthcare practitioners.

In FY 2017, CDC will use the funding that is currently going to 3 grants, and scheduled to end in 2016, to increase the funds going to the remaining 11 grants. The increased funding to the remaining 11 grants will support expansion of implementation efforts supported in 2016. Through this work, and with one national organization,

²⁰¹ <http://www.cdc.gov/ncbddd/fasd/index.html>

²⁰² <http://www.cdc.gov/ncbddd/fasd/choices-importance-preventing-alcohol-exposed-pregnancies.html>

²⁰³ <http://www.cdc.gov/ncbddd/fasd/partners-tools.html>

²⁰⁴ <http://www.cdc.gov/ncbddd/fasd/alcohol-screening.html>

²⁰⁵ <http://www.cdc.gov/ncbddd/fasd/training.html>

CDC will also implement and evaluate prevention strategies to reduce alcohol-exposed pregnancies and assess promising approaches to advance practice and systems improvements.

Fetal Alcohol Syndrome Grants^{1, 2, 3}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	25	18	15	14	11	-3
- New Awards	2	13	1	0	0	0
- Continuing Awards	23	5	14	14	11	-3
Average Award	\$0.152	\$0.239	\$0.266	\$0.260	\$0.331	+\$0.071
Range of Awards	\$0.013-\$0.500	\$0.075-\$0.400	\$0.050-\$0.400	\$0.050-\$0.400	\$0.050-\$0.500	N/A
Total Awards	\$3.809	\$3.809	\$3.998	\$3.642	\$3.642	\$0.000

¹These funds are not awarded by formula.

²The number of awards decreased between FY 2015 and FY 2016 because one of the FY 2015 awards is only for one year.

³The number of awards decreased between FY 2014 and FY 2015 because three of the five continuation awards projected in FY 2014 are extensions that will not exceed 12-months of funding.

Folic Acid

CDC will continue efforts to reduce morbidity and mortality related to [folic acid-preventable neural tube defects \(NTDs\)](#)²⁰⁶ such as spina bifida and anencephaly—severe birth defects of the brain and spine. Babies born with anencephaly will die shortly after birth, and many children with spina bifida face life-long disabilities. In 2014, CDC published [Population Red Blood Cell Folate Concentrations for Prevention of Neural Tube Defects: Bayesian Model](#),²⁰⁷ which showed blood folate concentrations among women that can be predictive of the risk of neural tube defects in a population.

In FY 2015, CDC funded two competitively selected grantees to increase folic acid intake among women of reproductive age, and provided support for a one-time spina bifida research grant.

For folic acid fortification, the estimates of averted direct costs range from of \$285 million to \$512 million. The cost-savings translate to a minimum estimated ROI of \$14 in savings for every \$1 in cost. When caregiver earnings are added to traditional direct costs and favorable assumptions are made on folic acid costs and numbers of cases averted, this increases to an estimated \$124 in savings for every \$1 in cost.

In FY 2016, CDC will monitor health disparities and provide information on the benefits of folic acid fortification and usefulness of optimal blood folate levels for use in program and evaluation.

In FY 2017, CDC will continue to fund two competitively selected grantees to increase folic acid intake among women of reproductive age; support NTD prevention efforts; and enhance training, surveillance, and monitoring of NTDs and blood folate levels. Grantees will consist of organizations working across multiple countries or international regions.

²⁰⁶<http://www.cdc.gov/ncbddd/folicacid/index.html>

²⁰⁷<http://www.bmjjournals.org/content/349/bmj.g4554>

Folic Acid Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	2	2	3	2	2	0
- New Awards	0	0	1	0	0	0
- Continuing Awards	2	2	2	2	2	0
Average Award	\$0.325	\$0.298	\$0.198	\$0.250	\$0.250	\$0.000
Range of Awards	\$0.040-\$0.609	\$0.050-\$0.596	\$0.080-\$0.485	\$0.150-\$0.485	\$0.150-\$0.485	N/A
Total Awards	\$0.649	\$0.477	\$0.580	\$0.500	\$0.500	\$0.000

¹These funds are not awarded by formula.

Spina Bifida Surveillance and Research

Approximately 1,500 babies born in the United States each year are affected by [spina bifida](#)²⁰⁸ despite the successes of folic acid fortification. The lifetime direct costs to treat just one child with spina bifida are estimated at \$790,000.²⁰⁹ Additional research is needed to learn more about risk factors for neural tube defects that are not preventable with folic acid.

In FY 2015, in place of awarding small supplemental funding for grantee surveillance capacity, CDC funded four competitive spina bifida awards to better understand outcomes among individuals with this condition and identify other modifiable causes. These grantees are studying ways to improve and inform the provision of healthcare to children with spina bifida. CDC is also working to understand factors in addition to folic acid that contribute to the occurrence of spina bifida to identify additional opportunities to prevent this serious condition.

In FY 2016, CDC will continue funding two spina bifida research projects at academic institutions to further study folate-resistant spina bifida.

In FY2017, in addition to the two research projects to study folate-resistant spina bifida, CDC wil fund two new grants to expand work to understand other modifiable risk factors for spina bifida.

²⁰⁸<http://www.cdc.gov/ncbddd/spinabifida/index.html>

²⁰⁹<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6401a2.htm>

Spina Bifida Surveillance and Research Grants^{1, 2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	15	18	4	2	4	+2
- New Awards	0	0	2	0	2	+2
- Continuing Awards	15	18	2	2	2	0
Average Award	\$0.026	\$0.027	\$0.275	\$0.260	\$0.148	-\$0.112
Range of Awards	\$0.250	\$0.010–\$0.110	\$0.240–\$0.310	\$0.022–\$0.300	\$0.022–\$0.300	N/A
Total Awards	\$0.682	\$0.498	\$0.550	\$0.520	\$0.590	+\$0.070

¹These funds are not awarded by formula.²The number of awards decreased between FY 2014 and FY 2015 due to a shift in the number of grantee being funded, and program focus.**Infant Health**

Early life experiences can significantly affect a person's health and wellbeing into adulthood. To promote healthy starts to life, CDC will support [infant health](#)²¹⁰ activities on several fronts by:

- Improving early identification of autism and other developmental disabilities
- Supporting birth defects surveillance, research, intervention, and prevention activities

In FY 2015, CDC supported 11 grantees including short-term awards to evaluate and enhance [Learn the Signs. Act Early.](#)²¹¹ initiatives to improve the early identification of autism and other developmental disabilities.

In FY 2016 and FY 2017, up to 12 competitive infant health awards will be funded to conduct infant health activities. Grantees will consist of governmental and non-government organizations. These awards will generally be short-term awards to explore innovative approaches to improve the early identification of autism and other developmental disabilities and to support birth defects intervention and prevention activities.

Infant Health Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	7	11	7–12	7–12	0
- New Awards	2	5	5	3–9	3–9	0
- Continuing Awards	4	2	6	4	4	0
Average Award	\$0.150	\$0.126	\$0.122	\$0.150	\$0.150	\$0.000
Range of Awards	\$0.025–\$0.250	\$0.025–\$0.220	\$0.030–\$0.225	\$0.030–\$0.250	\$0.030–\$0.250	N/A
Total Awards	\$0.900	\$0.881	\$1.333	\$1.333	\$1.333	\$0.000

¹These funds are not awarded by formula.²¹⁰ <http://www.cdc.gov/ncbdd/childdevelopment/index.html>²¹¹ <http://www.cdc.gov/hcbddd/actearly/index.html>

Infant Health—Hearing Loss

Hearing loss is another infant health issue with significant life-long impacts. Early identification of deaf and hard of hearing children and receipt of interventions improves outcomes and prevents an estimated \$200 million in additional education costs each year. By making it easier for healthcare providers and states to report and receive data about infants needing services, CDC helps all deaf and hard of hearing infants get identified early, thereby helping to ensure they reach their full potential. CDC also supports research to identify ways to promote infants receiving recommended services and assess the outcomes of deaf and hard of hearing children identified early.

In FY 2016 and FY 2017, CDC plans to continue supporting research projects to assess and improve the delivery of services to deaf and hard of hearing infants. This includes funding research to assess the long-term outcomes of deaf and hard of hearing infants identified early. It also includes projects to increase the reporting of early intervention related data to state early hearing detection and intervention (EHDI) programs and improve the standardization and quality of hearing screening, diagnostic, and intervention data by expanding the capacity of public health programs to electronically receive and exchange these data with healthcare providers.

Infant Health (Hearing Loss) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	7	3	2-4	2-4	0
- New Awards	2	5	2	0-2	2-4	0-2
- Continuing Awards	4	2	1	2	0	-2
Average Award	\$0.150	\$0.126	\$0.166	\$0.150	\$0.150	\$0.000
Range of Awards	\$0.025-\$0.250	\$0.025-\$0.220	\$0.150-\$0.200	\$0.150-\$0.200	\$0.150-\$0.200	N/A
Total Awards	\$0.900	\$0.881	\$0.500	\$0.300-\$0.600	\$0.300-\$0.600	\$0.000

¹These funds are not awarded by formula.

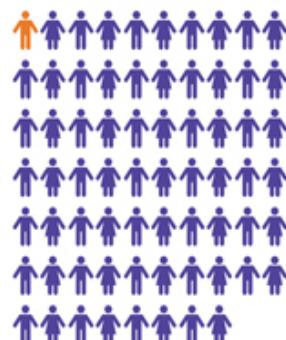
Autism

Autism spectrum disorder (ASD) is a group of developmental disabilities often diagnosed in early childhood that can cause significant social, communication, and behavioral challenges over a lifetime. CDC is working to address ASD by:

- Tracking ASD
- Researching risk factors and causes
- Promoting early identification

The total costs per year for children with ASD in the United States were estimated to be between \$11.5 billion–\$60.9 billion (2011 U.S. dollars). This significant economic burden represents a variety of direct and indirect costs, from medical care to special education to lost parental productivity.

NUMBER OF CHILDREN IDENTIFIED WITH ASD



1 in 68

ASD is one of the few conditions that has a federal committee tasked with coordinating research efforts: the [Interagency Autism Coordinating Committee \(IACC\)](#).²¹² The IACC identifies research priorities and strategies, and is key to facilitating the exchange of information on ASD activities across federal agencies, such as CDC and the National Institutes of Health, as well as public organizations.

The multi-site [Autism and Developmental Disabilities Monitoring \(ADDM\) Network](#)²¹³ provides data on the prevalence and characteristics of children with ASD and other developmental disabilities.

In March 2014, CDC's ADDM Network [released data](#) showing that about one in 68 children has been identified as having autism in the United States.

[More is understood about ASD than ever before](#),²¹⁴ including which children are more likely to be diagnosed, at what age they are likely to be diagnosed, and what factors may put children at risk for ASD. Still, there remains an urgent need to continue the search for answers and to provide help to people living with ASD.

CDC will continue to track ASD to understand more about the number and characteristics of children with co-occurring conditions such as cerebral palsy. In FY 2016, CDC will release an updated prevalence report documenting the occurrence of cerebral palsy among children in various communities across the United States, including information on walking ability and cerebral palsy as a co-occurring condition to ASD.

CDC investigates risk factors for ASD through the [Centers for Autism and Developmental Disabilities Research and Epidemiology \(CADDRE\)](#).²¹⁵ The CADDRE Network conducts the [Study to Explore Early Development \(SEED\)](#),²¹⁶ which is the largest study in the United States working to identify factors that may put children at risk for ASD and other developmental disabilities.

²¹²<https://iacc.hhs.gov/index.shtml>

²¹³<http://www.cdc.gov/ncbdd/autism/addm.html>

²¹⁴<http://www.cdc.gov/ncbdd/autism/data.html>

²¹⁵<http://www.cdc.gov/ncbdd/autism/caddre.html>

²¹⁶<http://www.cdc.gov/ncbdd/autism/seed.html>

Most children with ASD are not diagnosed until after age four years, even though developmental concerns before age three are noted for almost 90% of children with ASD. CDC's [Learn the Signs. Act Early.](#)²¹⁷ program addresses this gap by promoting early identification through developmental monitoring to parents, early care and education providers, and healthcare providers. CDC offers free, easy-to-use resources to encourage the tracking of child development and acting early on concerns, including:

- [Developmental milestone checklists](#)²¹⁸
- Free online continuing [education training](#)²¹⁹ on identifying, diagnosing, and managing ASD and on [developmental monitoring in child care](#)²²⁰

Learn the Signs. Act Early. is a prominent feature of far-reaching U.S. Department of Health and Human Services (HHS) early childhood initiatives such as [Birth to 5: Watch Me Thrive](#)²²¹ and [Too Small to Fail](#)²²². Additionally, Act Early Ambassadors and Act Early State Systems grantees work with early childhood programs in their states to promote developmental monitoring of all young children.

In FY 2015, CDC continued to fund seven existing awards for ASD epidemiological research, and 10 new competitive autism awards to states and universities to enhance surveillance for ASD and other developmental disabilities, monitor prevalence and contributing risk factors, and better inform policies and programs for prevention and services. All 10 newly-funded sites are tracking ASD among school-aged children. Six of the 10 sites are also tracking ASD among pre-school aged children. The ASD tracking infrastructure built over the past decade has led to a great increase in knowledge about the prevalence and characteristics of children with ASD. Continuing this important work will help shed light on emerging issues, such as the impact of the new [DSM-5 diagnostic criteria](#)²²³ on prevalence and gaps in early identification of children with ASD. In addition to tracking, sites will conduct analyses of the data to better understand increases over time in the number of children identified with ASD, and carry out education and outreach activities in their local communities.

In FY 2016, CDC will fund between four and seven new awards to continue epidemiologic research and better understand risk factors for developing ASD, which will help CDC learn more about causes of ASD.

In FY 2017, CDC will continue to fund between 14-17 awardees to strengthen CDC's ASD tracking and research infrastructure and better understand ASD and other developmental disabilities.

²¹⁷<http://www.cdc.gov/ncbdd/actearly/index.html>

²¹⁸<http://www.cdc.gov/ncbdd/actearly/milestones/index.html>

²¹⁹<http://www.cdc.gov/ncbdd/actearly/act.html>

²²⁰<http://www.cdc.gov/ncbdd/watchmetraining/index.html>

²²¹<http://www.acf.hhs.gov/programs/ecd/child-health-development/watch-me-thrive>

²²²<http://toosmall.org/>

²²³<http://www.cdc.gov/ncbdd/adhd/diagnosis.html>

Autism Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	20	21	17	14–17	14–17	0
- New Awards	2	2	10	4–7	0	-4–7
- Continuing Awards	18	19	7	10	14–17	+4–7
Average Award	\$0.591	\$0.510	\$0.786	\$0.786	\$0.786	\$0.000
Range of Awards	\$0.025–\$1.050	\$0.006–\$1.692	\$0.120–\$1.300	\$0.120–\$1.300	\$0.120– \$1.300	N/A
Total Awards	\$12.640	\$10.193	\$13.377	\$13.377	\$13.377	\$0.000

¹These funds are not awarded by formula.

Health and Development with Disabilities Budget Request

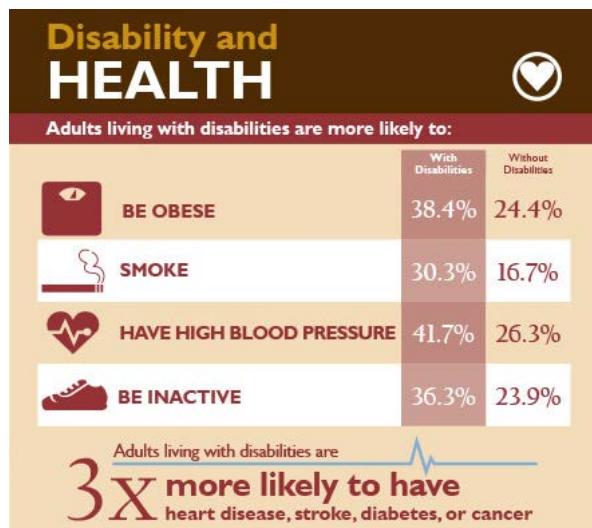
(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$52.440	\$54.710	\$2.270	-\$52.440
ACA/PPHF	\$0.000	\$0.000	\$52.440	+\$52.440
Total	\$52.440	\$54.710	\$54.710	\$0.000

Overview

CDC's Human Development and Disability program prevents disease and promotes equity in health and development for children and adults with [disabilities](#).²²⁴ There are many types of disabilities that affect human development, functioning, and activities, including:

- Hearing
- Seeing
- Moving
- Thinking and remembering
- Learning and applying knowledge
- Communicating
- Controlling thoughts (mental health)
- Interacting and socializing

Disabilities are associated with approximately \$400 billion in healthcare costs each year. People with disabilities can, and should, have the same opportunity for good health as people without disabilities. Currently, people with disabilities are more likely to be physically inactive, smoke, and have more difficulty accessing preventive health services compared to people without disabilities.



* Data source did not assess deafness or serious difficulty hearing.

Through public health efforts—such as tracking, research, health communication, and health education—CDC aims to reduce health disparities and severity of additional physical or mental health conditions that occur as a result of having a disability. CDC collaborates with a variety of partners and through cooperative agreements to address public health challenges facing the approximately one in five Americans who have a disability.

Budget Request

CDC's FY 2017 request of **\$54,710,000** for Health and Development for People with Disabilities, including \$52,440,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. In FY 2017 CDC will:

- Invest in surveillance to identify and better understand public health issues associated with human development
- Invest in programs designed to help reduce disability-associated health disparities
- Promote the health and wellbeing of people with disabilities

²²⁴ <http://www.cdc.gov/ncbddd/disabilityandhealth/>

State Disability and Health Programs

Recognizing that challenges are associated with many types of disabilities, CDC works to integrate science and public health practice through a variety of state and nationally-based programs and initiatives.

In FY 2015, CDC supported 18 state programs that had the same overarching goals, but each with customized activities based on the unique needs and priorities of the state.

In FY 2016, the State Disability and Health Program funding opportunity announcement will be revised and recompeted for new state awards. In FY 2017, CDC will continue to fund [state disability and health programs](#).²²⁵ These competitive awards support health disparities surveillance and health promotion activities by:

- Identifying and reducing disparities in key health indicators among people with disabilities by including people with disabilities in ongoing state disease prevention and health promotion activities
- Increasing healthcare access and referrals for people with disabilities
- Addressing systems and environmental barriers, such as inaccessible healthcare facilities and examination equipment
- Providing training and communication to public health and healthcare providers about disability

State Disability and Health Program Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	18	18	18	16–20	16–20	0
- New Awards	0	0	0	16–20	0	-16–20
- Continuing Award	18	18	18	0	16–20	+16–20
Average Award	\$0.300	\$0.300	\$0.300	\$0.300	\$0.300	\$0.000
Range of Awards	\$0.290–\$0.300	\$0.290–\$0.300	\$0.290–\$0.300	\$0.150–\$0.450	\$0.150–\$0.450	N/A
Total Grant Awards	\$5.400	\$5.400	\$5.400	\$5.400	\$5.400	\$0.000

¹These funds are not awarded by formula.

Public Health Practice and Resource Centers

Public Health Practice Resource Centers and national organizations help individuals living with disabilities by providing health information, education, and consultation to healthcare professionals, people with disabilities, caregivers, media, researchers, policymakers, and the public. In partnership with these centers and other national organizations, CDC is working to strengthen public health workforce competencies related to disability and health as well as the inclusion of people with disabilities in state and local public health programs.

In FY 2015, CDC continued to collaborate with partners to support a variety of public health practice and resource centers focused on improving the health and quality of life for people with, [intellectual disability](#),²²⁶

²²⁵<http://www.cdc.gov/ncbdd/disabilityandhealth/programs.html>

²²⁶http://www.cdc.gov/ncbdd/actearly/pdf/parents_pdfs/IntellectualDisability.pdf

physical activities for people with disabilities,²²⁷ attention deficit/hyperactivity disorder (ADHD),²²⁸ and Tourette syndrome.²²⁹

In FY 2016, CDC recompeted the cooperative agreement for a subset of National Public Health Practice and Resource Centers. These centers are newly titled the National Centers on Health Promotion for People with Disabilities and will develop, implement, evaluate, and disseminate non-research activities aimed at reducing health disparities and improving the health of people with mobility limitations and/or intellectual disabilities across their lifespans.

In FY 2017, CDC will continue to support the National Public Health Practice and Resource Centers and the National Centers on Health Promotion for People with Disabilities. In addition, CDC will continue to support a Disability Research and Dissemination Center to collect data, research ways to improve health among children and adults with disabilities, and share recent findings and results with the public.

Disability and Health Data System²³⁰



In FY 2017, CDC will continue to support the Disability and Health Data System (DHDS) to document and disseminate disability and health data. Efforts to expand the utility of this innovative resource with enhancements have included adding updated Behavioral Risk Factor Surveillance System data. Enhancements in FY 2016 will also include providing new information on select functional types of disability. Data provided by DHDS are intended to help state health departments, agencies and organizations identify key health disparities, and

help generate research questions to investigate factors that contribute to differences in health experienced by adults with disabilities. DHDS data serve as an essential component in the development of data-driven, fiscally responsible programs, services, and policies that include people with disabilities.

Legacy for Children™

The first years of a child's life can have a lifelong effect on physical, cognitive, and developmental health. CDC improves these long-term developmental outcomes through CDC's Legacy for Children™ parenting program.²³¹ This evidence-based program has shown significant and measureable success improving cognitive, socioemotional, and behavioral outcomes for children. CDC collaborates with the Administration on Children and Families (ACF) and the Health Resources and Services Administration (HRSA) to reach very young children²³² in federal early childhood services such as Early Head Start²³³ and Healthy Start.²³⁴ Incorporating this evidence-based public health intervention into these existing infrastructures will strengthen Early Head Start and Healthy Start's ability to improve child health and development at the earliest developmental stages. CDC is also piloting delivery of Legacy in primary care settings (in partnership with American Academy of Pediatrics), in privately funded early childcare centers (Educare in Tulsa, Oklahoma), and in Spanish.

²²⁷<http://www.ncpad.org/>

²²⁸<http://www.cdc.gov/ncbdd/adhd/>

²²⁹<http://www.cdc.gov/ncbdd/tourette/index.html>

²³⁰<http://www.cdc.gov/ncbdd/disabilityandhealth/dhds.html>

²³¹<http://www.cdc.gov/ncbdd/childdevelopment/legacy.html>

²³²<http://www.cdc.gov/ncbdd/childdevelopment/legacy.html>

²³³<https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/ehsnrc>

²³⁴<http://mchb.hrsa.gov/programs/healthystart/>

In FY 2017, CDC will continue to work towards building Legacy™ Master Trainer capacity to promote sustainability within these and other infrastructures and will continue to evaluate the pilot sites begun in FY 2016.

Early Hearing Detection and Intervention

Since 2000, the EHDI program has helped to ensure all deaf and hard of hearing infants are identified early and receive intervention by supporting jurisdictions and research to improve the delivery of services. Working in collaboration with HRSA and national partners, CDC will continue to support the [Early Hearing Detection and Intervention \(EHDI\)](#)²³⁵ programs based in jurisdictional health departments for the maintenance and enhancement of EHDI Information Systems (EHDI-IS). These EHDI-IS are advanced electronic tracking and surveillance systems that capture information about hearing-related services infants have received and alert health departments and providers about recommended follow-up services infants still need. The support that CDC provides to jurisdictions is an essential activity because ensuring recommended follow-up is often challenging, and some infants with a possible hearing loss are not yet receiving recommended diagnostic testing and intervention.

Jurisdictions use their EHDI-IS every day to help ensure all deaf and hard of hearing children are identified early and receive the intervention services that can help them reach their full potential. Using these CDC supported systems, jurisdictions have been able to consistently screen over 95% of infants in the United States for hearing loss and identify 40,000 infants with permanent hearing loss since 2005.

In FY 2016, CDC is expanding its support of activities to help improve the reporting and standardization of hearing screening and follow-up data. This is being done by strengthening the ability of public health programs to electronically receive and exchange these data with the electronic health record systems that are used by healthcare providers. This work is part of an effort to take advantage of recent advances in technology to further help jurisdictions provide essential services to all deaf and hard of hearing infants.

Additionally, in FY 2016 CDC plans to extend the current funding opportunity announcement for one year—through calendar year June 2017—in order to assist current grantees with completing the implementation of a critical set of updates to the EHDI-IS and explore opportunities for further collaboration and alignment of EHDI activities with HRSA.

Early hearing screening and intervention for children with hearing loss **saves approximately**

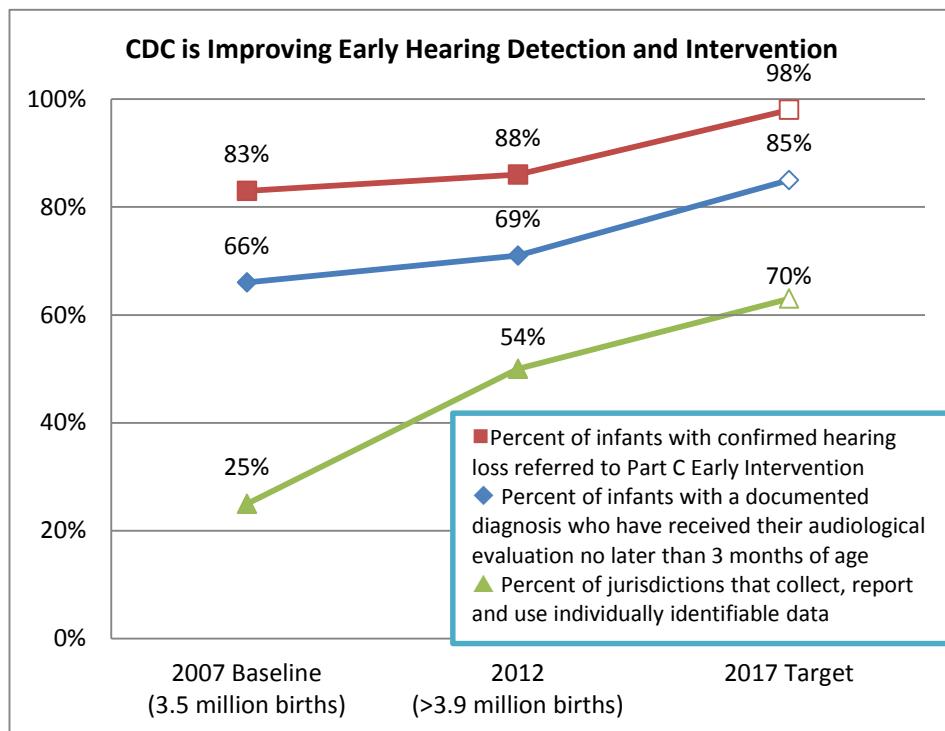
\$200 MILLION

in additional education costs each year



²³⁵<http://www.cdc.gov/hcbddd/hearingloss/>

In FY 2017, CDC plans to further support jurisdictions and ongoing research. As part of this work, CDC will publish a new funding opportunity announcement to provide funding and scientific and programmatic expertise to state or territorial public health departments (or their designated entity) and support the maintenance and improved functionality of their EHDI-IS. In addition, CDC will support ongoing research related to long-term outcomes that can improve the delivery of services for deaf and hard of hearing infants. To help



accomplish this, CDC will work with new grantees to further strengthen and use the tracking and surveillance, data analysis, and quality assurance components of their EHDI programs. This focus reflects findings from an external peer review panel that examined current EHDI activities and discussed future priorities for the program. The panel's recommendation included prioritizing research on long-term developmental outcomes and improving the ability of jurisdiction's EHDI-IS to ensure infants are receiving essential diagnostic and intervention services. The proposed structure builds on previous EHDI accomplishments and moves beyond basic surveillance-system development and documentation of hearing screenings by directly supporting grantees in having and maintaining an EHDI-IS that includes diagnostic and intervention related data. This will help ensure all deaf and hard of hearing infants are identified early and receive recommended intervention.

In order to implement this strategy and improve follow-up and access to care, CDC anticipates a reduction in the total number of grantees and an increase in the average award per grantee. This will support the evolution of this program by expanding the grantee's ability to maximize the benefits of follow-up diagnostic and intervention services.

In addition to the state funding, CDC will support essential research to assess the impact of EHDI programs and long-term outcomes among deaf and hard of hearing infants that are identified early. This research will identify ways to improve the delivery of service for deaf and hard of hearing infants, strengthen jurisdictional EHDI programs, and increase efficiency. Funding will support extramural projects awarded to qualified public health programs and research institutions.

Early Hearing Detection and Intervention (EHDI) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	52	52	52	52	42	-10
- New Awards	0	0	0	0	42	+42
- Continuing Award	52	52	52	52	0	-52
Average Award	\$0.136	\$0.116	\$0.127	\$0.127	\$0.187	+\$0.060
Range of Awards	\$0.083-\$0.190	\$0.057-\$0.175	\$0.081-\$0.175	\$0.081-\$0.175	\$0.125-\$0.250	N/A
Total Grant Awards	\$7.800	\$7.036	\$7.767	\$7.767	\$6.700	-\$1.067

¹These funds are not awarded by formula.

Tourette Syndrome

Valuable and impactful discoveries are made about [Tourette Syndrome \(TS\)](#)²³⁶ every year. In addition to directly affecting quality of life for one in 360 children, 86% of children have a co-occurring condition such as ADHD, anxiety disorder, or learning disability that can further complicate their health and wellbeing. CDC conducts research that can lead to measurable improvements in the lives of people with TS. CDC research seeks to improve the understanding of TS prevalence, risk and protective factors, and health risk behaviors, to contribute to measureable improvements in the quality of life among people affected by TS.

In FY 2015, CDC published a new four-year funding opportunity announcement to continue support for the National Public Health Practice and Resource Center on Tourette Syndrome at \$900,000. The Resource Center helps individuals living with Tourette Syndrome by providing health information, education, and consultation to healthcare professionals, people with disabilities, caregivers, media, researchers, policymakers, and the public. As part of a partnership with the newly renamed Tourette Association of America, CDC supports education for parents, healthcare providers, and teachers in the awareness and dissemination of a new, evidence-based behavioral treatment for tics, the Comprehensive Behavioral Intervention for Tics (CBIT).

In FY 2015, CDC also began developing improved screening and diagnostic measures specifically of tics and Tourette syndrome. Once validated in FY 2016, these tools can be used: (1) in surveillance settings to provide more accurate prevalence estimates, (2) in research settings to better characterize the risk and protective factors and inform prevention efforts to improve quality of life, and (3) in clinical settings to promote earlier identification of children with tics and Tourette so they can be connected to effective services.

In FY 2016 and 2017, CDC will continue to conduct research to improve the understanding of TS risk and protective factors and quality of life among people affected by TS. CDC will also continue to support activities within National Public Health Practice and Resource Center on Tourette Syndrome. CDC will also work closely with the Resource Center to develop and implement more strategic outreach efforts in order to reach children, families and adults with Tourette syndrome.

²³⁶ <http://www.cdc.gov/ncbdd/tourette/index.html>

Tourette Syndrome Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	1	1	1	1	1	0
- New Awards	0	0	1	0	0	0
- Continuing Award	1	1	0	1	1	0
Average Award	\$0.781	\$0.800	\$0.900	\$0.900	\$0.900	\$0.000
Range of Awards	\$0.781	\$0.800	\$0.900	\$0.900	\$0.900	N/A
Total Grant Awards	\$0.781	\$0.800	\$0.900	\$0.900	\$0.900	\$0.000

¹These funds are not awarded by formula.

²One funding opportunity announcement supports both the National Public Health Practice and Resource Center on Tourette Syndrome and the National Public Health Practice and Resource Center on ADHD.

Attention Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most common neurological conditions affecting children. CDC is committed to understanding this condition and improving the quality of life of people affected by it. CDC conducts research to improve the understanding of Attention-Deficit/Hyperactivity Disorder (ADHD) to help determine risk factors, identify best treatments, and inform resources to help people living with ADHD.

In FY 2015, CDC awarded a new four-year funding opportunity announcement to continue support for the National Public Health Practice and Resource Center on ADHD at \$850,000. The current [Resource Center](#)²³⁷ focuses on improving the health and quality of life for people with ADHD by developing and providing evidenced-based health promotion programs and health communication and education resources for professionals and the public regarding ADHD. The Center operates a website and a call center with trained staff to answer questions about ADHD.

In FY 2015, CDC began an initiative to increase the alignment between current practice and best practice for young children with ADHD, by working to support the American Academy of Pediatrics' recommendation that children under six years of age with ADHD be treated with behavior therapy first, before trying medication. Behavior therapy gives parents skills and strategies to help their child. It has been shown to work as well as medication for ADHD in young children. In FY 2015 and 2016, CDC is working to raise awareness of behavior therapy among parents and health professionals, increase options for behavior therapy for providers and families, and inform state and local decision-makers about best practices.

In FY 2016 and 2017, CDC will continue its research to improve the understanding of ADHD and identify best treatments, continue to support the National Public Health Practice and Resource Center on ADHD and thereby informing resources that help people living with ADHD. CDC will also work closely with the Resource Center to develop and implement more strategic outreach efforts in order to reach target populations.

²³⁷<http://www.help4adhd.org/>

Attention Deficit Hyperactivity Disorder Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	1	1	1	1	1	0
- New Awards	0	0	1	0	0	0
- Continuing	1	1	0	1	1	0
Award						
Average Award	\$0.779	\$0.800	\$0.850	\$0.850	\$0.850	\$0.000
Range of Awards	\$0.779	\$0.800	\$0.850	\$0.850	\$0.850	N/A
Total Grant Awards	\$0.779	\$0.800	\$0.850	\$0.850	\$0.850	\$0.000

¹These funds are not awarded by formula.²One funding opportunity announcement supports both the National Public Health Practice and Resource Center on Tourette Syndrome and the National Public Health Practice and Resource Center on ADHD.**Project to Learn About Youth (PLAY)**

The [Project to Learn About Youth \(PLAY\)](#) Mental Health (MH) grantees work in collaboration with CDC and other funded awardees for ADHD and Tourette Syndrome (TS) to implement epidemiologic screening and diagnostic procedures targeting children and adolescents with mental disorders (ages 5-17 years). The two continuing two-year awards for the FY 2015 cycle are culminating their scope of work and will end their funding as expected in September 2016. In FY 2016, CDC will continue funding the one new two-year award initiated in FY 2015 to support one of the original PLAY-MH sites to conduct a surveillance project to determine the stability of estimates and quantify population changes over time of the prevalence, treated prevalence, and co-occurrence of ADHD, TS, and children's mental disorders. In FY 2016, CDC will also invest in methodological improvements to community-based surveillance and measurement tools.

In FY 2017, CDC will then be poised to fund two new PLAY-MH sites using those methodological improvements. The goals of PLAY-MH are to describe:

- Overall prevalence and treated prevalence
- Co-occurrence of internalizing, externalizing, and tic disorders in children
- Current and previous receipt of mental health treatment in children with previously diagnosed mental disorders
- Diversion and misuse of psychoactive medications prescribed for the purpose of treating a mental disorder

Project to Learn About Youth (PLAY) Mental Health Grants^{1,2,3}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	2	4	3	1	2	+1
- New Awards	2	2	1	0	2	+2
- Continuing	0	2	2	1	0	-1
Award						
Average Award	\$0.200	\$0.275	\$0.250	\$0.275	\$0.275	\$0.000
Range of Awards	\$0.200	\$0.250-\$0.300	\$0.250	\$0.275	\$0.275	N/A
Total Grant Awards	\$0.400	\$1.100	\$0.750	\$0.275	\$0.550	+\$0.275

¹Funding for these awards is supported by multiple funding lines including ADHD, TS, and Child Development.²<http://www.cdc.gov/ncbddd/adhd/play.html>³These funds are not awarded by formula.

Fragile X Syndrome

Fragile X Syndrome (FXS)²³⁸ is the most common known inherited cause of intellectual disabilities. CDC partners with clinicians, university researchers, and non-profit research foundations to better understand FXS and co-occurring conditions, life course development, and interventions to improve the quality of life for individuals with FXS and their families. CDC works with these partners to describe the current state of the science and identify gaps in knowledge to better inform the public health research agenda for FXS.

In 2015, CDC funded a new award intended to contribute to the understanding of the natural history of fragile X syndrome (FXS) across the lifespan, explore effective strategies to increase participation in the longitudinal database for minority, underserved, and adults living with FXS, and test approaches to measure cognitive and behavioral function in the FXS population. This new funding has three components. Component A coordinates and expands the Fragile X Online Registry With Accessible Research Database (FORWARD) longitudinal database to describe the natural history of FXS across the life span and characterize the impact of interventions and treatments on both health outcomes and quality of life. Component B supports a Data Coordinating Center to manage the receipt, processing, and analysis of patient, caregiver, clinician, and laboratory reported data from clinics participating in the longitudinal database and other data sources. Component C enhances participation in the longitudinal database of minority and underserved populations and tests approaches to measure cognitive and behavioral function in the FXS population.

In 2016, CDC will continue to support related Fragile X activities from the 2015 funding opportunity announcement (FOA). The purpose of the FOA is to contribute to the understanding of the natural history of FXS across the lifespan; explore effective strategies to increase participation of minorities, underserved and adults living with FXS; and test approaches to measure cognitive and behavioral function in the FXS population.

In FY 2017, CDC will continue to support related Fragile X activities from a 2015 funding opportunity announcement (FOA).

Fragile X Syndrome Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	2	1	4	4	4	0
- New Awards	0	0	4	0	0	0
- Continuing Award	2	1	0	4	4	0
Average Award	\$0.375	\$0.550	\$0.190	\$0.190	\$0.190	\$0.000
Range of Awards	\$0.201-\$0.550	\$0.550	\$0.99-\$0.349	\$0.100-\$0.350	\$0.100-\$0.350	N/A
Total Grant Awards	\$0.751	\$0.664	\$0.749	\$0.750	\$0.750	\$0.000

¹These funds are not awarded by formula.

Muscular Dystrophy

The Muscular Dystrophy Surveillance Tracking and Research Network (MD STARnet)²³⁹ is a population-based surveillance system for muscular dystrophies funded by CDC. The original objectives of MD STARnet were to determine: 1) prevalence, 2) early signs and symptoms, 3) types of care received, 4) factors that affect outcome,

²³⁸<http://www.cdc.gov/ncbddd/fxs/index.html>

²³⁹<http://www.cdc.gov/ncbddd/musculardystrophy/research.html>

and 5) needs of quality of life of patients and families with [Duchenne and Becker muscular dystrophies \(DBMD\)](#).²⁴⁰ Since the Network was established, CDC has made several enhancements. In 2011, surveillance was expanded through a pilot study to include seven additional types of muscular dystrophy (MD) (Congenital, Distal, Emery-Dreifuss, Facioscapulohumeral, Limb-Girdle, Myotonic, and Oculopharyngeal). Cases are found and data are obtained through medical records and administrative data sources.

In FY 2014, CDC launched a new funding opportunity announcement and awarded a new cohort of six grantees (three original and three new sites). New sites increase the racial and ethnic diversity in the system. The goals outlined in the funding announcement were to:

- Conduct population-based surveillance, longitudinal follow-up, and public health research for muscular dystrophies and neuromuscular disorder(s)
- Determine prevalence, natural history, healthcare use and costs, and factors that impact outcomes of individuals with the various types of muscular dystrophies
- Share data with stakeholders to improve health and access to care of people living with these conditions
- Evaluate, modify, and document the methodology and infrastructure of the surveillance system
- Conduct pilot studies that investigate specific MD knowledge gaps and share results with participants and stakeholders

In FY 2015, CDC worked with grantees to plan the expansion of data collection to new sites and modify existing databases. Data collection is resuming for DBMD at the end of the fiscal year in all sites.

In FY 2016, CDC and grantees will make further modifications and resume data collection for the other muscular dystrophies. Data collection for the other muscular dystrophies will expand upon the demographic information collected during the pilot. This additional data will enable investigators to address questions about natural history, healthcare use and costs, and impact of demographic factors and care on outcomes. Additionally, a grantee has been awarded funding to research new methods to investigate healthcare costs of individuals with muscular dystrophies in the MD STARnet.

In FY 2017, CDC will continue to support the grantees to conduct population-based surveillance and longitudinal follow-up for muscular dystrophies and neuromuscular disorder(s) to answer public health and clinical research questions.

Update of the Duchenne Muscular Dystrophy (DMD) Care Considerations

CDC funded the first set of comprehensive DMD Care Considerations that were published in 2010. Since their publication, the guidelines have been well-received and widely disseminated by advocacy groups and the DMD community and a family friendly version produced and translated into over 20 different languages. The Care Considerations must be updated periodically to keep abreast of the latest in treatment practices for the condition. CDC is working with Research Triangle Institute (RTI) to convene experts in DMD to update the care considerations and include new topic areas of primary and emergency care, endocrine, transition to adulthood, and adult care. Publication of the updated care consideration is expected in FY 2016.

²⁴⁰<http://www.cdc.gov/ncbdd/musculardystrophy/index.html>

Muscular Dystrophy Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	4	8	9	9	9	0
- New Awards	0	8	1	0	0	0
- Continuing Award	4	0	8	9	9	0
Average Award	\$0.525	\$0.500	\$0.350	\$0.350	\$0.350	\$0.000
Range of Awards	\$0.450-\$0.749	\$0.500-\$0.750	\$0.100-\$0.500	\$0.100-\$0.500	\$0.100-\$0.500	N/A
Total Grant Awards	\$2.100	\$3.210	\$3.185	\$3.185	\$3.185	\$0.000

¹These funds are not awarded by formula.

Spina Bifida including the National Spina Bifida Patient Registry

Each year, about 1,500 babies are born with [spina bifida \(SB\)](#),²⁴¹ [a lifelong condition](#). SB is a condition that affects the spine and is usually apparent at birth, occurring anywhere along the spine when the neural tube does not close all the way preventing the backbone that protects the spinal cord from developing and closing as it should. SB is a complex, disabling condition that has a tremendous impact on individuals and families, from difficulty accessing care to high healthcare costs associated with frequent surgeries and hospitalizations. CDC SB research and programs improve the quality of life of individuals of all ages with SB.

CDC's [National Spina Bifida Patient Registry \(NSBPR\)](#)²⁴² has data on more than 6,000 children and adults who are living with SB from 19 U.S. clinics. Data from the NSBPR:

- Describe the population that attends the SB clinics
- Examine associations between outcomes, interventions, demographic variables, and other factors
- Identify best practices
- Establish measures of quality care
- Compare outcomes among participating clinics

Additionally nine NSBPR clinics are assessing the feasibility of a urologic protocol to preserve kidney function in the young child with SB. This assessment will confirm the diagnostics and use frequency needed to preserve existing kidney function based on how SB has affected the bladder and the kidneys. Newborns are enrolled and will be followed for five years.

In FY 2017, CDC will continue to support efforts to implement electronic medical records (EMR) for people with SB. CDC will also continue to support the new cohort of 14 awardees (awarded in FY 2014), to collect and maintain longitudinal data in the NSBPR. Clinic sites will also participate in research projects aimed at improving patient care and outcomes utilizing the NSBPR data.

²⁴¹<http://www.cdc.gov/ncbdd/spinabifida/index.html>

²⁴²<http://www.cdc.gov/ncbdd/spinabifida/nsbprregistry.html>

Spina Bifida Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	17	14	14	14	14	0
- New Awards	0	14	0	0	0	0
- Continuing Award	17	0	14	14	14	0
Average Award	\$0.070	\$0.072	\$0.072	\$0.072	\$0.072	\$0.000
Range of Awards	\$0.050-\$0.070	\$0.072	\$0.065-\$0.600	\$0.065-\$0.600	\$0.065-\$0.600	N/A
Total Grant Awards	\$1.190	\$1.050	\$1.720	\$1.720	\$1.720	\$0.000

¹These funds are not awarded by formula.

Congenital Heart Defects

Congenital heart defects²⁴³ (CHDs) are conditions that are present at birth and can affect the structure of the heart and the way the heart functions. Collectively, CHDs are the most common type of birth defect. As medical care and treatment have advanced, infants with CHDs are living longer and healthier lives. Most are now living into adulthood. CDC continues to expand work on CHDs through cooperative agreements designed to better understand the survival, healthcare utilization, and longer term outcomes of those affected by CHDs.

In FY 2015, CDC expanded activities in the area of CHDs, especially among adolescents and adults by competitively funding five new awards to improve surveillance across the lifespan, with two of the five sites also conducting a survey among parents of adolescents with CHDs to assess transition from pediatric to adult care. In addition, CDC funded one new award to investigate a cohort of adolescents and adults with CHDs to determine healthcare use, outcomes, costs, and geographic barriers to care, such as examining the effect of travel distance on receipt of care. CDC continues its efforts to conduct a survey of adults with CHD to assess quality of life and long-term outcomes. The new and continuing awards to state health departments, academic sites, or other institutions will:

- Improve understanding of the epidemiology of CHDs across the life span, with emphasis on adolescents and adults
- Improve the lives of those born with a CHD
- Identify barriers to care and factors associated with prognosis among those with CHDs

Funding primarily supports activities to collect, link, and analyze data related to CHDs. CDC will also leverage existing infrastructure to pilot new efforts to assess the potential contribution of electronic health records to congenital heart defect surveillance efforts. In FY 2016, CDC will continue to support the projects initiated in FY 2015 and will complete efforts to estimate the number of individuals in the US of all ages currently living with a CHD.

In FY 2017, CDC will continue to coordinate the multi-site CHD surveillance with a focus on surveillance among adolescents and adults. The surveillance effort will improve our understanding of the epidemiology of CHDs across the life span, age-specific prevalence, and factors associated with dropping out of appropriate specialty care. CDC will also analyze data from a survey among adults with CHDs to gauge quality of life and other long term outcomes. CDC will use linked data from state-based surveillance programs to assess health care use, outcomes, costs, and barriers to care. These combined efforts are designed to improve efforts that will improve the health of those with CHDs throughout their lives.

²⁴³ <http://www.cdc.gov/ncbdd/heartdefects/index.html>

Congenital Heart Defects (CHD) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	4	6	7	7	7	0
- New Awards	0	2	6	0	1	+1
- Continuing Award	4	4	1	7	6	-1
Average Award	\$0.296	\$0.325	\$0.350	\$0.350	\$0.350	\$0.000
Range of Awards	\$0.035-\$0.396	\$0.050-\$0.600	\$0.040-\$0.455	\$0.040-\$0.455	\$0.040-\$0.455	N/A
Total Grant Awards	\$1.184	\$1.952	\$2.448	\$2.448	\$2.448	\$0.000

¹These funds are not awarded by formula.

Public Health Approach to Blood Disorders Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$4.500	\$4.500	\$4.500	\$0.000

Overview

Blood disorders²⁴⁴—including bleeding, clotting, and red blood cell disorders—affect millions of Americans each year. These conditions have serious health consequences and cost billions of dollars in healthcare expenditures annually. There is enormous potential for public health practice to reduce the disease burden and associated healthcare costs. Working with academia, national professional organizations, state and local health departments, and other federal agencies, CDC identifies:

- How often and in what settings blood disorders occur to better understand who is at risk
- Effective prevention strategies
- Ways to reduce complications

CDC develops and promotes education and awareness activities that increase knowledge of the signs and symptoms of blood disorders, improve diagnosis, and increase use of proven treatments that reduce the burden of blood disorders and improve the quality of life for people who have them.

Budget Request

CDC's FY 2017 request of **\$4,500,000** for Public Health Approach to Blood Disorders, is level with the FY 2016 Enacted level. CDC will continue to use funds to invest in activities that improve health outcomes for people with blood disorders. CDC's program focuses on specific disorders (Hemophilia, Venous Thromboembolism, Thalassemia, and Sickle Cell Disease) that present the best opportunity to improve the quality of life for people with blood disorders by reducing healthcare costs, improving health care utilization, maximizing the impact of proven prevention strategies, and continuing to ensure the safety of America's blood supply. CDC will continue to address these critical issues through:

- Data collection and monitoring
- Health promotion and education
- Community outreach
- Primary and secondary prevention

²⁴⁴<http://www.cdc.gov/hcbddd/blooddisorders/index.html>

Public Health Approach to Blood Disorders

Non-malignant blood disorders are becoming a national public health priority, based on accumulating evidence. CDC has embraced the development and implementation of a comprehensive set of public health approaches to promote and improve the health of people with blood disorders. These public health activities seek to use proven interventions for venous thromboembolism (VTE) and hemoglobinopathies to mitigate adverse health effects. Additionally, these approaches attempt to develop and implement interventions that benefit the entire community of people affected by blood disorders. [VTE²⁴⁵](#) is a serious but preventable condition that includes blood clots in the legs and life-threatening clots in the lungs. It affects an estimated one million Americans each year with annual healthcare costs of up to \$10 billion. At least one in 10 of those affected dies, oftentimes before being diagnosed. Almost half of VTEs occur during or soon after a hospital stay or surgery; these are known as healthcare associated VTE (HA-VTE).

Throughout FY 2015, CDC is using lessons learned from these projects to inform what intervention strategies are needed to lower risk and continue efforts to monitor HA-VTE and prevention efforts.

In FY 2015, the National Blood Clot Alliance (NBCA) has worked to identify and fill VTE awareness gaps with existing and new tools, launch a digital and social media awareness campaign to improve patient-healthcare professional dialogue, and mobilize an e-patient brigade to drive grassroots efforts that will expand and sustain the program locally.

In FY 2016 and FY 2017, CDC will use the findings from the VTE pilot projects to fund new, targeted prevention activities that aid in CDC's comprehensive public health approach to preventing morbidity and mortality associated with VTE. CDC will continue the support of the National Blood Clot Alliance (NBCA) and address the Healthy People 2020 [Blood Disorders and Blood Safety focus area](#),²⁴⁶ which includes reducing the number of adults who develop a VTE in hospitals and increasing the proportion of persons with hemoglobinopathies who receive evidence-based recommended treatments to prevent complications.

[Sickle Cell Disease²⁴⁷](#) (SCD) is one of the most common inherited red blood cell disorders. SCD affects 90,000 to 100,000 people in the United States, causing episodes of severe pain, organ damage, serious infections, stroke, and repeated hospitalizations. People with the most severe form of SCD have a life expectancy 20-30 years shorter than people without SCD. It is estimated that up to 80% of hospitalizations for SCD are paid for by public insurance programs like Medicaid or Medicare. An estimated three million additional Americans have [sickle cell trait²⁴⁸](#) (SCT) which means that a person has inherited the sickle cell gene from one of his or her parents. The trait can be passed onto their offspring, putting a new generation at risk for SCD. While SCT is present in diverse ethnic groups, it is most common in blacks and affects one in 12 blacks in the United States.

In an effort to ensure high quality care for individuals affected by SCD and SCT, CDC supports providing technical assistance on the development and implementation of a public health awareness campaign and education program for SCD and SCT to increase knowledge and understanding of sickle cell, encourage everyone to know his or her SCD and SCT status, and provide information about where to get tested.

Healthcare costs associated with blood clots in the U.S. are



²⁴⁵<http://www.cdc.gov/ncbddd/dvt/features/keyfinding-hospitalizations-vte.html>

²⁴⁶http://www.cdc.gov/nchs/healthy_people/hp2020/hp2020_topic_areas.htm

²⁴⁷http://www.cdc.gov/ncbddd/sicklecell/documents/scd-factsheet_what-is-scd.pdf

²⁴⁸http://www.cdc.gov/ncbddd/sicklecell/documents/sicklecelltraitfactsheet_english.pdf

A key to providing high quality care for people with SCD (which is classified as a hemoglobinopathy) is accurate identification because evidence-based recommendations for treatments differ by disease. CDC and the Association of Public Health Laboratories (APHL) are working with newborn screening experts from six state health departments to develop a Hemoglobinopathy Screening Primer that can be used to guide development of hemoglobinopathy screening programs. The primer will be available on CDC's and APHL's websites by the end of FY 2016, and present best practices for methods of specimen collection, screening methodologies, diagnostic algorithms, quality assurance, quality control, and follow-up reporting.

In FY 2017, CDC will continue work to support the analysis and dissemination of SCD data previously collected through our work with state departments of health. These data will inform quality improvement opportunities that are needed to promote and improve the health of persons with SCD.

Public Health Approach to Blood Disorders Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	19	5	4	4	4	0
- New Awards	0	31	3	0	0	0
- Continuing Award	19	2	1	4	4	0
Average Award	\$0.425	\$0.260	\$0.210	\$0.210	\$0.210	\$0.000
Range of Awards	\$0.200-\$3.992	\$0.150-\$0.550	\$0.050-\$0.365	\$0.050-\$0.365	\$0.050-\$0.365	N/A
Total Grant Awards	\$8.112	\$1.300	\$0.842	\$0.842	\$0.842	\$0.000

¹These funds are not awarded by formula.

Hemophilia Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$3.504	\$3.500	\$3.500	\$0.000

Overview

Hemophilia²⁴⁹ is an inherited life-long bleeding disorder that can cause damage to internal organs and chronic joint disease and pain. About 15-20% of people with hemophilia will develop an inhibitor,²⁵⁰ an antibody to the products used to treat or prevent bleeding, making the treatments less effective, increasing hospitalizations, compromising physical functioning and potentially causing a patient's treatment costs to exceed \$1 million a year. Discovering and treating inhibitors early helps improve outcomes and reduce costs.

In FY 2015, the National Hemophilia Foundation (NHF) began planning, developing, and implementing health education and programs for people with hemophilia. Additionally, in FY 2015 the Hemophilia Federation of America (HFA) began developing and implementing programs to positively impact people with hemophilia.

Budget Request

CDC's FY 2017 request of **\$3,500,000** for Hemophilia, is level with the FY 2016 Enacted Level. This funding will continue the support of NHF's health education programs that are designed to prevent joint bleeds and subsequent damage, promote screening for and management of inhibitors, and increase awareness and screening for women who many have an underlying bleeding disorder. Also in FY 2017, CDC will continue to support HFA's programs to increase awareness about and participation in safe physical activities for people with hemophilia, increase the number of people with hemophilia screened for inhibitors, increase referrals to specialty clinics for bleeding disorders, and raise the quality and/or number of comprehensive clinics dedicated to the diagnosis and treatment of women's bleeding disorders.

²⁴⁹<http://www.cdc.gov/ncbddd/hemophilia/data.html>

²⁵⁰<http://www.cdc.gov/ncbddd/hemophilia/inhibitors.html>

Hemophilia Grants^{1, 2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	0	0	2	2	2	0
- New Awards	0	0	0	0	0	0
- Continuing Award	0	0	2	2	2	0
Average Award	\$0.000	\$0.000	\$0.571	\$0.571	\$0.571	\$0.000
Range of Awards	\$0.000	\$0.000	\$0.550–\$0.593	\$0.550–\$0.593	\$0.550–\$0.593	N/A
Total Grant Awards	\$0.000	\$0.000	\$1.143	\$1.143	\$1.143	\$0.000

¹These funds are not awarded by formula.

² In FY 2014 two awards to the National Hemophilia Foundation (NHF) and Hemophilia Federation of America (HFA) were funded under the Public Health Approach to Blood Disorders line. In FY 2015, continuation of these two awards were funded under the Hemophilia line. They are accounted for in the FY 2015, FY 2016, and FY 2017 columns in this Hemophilia grant table.

Hemophilia Treatment Centers Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$5.000	\$5.000	\$5.000	\$0.000

Overview

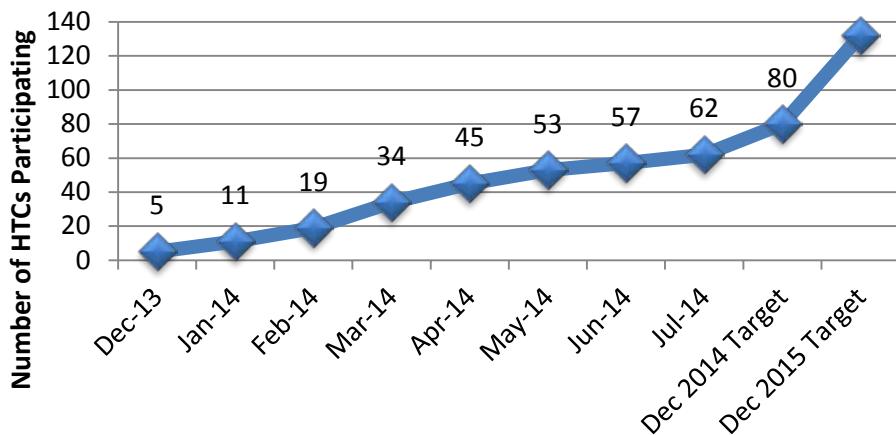
Hemophilia Treatment Centers²⁵¹ (HTCs) are specialized healthcare centers that bring together a team of doctors, nurses, and other health professionals experienced in treating people with hemophilia. In FY 2015, CDC continued funding the American Thrombosis and Hemostasis Network (ATHN) to lead Community Counts!, CDC's Public Health Surveillance for Bleeding Disorders project²⁵² on behalf of the HTCs in the United States Hemostasis and Thrombosis Center Network (HTCN). HTCs participating in the project collect and submit demographic and clinical data and blood samples in order to learn more about common health issues, medical complications, and causes of death that affect people with hemophilia and other bleeding disorders cared for within the network.

In FY 2015, CDC also supported the Registry for Bleeding Disorders Surveillance component of Community Counts! This component was established to collect more detailed clinical information related to bleeding disorders and their impact on patients with hemophilia. Throughout FY 2015, the number of HTCs participating in the Registry continued to increase and CDC anticipated an expansion of this registry in FY 2015 as more HTCs secured institutional approvals and integrated the Registry into their clinic practice. In FY 2015, CDC also continued to fund efforts to collect information on patients with bleeding disorders treated outside of the HTC Network. CDC will continue analyzing the information to better understand healthcare utilization of patients with hemophilia receiving treatment outside of HTCs.

²⁵¹<http://www.cdc.gov/ncbddd/hemophilia/htc.html>

²⁵²<https://athn.org/?q=content/public-health-surveillance>

Number of HTCs Participating in Community Counts! Registry for Bleeding Disorders



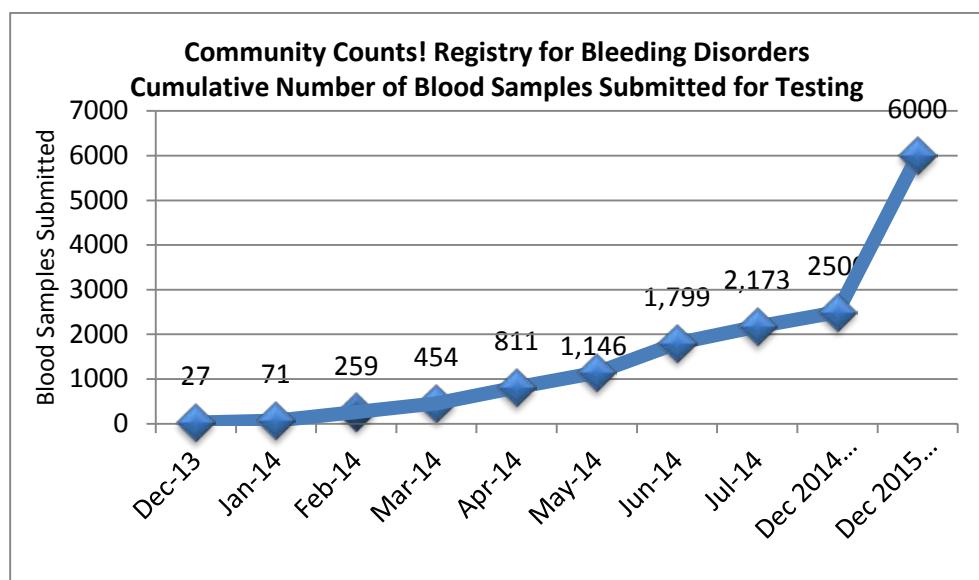
In FY 2016, CDC will begin a new five-year grant to the ATHN in the amount of \$4.3 million that focuses solely on collecting information within the HTC network. The new grant will build upon the already-established Community Counts! infrastructure and increase focus on inhibitors as the most serious complication of hemophilia treatment.

Budget Request

CDC's FY 2017 request of **\$5,000,000** for Hemophilia Treatment Centers, is level with the FY 2016 Enacted level. In FY 2017, CDC will continue to support the collection and submission of demographic and clinical information and blood samples from patients receiving care in the HTCN to CDC's Blood Disorders laboratory for analysis and inhibitor screening.

Laboratory

In FY 2014, CDC's Blood Disorders laboratory began receiving blood samples from patients with hemophilia receiving treatment in one of the participating HTCs. These HTCs are a part of the Registry for Bleeding Disorders component of the CDC-funded American Thrombosis and Hemostasis Network's (ATHN) ["Community Counts! CDC Public Health Surveillance for Bleeding Disorders."](#)²⁵³ The



blood samples are screened for inhibitors and blood-borne infectious diseases and stored for future investigations of treatment complications, infectious transmissions, and product safety issues. In FY 2015, the

²⁵³<http://athn.org/files/ATHN%20CDC%20Flyer%20web.pdf>

number of blood samples submitted and tested increased monthly and will continue to increase in FY 2016 and FY 2017 as more HTCs receive institutional approval to participate in the registry. This long standing support for the national hemophilia treatment network is a critical component of CDC's hemophilia surveillance activities.

In FY 2017, CDC will continue to support hemophilia lab activities by:

- Providing the instrumentation and information technology needed for processing, testing, and storage of blood samples
- Continuing funding for National Hemophilia Foundation's and Hemophilia Federation of America's activities to implement and evaluate health promotion, education, and wellness programs that reduce or prevent complications for people with a bleeding disorder
- Maintaining critical Blood Disorders laboratory staff

Thalassemia Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$2.105	\$2.100	\$2.100	\$0.000

Overview

Thalassemia²⁵⁴ is a group of genetic red blood cell disorders that cause an anemia beginning at birth and lasting throughout life. Thalassemia patients require lifelong blood transfusions, which places them at higher risk for transfusion-related infections and complication that can result in organ failure and early death, such as iron overload and acute lung injury.

In FY 2015, the evidence-base of current standards of care is being identified and assessed, and the Cooley's Anemia Registry is being reviewed to identify missing information and strategies for collecting that information and identifying patients with thalassemia that are not in the Registry. In FY 2015, three new awards with the Children's Hospital and Research Center at Oakland, the University of Florida, and the Association of Public Health Laboratories focus on improving the quality of care that patients receive and decreasing complications leading to enhanced quality of life for hemoglobinopathy patients, and decreasing transfusion-related complications among these individuals.

Budget Request

CDC's FY 2017 request of **\$2,100,000** for Thalassemia, is level with the FY 2016 Enacted level. In FY 2017, this funding will support continuing awards to Georgia State University, University of Florida, Association of Public Health Laboratories, and University of California San Francisco Benioff Children's Hospital Oakland for coordination of projects to improve our understanding and reduce the occurrence of complications associated with therapeutic blood transfusions used to treat people with a red blood cell disorder. In addition, the funding will also support the continuing award to the Cooley's Anemia Foundation for the development of communication strategies and educational tools that improve consumer and provider awareness and knowledge about thalassemia prevention and treatment practices.

Thalassemia Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	8	2	5	5	5	0
- New Awards	0	2	3	0	0	0
- Continuing Award	8	0	2	5	5	0
Average Award	\$0.149	\$0.282	\$0.170	\$0.170	\$0.170	\$0.000
Range of Awards	\$0.050-\$0.300	\$0.100-\$0.470	\$0.030-\$0.470	\$0.030-\$0.470	\$0.030-\$0.470	N/A
Total Grant Awards	\$1.900	\$0.570	\$0.850	\$0.850	\$0.850	\$0.000

¹These funds are not awarded by formula.

²⁵⁴<http://www.cdc.gov/hcbddd/thalassemia/index.html>

State Table: Early Hearing Detection and Intervention¹

	FY 2015 Actual	FY 2016 Estimate	FY 2017 ² Estimate	FY 2017 +/- FY 2016 ²
Alabama	\$147,030	\$147,030	TBD	TBD
Alaska	\$156,933	\$156,933	TBD	TBD
Arizona	\$163,933	\$163,933	TBD	TBD
Arkansas	\$154,440	\$154,440	TBD	TBD
California	\$148,800	\$148,800	TBD	TBD
Colorado	\$157,297	\$157,297	TBD	TBD
Connecticut	\$170,000	\$170,000	TBD	TBD
Delaware	\$137,047	\$137,047	TBD	TBD
Florida	\$145,561	\$145,561	TBD	TBD
Georgia	\$159,909	\$159,909	TBD	TBD
Hawaii	-	-	TBD	TBD
Idaho	\$137,801	\$137,80	TBD	TBD
Illinois	\$169,060	\$169,060	TBD	TBD
Indiana	\$170,000	\$170,000	TBD	TBD
Iowa	\$190,000	\$190,000	TBD	TBD
Kansas	-	-	TBD	TBD
Kentucky	\$166,920	\$166,920	TBD	TBD
Louisiana	\$166,072	\$166,072	TBD	TBD
Maine	\$157,334	\$157,334	TBD	TBD
Maryland	\$146,651	\$146,651	TBD	TBD
Massachusetts	\$156,470	\$156,470	TBD	TBD
Michigan	\$175,000	\$175,000	TBD	TBD
Minnesota	\$130,144	\$130,144	TBD	TBD
Mississippi	\$153,265	\$153,265	TBD	TBD
Missouri	\$140,255	\$140,255	TBD	TBD
Montana	\$154,998	\$154,998	TBD	TBD
Nebraska	\$142,682	\$142,682	TBD	TBD
Nevada	\$132,985	\$132,985	TBD	TBD
New Hampshire	\$164,000	\$164,000	TBD	TBD
New Jersey	\$172,000	\$172,000	TBD	TBD
New Mexico	\$134,144	\$134,144	TBD	TBD
New York	\$156,338	\$156,338	TBD	TBD
North Carolina	\$163,392	\$163,392	TBD	TBD
North Dakota	\$155,703	\$155,703	TBD	TBD
Ohio	\$130,782	\$130,782	TBD	TBD
Oklahoma	\$142,750	\$142,750	TBD	TBD
Oregon	\$162,365	\$162,365	TBD	TBD
Pennsylvania	-	-	TBD	TBD
Rhode Island	\$146,000	\$146,000	TBD	TBD
South Carolina	\$138,804	\$138,804	TBD	TBD
South Dakota	\$138,972	\$138,972	TBD	TBD
Tennessee	\$156,873	\$156,873	TBD	TBD
Texas	\$170,257	\$170,257	TBD	TBD
Utah	\$154,950	\$154,950	TBD	TBD
Vermont	\$150,000	\$150,000	TBD	TBD
Virginia	\$156,274	\$156,274	TBD	TBD
Washington	\$173,602	\$173,602	TBD	TBD
Washington, D.C.	-	-	TBD	TBD
West Virginia	-	-	TBD	TBD
Wisconsin	\$170,791	\$170,791	TBD	TBD
Wyoming	\$141,924	\$141,924	TBD	TBD

CDC FY 2017 Congressional Justification

	FY 2015 Actual	FY 2016 Estimate	FY 2017 ² Estimate	FY 2017 +/- FY 2016 ²
Territories				
America Samoa	\$139,333	\$139,333	TBD	TBD
Guam	\$132,669	\$132,669	TBD	TBD
Marshall Islands	\$81,568	\$81,568	TBD	TBD
Micronesia	\$86,858	\$86,858	TBD	TBD
Northern Marianas	\$122,545	\$122,545	TBD	TBD
Puerto Rico	-	-	-	-
Palau	\$93,175	\$93,175	TBD	TBD
Virgin Islands	-	-	-	-
Subtotal, States	\$7,110,508	\$7,110,508	TBD	TBD
Subtotal, Territories	\$656,148	\$656,148	TBD	TBD
Total	\$7,766,656	\$7,766,656	\$6,700,000	-\$1,067

¹This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

²FY 2017 state award levels to be determined when awards are re-competed.

State Table: Disability and Health Grants^{1,3}

	FY 2015 Actual	FY 2016 Estimate ²	FY 2017 Estimate	FY 2017 +/- FY 2016 ²
Alabama	\$300,000	TBD	TBD	TBD
Alaska	\$300,000	TBD	TBD	TBD
Arizona	-	TBD	TBD	TBD
Arkansas	\$299,943	TBD	TBD	TBD
California	-	-	-	-
Colorado	-	TBD	TBD	TBD
Connecticut	-	TBD	TBD	TBD
Delaware	\$299,992	TBD	TBD	TBD
Florida	\$300,000	TBD	TBD	TBD
Georgia		TBD	TBD	TBD
Hawaii	-	TBD	TBD	TBD
Idaho	-	TBD	TBD	TBD
Illinois	\$300,000	TBD	TBD	TBD
Indiana		TBD	TBD	TBD
Iowa	\$300,000	TBD	TBD	TBD
Kansas		TBD	TBD	TBD
Kentucky	-	TBD	TBD	TBD
Louisiana	-	TBD	TBD	TBD
Maine	-	TBD	TBD	TBD
Maryland	-	TBD	TBD	TBD
Massachusetts	\$300,000	TBD	TBD	TBD
Michigan	\$300,000	TBD	TBD	TBD
Minnesota		TBD	TBD	TBD
Mississippi	-	TBD	TBD	TBD
Missouri	-	TBD	TBD	TBD
Montana	\$300,000	TBD	TBD	TBD
Nebraska		TBD	TBD	TBD
Nevada	-	TBD	TBD	TBD
New Hampshire	\$300,000	TBD	TBD	TBD
New Jersey		TBD	TBD	TBD
New Mexico	-	TBD	TBD	TBD
New York	\$300,000	TBD	TBD	TBD
North Carolina	\$300,000	TBD	TBD	TBD
North Dakota	\$300,000	TBD	TBD	TBD
Ohio	\$300,000	TBD	TBD	TBD
Oklahoma		TBD	TBD	TBD
Oregon	\$300,000	TBD	TBD	TBD
Pennsylvania		TBD	TBD	TBD
Rhode Island	\$300,000	TBD	TBD	TBD
South Carolina	\$299,930	TBD	TBD	TBD
South Dakota		TBD	TBD	TBD
Tennessee	-	TBD	TBD	TBD
Texas	-	TBD	TBD	TBD
Utah	-	TBD	TBD	TBD
Vermont	-	TBD	TBD	TBD
Virginia	-	TBD	TBD	TBD
Washington	-	TBD	TBD	TBD
West Virginia	-	TBD	TBD	TBD
Wisconsin	-	TBD	TBD	TBD
Wyoming	-	TBD	TBD	TBD
Territories				
America Samoa	-	-	-	-

CDC FY 2017 Congressional Justification

	FY 2015 Actual	FY 2016 Estimate ²	FY 2017 Estimate	FY 2017 +/- FY 2016 ²
Guam	-	-	-	-
Marshall Islands	-	-	-	-
Micronesia	-	-	-	-
Northern Marianas	-	-	-	-
Puerto Rico	-	-	-	-
Palau	-	-	-	-
Virgin Islands	-	-	-	-
Subtotal, States	\$5,399,865	TBD	TBD	TBD
Subtotal, Territories	\$0	TBD	TBD	TBD
Total	\$5,399,865	TBD	TBD	TBD

¹This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

²FY 2016 state award levels to be determined when awards are re-competed.

³<http://www.cdc.gov/ncbddd/disabilityandhealth/programs.html>

PUBLIC HEALTH SCIENTIFIC SERVICES

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$481.061	\$491.597	\$464.355	-\$27.242
ACA/PPHF	\$0.000	\$0.000	\$36.276	+\$36.276
Total Request	\$481.061	\$491.597	\$500.631	+\$9.034
FTEs	984	984	984	0
Health Statistics	\$155.397	\$160.397	\$160.397	\$0.000
Surveillance, Epidemiology, and Public Health Informatics	\$273.464	\$279.000	\$283.008	+\$4.008
- Lab Safety and Training (non-add)	N/A	\$5.000	\$10.000	+\$5.000
Public Health Workforce and Career Development	\$52.200	\$52.200	\$57.226	+\$5.026
Public Health Workforce and Career Development, BA	\$52.200	\$52.200	\$20.950	-\$31.250
ACA/PPHF (non-add)	\$0.000	\$0.000	\$36.276	+\$36.276

Summary

CDC's Public Health Scientific Services (PHSS) leads, promotes, and facilitates science standards and policies to reduce the burden of diseases in the United States and globally. In 2014, CDC developed and began implementation of the [CDC's Surveillance Strategy](#)²⁵⁵ with input across CDC programs and external partners. This Strategy aims to improve surveillance, including health statistics, by addressing data availability, system usability, redundancies, and incorporation of new information technologies. Initial areas targeted for improvement include:

- Modernizing the National Notifiable Diseases Surveillance System (NNDSS) so that data reported comply with Health Level 7 (HL7) message standards and create momentum toward more efficient and effective electronic data exchange
- Enhancing national and local syndromic surveillance, linking electronic health record data to cloud-based computing environments with new analytic applications and tools
- Accelerating adoption of electronic laboratory reporting to state and local health departments
- Creating true mortality surveillance systems from vital statistics reporting by accelerating the adoption of electronic reporting of death records

In addition, other activities have focused on reducing the administrative burden to state and local health departments, enhancing informatics innovation, creating vendor forums to promote more effective exchanges between CDC programs and the informatics/data vendor community, and creation of a prototype integrated surveillance system portal. Successful implementation of the Surveillance Strategy will ultimately improve the quality and efficiency of data storage, management, analysis, and visualization by increasing the use of common standards and platforms across the agency and with public health departments. The Surveillance Strategy is also addressing the needs, tools, and composition of the public health workforce for informatics and surveillance by both traditional on-the-job fellowship programs and training-in-place programs for current public health professionals.

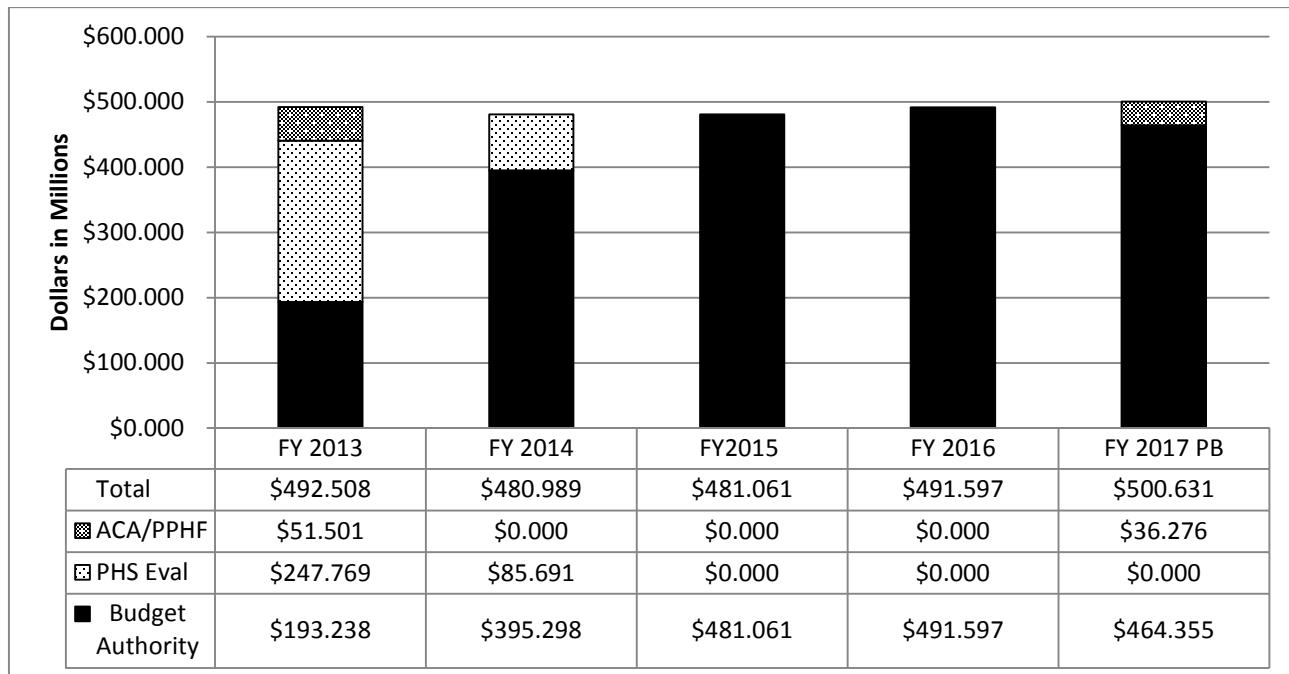
CDC's FY 2017 request of **\$500,631,000** for Public Health Scientific Services, including \$36,276,000 from the Affordable Care Act Prevention and Public Health Fund, is \$9,034,000 above the FY 2016 Enacted level. The FY

²⁵⁵<http://www.cdc.gov/surveillance/>

2017 budget request includes an increase of \$5,000,000 above the FY 2016 Enacted level to continue enhancing laboratory safety and quality at CDC, including the establishment of the Laboratory Leadership Service fellowship program. Recent reviews of CDC's laboratory programs highlighted the need for improvements in the following areas: process and standard operating procedures, facilities, systems and software, and training and education. The FY 2017 Budget also includes an increase of \$5.0 million for Public Health Workforce. At the increased level, CDC will continue to focus on high-priority activities like the Epidemic Intelligence Service (EIS) and the Public Health Associate Program (PHAP), and will strengthen informatics and population health training.

Performance Highlights

- In response to the Ebola outbreak, Laboratory Preparedness training courses saw a 151% increase in successful course completions among global public health and clinical laboratories in FY 2015. More than 4,200 laboratory professionals successfully completed training and qualified for mandated certification necessary to safely package and ship infectious agents such as Ebola.
- In FY 2015, CDC Vital Signs electronic media reach, which includes the [CDC Vital Signs website](#), electronic subscriptions, and social media outlets, was 6.6 million potential viewings, almost doubling the annual year-end goal of 3.9 million. The significant increase in reach was driven by increased traffic to the website, which readers use to access information about each monthly release. During FY 2015, CDC published over 250 MMWR Weekly and Serial publications and increased total electronic media reach by 8% since FY 2013 from 21.4 million to 23.0 million during FY 2015. During the year, MMWR Weekly was also ranked as the number one epidemiology journal by [Google Scholar](#), based on citations, with multiple Vital Signs publications represented among the most often cited MMWR reports.
- During FY 2015, 138 Epidemic Intelligence Service (EIS) officers had an EOC-coordinated deployment for CDC's Ebola response, either domestically or internationally. These 138 EIS officers deployed for a total of 5,798 days during FY 2015.

Public Health Scientific Services Funding History¹

¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Health Statistics Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$155.397	\$160.397	\$160.397	\$0.000

Overview

CDC's [National Center for Health Statistics](#)²⁵⁶ (NCHS) is the nation's principal health statistics agency, producing and analyzing high quality, nationally representative data used to identify emerging health issues and help guide actions and policies to improve health. NCHS uses a variety of data collection mechanisms to obtain accurate information from multiple sources. These data provide a broad perspective to help understand the U.S. population's health, influences on health, and health outcomes.

Budget Request

CDC's FY 2017 request of **\$160,397,000** for health statistics is level with the FY 2016 Enacted level. This level will continue to support expansion of electronic death reporting to provide faster, better quality data on deaths of public health importance, including Prescription Drug Overdose Deaths.

Major Data Collection Systems

Data Collection Systems	Method of Data Collection
National Vital Statistics System	Obtains records from the 57 vital registration jurisdictions (50 states, New York City, Washington, D.C., and five U.S. territories) and analyzes information on the 6.5 million birth, death, and fetal death events occurring in the United States each year.
National Health Interview Survey	Conducts household interviews (usual sample of approximately 35,000 households annually) to obtain data on health status and conditions, disability, access to and use of health services, health insurance coverage, immunizations, risk factors, and health-related behaviors.
National Health and Nutrition Examination Survey	Visits 15 randomly selected counties each year to assess the health and nutritional status of a nationally representative sample of about 5,000 adults and children by conducting household interviews as well as physical examinations and laboratory tests in mobile examination centers.
National Health Care Surveys	Collects information from health care providers about their organizational structure, the services rendered, and the patients served.

National Vital Statistics System

The [National Vital Statistics System](#)²⁵⁷ (NVSS) provides key information on the U.S. population, including teen childbearing, preterm birth, infant mortality, life expectancy at birth, and the leading causes of death. These critical indicators of well-being are calculated using information from the birth and death certificates filed with

²⁵⁶<http://www.cdc.gov/nchs>

²⁵⁷<http://www.cdc.gov/nchs/nvss.htm>

the 57 vital registration jurisdictions and sent to CDC, where they are compiled into the NVSS. CDC continually collaborates with the vital registration jurisdictions to improve timeliness, quality and usability of vital statistics data to allow prompt identification of problems and evaluation of public health programs and policies. Following CDC support of the expansion of electronic birth registration systems in vital registration jurisdictions in FY 2012 and FY 2013, the efficiency of the collection and analysis of birth data improved. CDC released preliminary 2014 U.S. birth data in June 2015, half the time it took to release 2009 birth data. Among other points, these data showed that the preterm birth rate fell for the eighth year in a row to 9.57%, providing timely data to states and other public health partners for planning and evaluating efforts to improve maternal and infant health.

Further improvements in quality and timeliness of birth data will be realized in 2016 when all 50 states and Washington, D.C. will have adopted the 2003 Revisions of the U.S. Standard Certificate of Live Birth. Nationwide adoption will finally allow for national level estimates on topics of interest to the healthcare community such as the body mass index of the mother at the time of birth, breastfeeding initiation within the first few days of infancy, and source of payment for the delivery. Nationwide adoption of a consistent format will speed the processing of birth data even further than what was achieved with 2014 data.

Progress with electronic death registration system (EDRS) coverage is slower because of complexities related to linking multiple data providers (e.g., funeral homes, physicians, medical examiners, coroners, local and state health departments) involved in the registration of the deaths. Widespread EDRS use would allow for:

- Faster reporting of final annual mortality data
- Real-time surveillance of deaths of public health importance
- More timely inclusion of death records into the National Death Index for health services research
- Quick matching with birth certificates, assuring that birth certificates of people who recently died are not issued to others for fraudulent purposes
- Improved quality of data on prescription drug overdose deaths

In FY 2017, NCHS, in partnership with National Association for Public Health Statistics and Information Systems (NAPHSIS), the organization representing state vital records organizations, will continue efforts to improve coverage and participation of vital registration jurisdictions in electronic death reporting. These efforts are part of the greater CDC Surveillance Strategy, and will allow for faster access to and improved quality of data on deaths of public health importance, including drug overdose deaths. As of July 2015, 46 of the 57 vital registration jurisdictions have an operational EDRS.²⁵⁸ Of those jurisdictions with a system in place, many still have low numbers of records filed electronically and capture incomplete information on the cause of death. As of March 2015, only 15 states complete 80% or more of death records in their EDRS.²⁵⁹ In the first half of 2015,

only four states were able to transmit at least 80% of their death records to NCHS within 10 days of the date of the death. Since FY 2013, 24 states have been funded by CDC and other sources such as the Patient Centered Outcomes Research Trust Fund to improve physician participation with their EDRS, thereby enhancing the timeliness and quality of their data. In FY 2016, CDC plans to fund 11 states with an existing EDRS to improve time to completion of death information and transmission of

Timely Release of Mortality Data

In recent years it has taken up to two years to release mortality data. Following CDC efforts to improve EDRS use, 2013 and 2014 mortality data were released within one year, a major achievement for the NVSS.

records to CDC. Progress has been seen with about 28% of mortality records in 2014 received within 10 or less days of the death, compared to 14% in 2012 and only 7% in 2010. Increased support in FY 2016 will be used to further the implementation of EDRS to those remaining jurisdictions without such systems with the

²⁵⁸Retrieved November 18, 2015 from <http://www.naphsis.org/systems/#EDRS>

²⁵⁹National Association for Public Health Statistics and Information Systems.

development of a generic system for these jurisdictions that incorporates the latest standards and best practices for reporting. A modular form or system is anticipated, using protocols and guidelines that include the capture of prescription drug overdose deaths. The Validation and Interactive Web Service (VIEWS) system will be extended to query physicians in a real-time mode about the adequacy of the information being recorded on the death certificate regarding prescription drug overdose. FY 2017 will see continued efforts between NCHS and NAPHSIS to improve coverage and participation of data providers for electronic death reporting in the vital registration jurisdictions. Information on processes and practices of reporting from medical examiners and coroners for causes of death that have additional reporting requirements, such as drug overdose deaths, will increase our understanding of jurisdictional variability and help inform the development of approaches to reduce delay and improve reporting.

In November 2015, the Public Health Informatics Institute and CDC held a summit for vital statistics registration stakeholders, including states, professional associations, and academia, to discuss next steps in electronic death registration. For those states without a system, the barriers to implementing a system include not only the funds to buy software and equipment, but also the lack of technical capacity to consistently operate such a system. States with existing systems are confronting their own barriers as early systems are aging. The outcome of these discussions prompted CDC to examine the feasibility of a next-generation EDRS that operates as a cloud-based system, eliminating the need for states without a system to purchase and operate using their own equipment and software. In FY 2016 and FY 2017, CDC will continue to seek input from stakeholders on moving toward the next-generation EDRS with aims to improve system efficiency and decrease burden on the vital registration jurisdictions.

These efforts to improve the timeliness of jurisdiction reporting and to modernize the national vital statistics infrastructure are transforming the NVSS into a near real-time surveillance system. Following a highly successful pilot of an NVSS based Pneumonia & Influenza Mortality Surveillance system during the 2014-2015 influenza season, CDC will begin a two-year phase out and shutdown of the 122 Cities Mortality Reporting System for the 2015-2016 influenza season and transition to reliance on NVSS. The NVSS covers 100% of U.S. deaths, a major advantage over the 122 Cities Mortality Reporting System that only covered about 25% of deaths. The new [NCHS mortality surveillance capability](#)²⁶⁰ efficiently builds on the existing NVSS and provides near real-time access to all death certificate data sent to NCHS by states, providing new opportunities for more frequent (e.g., daily) and more geographically detailed estimates of pneumonia and influenza mortality. Building on this mortality surveillance capability, a new reporting practice initiated in 2015 will continue to be released in FY 2017: quarterly provisional mortality estimates that permit prompt monitoring of the 15 leading causes of death plus estimates for deaths attributed to other causes, such as drug overdose, falls (for persons aged 65 years and over), human immunodeficiency virus (HIV) disease, and homicide.²⁶¹ CDC will continue developing the NVSS role in disease surveillance in FY 2017, with the goal of identification and tracking of selected public health events within hours after mortality records are received.

National Health Interview Survey

In FY 2017, CDC will conduct the [National Health Interview Survey](#)²⁶² (NHIS)—the nation's principal health survey for almost 60 years. Data collected through personal household interviews in the NHIS have been instrumental in tracking health status, healthcare access, and giving the public health community and policy-makers insight on progress toward achieving national health objectives. Among researchers, the survey is perceived as the gold standard of health surveys.

²⁶⁰<http://www.cdc.gov/flu/weekly/nchs.htm>

²⁶¹<http://www.cdc.gov/nchs/products/vsrr.htm>

²⁶²<http://www.cdc.gov/nchs/nhis.htm>

The NHIS provides CDC and HHS, as well as public health partners and researchers, valuable insight into the population's behavior related to health and health care use. For example, CDC used the 2014 NHIS to analyze disparities in health care access and utilization despite increases in insurance coverage. [CDC found that while there were significant decreases in the percentage uninsured in 2014](#),²⁶³ Hispanic adults aged 18-64 were still more likely than non-Hispanic adults to have difficulty accessing and using health care. Findings from the 2013 NHIS [revealed that adults aged 18-64 were nearly twice as likely as adults aged 65 and over to have not taken their medication as prescribed in order to save money](#).²⁶⁴ In addition, uninsured adults were more likely than those with Medicaid or private coverage to have not taken their medications as prescribed to save money.

NHIS also provides essential data to support a number of CDC activities and programs. For example, CDC continues to explore the public health impacts of emerging products, such as e-cigarettes. In 2013 the NHIS added questions on e-cigarettes that will help CDC monitor national trends in use, especially in conjunction with traditional tobacco products. In October 2015 the first NHIS estimates of e-cigarette use among U.S. adults were published. In 2014, among adults who had never smoked cigarettes, 3.2% had ever tried an e-cigarette; ever having used an e-cigarette was highest among never smokers aged 18-24 (9.7%) and declined with age.²⁶⁵ Further, the NHIS program is collaborating with the Food and Drug Administration's Center for Tobacco Products and the National Institutes of Health's (NIH) National Cancer Institute to align these and other survey measures of tobacco and tobacco products, thereby enhancing the value of these data throughout HHS.

As CDC continues to advance strategies to support cancer prevention and control, the NHIS will provide critical information to support CDC's surveillance and monitoring and inform efforts to reduce the burden of cancer morbidity and mortality. CDC and NIH collaborated to include a survey supplement on cancer in the 2015 NHIS. Data from this NHIS cancer supplement will be released in 2016 and will facilitate in-depth research on the occurrence of cancer, lifestyle, family history, and cancer screening. Additional data from the core NHIS on health insurance coverage will provide essential information on access to care and use of services.

In the area of cancer screening, CDC supports efforts to increase screening, reduce premature death, and eliminate health disparities, and the NHIS provides the robust information critical for monitoring changes over time. Findings from the NHIS on colorectal cancer screenings were published in the August 2015 [MMWR QuickStats](#), providing CDC with longitudinal data on colon cancer screenings by race and ethnicity. Information from the NHIS supports CDC's efforts to monitor health disparities in cancer screenings and can inform the development of new programs and policies.

The NHIS continues to serve as an efficient platform for collection of data used across federal agencies. The Agency for Healthcare Research and Quality relies upon the NHIS to draw its sample for the Medical Expenditure Panel Survey, which provides detailed information on costs for medical care, including out-of-pocket costs. CDC and HHS surveys use the NHIS as a benchmark for comparison, and the state level data are particularly valuable as a standard for programs using state data. CDC will use evidence from the NHIS that the uninsured are more likely to forgo prescribed medications and less likely than the insured to obtain recommended health care services to improve program outreach and intervention.

In 2014, CDC successfully expanded the NHIS sample size from 35,000 to approximately 44,550 households (supported by FY 2013 PPHF). As a result, the 2014 NHIS was the only national health survey able to produce statistically reliable [health insurance coverage estimates in all 50 states](#) and Washington, D.C., compared to only 20 states without the sample increase.

CDC is continuously working to ensure the NHIS remains relevant and useful. Following the implementation of a new, more flexible sampling method in 2016, in FY 2017, CDC will further improve NHIS efficiency by redesigning

²⁶³<http://www.cdc.gov/nchs/data/databriefs/db208.pdf>

²⁶⁴<http://www.cdc.gov/nchs/data/databriefs/db184.pdf>

²⁶⁵<http://www.cdc.gov/nchs/data/databriefs/db217.htm>

the questionnaire for the 2018 NHIS. This redesign will streamline the survey and reduce burden on the respondent. Further, it will update the survey's content to ensure it remains relevant while maintaining its ability to monitor trends.

National Health and Nutrition Examination Survey

CDC will conduct the [National Health and Nutrition Examination Survey](#)²⁶⁶ (NHANES) in FY 2017. By combining household interviews with physical examinations and laboratory tests, NHANES collects the only nationally representative data on the prevalence of both diagnosed and undiagnosed conditions in the population, including diabetes, hypertension, and high cholesterol. The 2017-2018 NHANES will continue to oversample non-Hispanic Asian persons, using a sampling method started in 2011 to address the scarcity of health information on this population. This updated survey design is crucial to the complete investigation of racial and ethnic health disparities, as the Asian-American population has grown by more than 40% in the last decade, and now constitutes about 5% of the U.S. population.

CDC and other federal agencies, including NIH and USDA, rely on NHANES to provide measurements for targeting resources and planning and evaluating programs. The flexibility of the NHANES design continues to lend itself to adding content to provide periodic population-level measurements for a variety of health topics as well as emerging topics of public health importance. For example, CDC and NIH successfully collaborated to add an oral health assessment conducted by trained dentists to the 2011-2012 NHANES. The assessment adds to knowledge of the state of oral health in the United States for [children](#)²⁶⁷ and [adults](#),²⁶⁸ including findings that:

- Untreated tooth decay in primary teeth among children aged 2-8 was twice as high for Hispanic and non-Hispanic black children compared with non-Hispanic white children
- Nine of 10 adults aged 20-64 had dental caries
- About one-quarter of adults aged 20-64 had untreated tooth decay

In addition, NHANES data have been instrumental in providing a complete picture of opioid use among population subgroups. [During 2007-2012](#),²⁶⁹ the use of opioid analgesics was higher among women than men. Also, the use of opioid analgesics was higher among non-Hispanic white adults compared with Hispanic adults.

Further, in 2015 [updated tables](#)²⁷⁰ were reported on an ongoing assessment using biomonitoring of the exposure of the U.S. population to environmental chemicals. The report provides new data for some metals, phthalates, and volatile organic compounds (VOCs).

National Health Care Surveys

The [National Health Care Surveys](#)²⁷¹ are a family of nationally representative provider-based surveys covering a broad spectrum of health care settings. Within each setting, data are collected from a national sample of organizations that provide care (such as home healthcare agencies, inpatient hospital units, or physician offices). Within sampled organizations, data are collected from individual patient encounters. The National Health Care Surveys answer questions about:

- Use of health care resources

²⁶⁶<http://www.cdc.gov/nchs/nhanes.htm>

²⁶⁷<http://www.cdc.gov/nchs/data/databriefs/db191.pdf>

²⁶⁸<http://www.cdc.gov/nchs/data/databriefs/db197.pdf>

²⁶⁹<http://www.cdc.gov/nchs/data/dataBriefs/db189.pdf>

²⁷⁰<http://www.cdc.gov/exposurereport/#>

²⁷¹<http://www.cdc.gov/nchs/dhcs.htm>

- Quality of health care
- Disparities in health care services provided to population subgroups

In FY 2017, CDC will conduct the [National Hospital Care Survey](#)²⁷² (NHCS) by obtaining data from administrative sources on inpatient discharges. In addition, sampled hospitals will provide data on visits to emergency rooms, outpatient departments, and ambulatory surgery locations. The emergency department component of the NHCS will obtain data on drug-related emergency department visits using data elements from the Drug Abuse Warning Network (previously conducted by the Substance Abuse and Mental Health Services Administration). The Office of the Secretary and the Centers for Medicare and Medicaid Services included the National Hospital Care Survey as a mechanism by which providers may get credit for Meaningful Use, Stage 3 in the proposed rule published March 30, 2015.

In FY 2017, CDC's [National Ambulatory Medical Care Survey](#)²⁷³ (NAMCS) will continue to collect data on care provided in physician offices and community health centers. The National Electronic Health Records Survey,²⁷⁴ started in 2008 as a supplement to the NAMCS, will continue to provide information on the adoption of electronic health records (EHRs) in ambulatory settings. Data from this survey have captured the increase in physician use of EHRs since implementation of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009. NAMCS data have been critical in supporting the Centers for Medicaid and Medicare Services and Office of the National Coordinator for Health Information Technology rule for Meaningful Use, both for Stage 2 and Stage 3 of the incentive program.

As use of EHR systems grows, CDC is developing the capability to receive data from the EHR for the NHCS and NAMCS, thus reducing data collection burden on physicians and hospitals while also improving data quality and timeliness. Building on work that began in 2014, CDC will continue to develop and test procedures to collect data from hospital emergency departments' EHR systems. CDC continues to work with EHR vendors to develop approaches and alternatives for hospital reporting.

In FY 2017, CDC will release data from the 2016 wave of the [National Study of Long-Term Care Providers](#) (NSLTCP).²⁷⁵ Using surveys of approximately 11,500 residential care communities and 5,000 adult day services centers along with administrative data collected from home health agencies, nursing homes, and hospices, the NSLTCP provides nationally representative statistical information about the supply and use of paid, regulated, long-term care providers. In FY 2015, CDC released the second wave of NSLTCP data (collected in 2014) and accompanying reports, providing information useful for national and state planning and resource allocation for the aging population.

Physician Acceptance of New Patients

The National Electronic Health Records Survey data show that, in 2013, the percentage of physicians accepting new Medicaid and Medicare patients was lower for physicians within metropolitan statistical areas (MSAs) compared with physicians outside of MSAs. By state, the percentage of physicians who accepted new Medicaid patients ranged from 38.7% in New Jersey to 96.5% in Nebraska.

²⁷²<http://www.cdc.gov/nchs/nhcs.htm>

²⁷³<http://www.cdc.gov/nchs/ahcd.htm>

²⁷⁴<http://www.cdc.gov/nchs/data/databriefs/db195.pdf>

²⁷⁵<http://www.cdc.gov/nchs/nsltcp.htm>

Survey Design, Data Analysis, and Dissemination

CDC continues to conduct statistical research to improve methods of data collection and analysis. In FY 2017, CDC will evaluate and improve its data collection processes through its [Questionnaire Design Research Laboratory](#),²⁷⁶ a laboratory that develops and tests survey instruments for CDC and other federal agencies, thereby improving the reliability and validity of federal surveys. CDC also conducts methodological work focused on gaps in availability of reliable estimates for smaller geographic areas, including the development and evaluation of [small-area estimation techniques](#),²⁷⁷ such as incorporating auxiliary data to enhance small-area estimation for CDC survey outcomes. Regional variation and geographical context for health outcomes are of interest to researchers and state and local health professionals. To further the field of research and methods in health statistics, NCHS announced a new small grant program in FY 2015, inviting investigator-initiated research grant applications for projects involving the development and testing of statistical and survey methodology relevant to the conduct, analysis, and reporting of health surveys and vital records. If successful, NCHS will continue the program in future fiscal years. The [Research Data Center](#)²⁷⁸ will continue to provide access to confidential CDC data, including state and other geographical identifiers to answer research questions using contextual data for smaller geographical areas. After thorough review of a proposal to ensure confidentiality of survey respondents, researchers can conduct analyses that go beyond information presented in standard health statistics reports.

Who Uses NCHS Data?

- **Policymakers**—to track implementation of health policies and programs, set priorities for research and prevention programs, and evaluate outcomes
- **Epidemiologists and researchers**—to understand trends in health, health care delivery, risk factors, and outcomes
- **Businesses**—to support health-related activities of manufacturing, marketing, and consulting firms and trade associations
- **Public health professionals**—to identify and monitor health problems, risk factors, and disease patterns, and to evaluate interventions
- **Physicians**—to evaluate health and risk factors of their patients (such as norms for cholesterol, body weight, blood pressure, and children's growth)
- **Media and advocacy groups**—to obtain accurate information for use in raising awareness of health issues

CDC continues to build on its core data collections through [linkage with other data sets](#),²⁷⁹ maximizing the scientific value of the Center's population-based surveys. Through linkage of CDC survey data with data from administrative records and other surveys, researchers can study the relationship between health status, health risk behaviors, health care utilization, and health outcomes.

CDC will continue to provide statistical and analytic expertise for [Healthy People 2020](#)²⁸⁰ in FY 2017. These activities include integrating data from across the federal government on national health objectives for the decade; harmonizing measurement with other federal health monitoring efforts such as the National Prevention Strategy and National Quality Strategy; and advancing methodologies for measuring health disparities and

²⁷⁶<http://www.cdc.gov/qdrl/>

²⁷⁷<http://www.copafs.org/UserFiles/file/seminars/2012FCSM/Session06PavlinaRumchevaFCSMpresentation.pdf>

²⁷⁸<http://www.cdc.gov/rdc/>

²⁷⁹http://www.cdc.gov/nchs/data_access/data_linkage_activities.htm

²⁸⁰http://www.cdc.gov/nchs/healthy_people/hp2020.htm

improvements over time. About 40% of Healthy People 2020 objectives are measured using data from NCHS surveys

CDC will continue to promote access and data sharing by making public-use data files and statistical reports easily accessible in a timely manner. CDC is exploring how to create graphics that go beyond the static figures of NCHS reports and allow users to tailor the display to fit their needs. The NCHS Data Visualization Gallery,²⁸¹ launched in FY 2015, presents users with charts and maps to display, in some cases, up to 100 years of vital statistics data, in a visual way that fits their needs. In FY 2015, CDC held the [National Conference on Health Statistics](#),²⁸² connecting 949 attendees from federal, state, and local governments, non-profits, businesses, universities, and the health care sector to the latest information on NCHS surveys and data collection systems, as well as hands-on training in accessing and analyzing survey data.

12.15 Million Visits to the NCHS Website

In FY 2014, the NCHS website received 12.15 million visits, connecting researchers, policy makers, and other users to data and reports on a variety of health and health-related topics.

Each year, CDC produces [Health, United States](#),²⁸³ the Secretary's Report to Congress on the health of the nation, providing an overview of trends related to health status and its determinants, healthcare, and health insurance. In recognition of the 50th anniversary of Medicare, *Health, United States 2014* included a special feature on adults 55-64 years old, those born during the height of the Baby Boom and who will become Medicare eligible over the next 10 years. The feature compares their health to those who were 55-64 years old a decade ago.

Those 55-64 are entering a period of life increasingly influenced by chronic conditions, which are the leading causes of death and disability in the United States. *Health, United States 2015*, to be released in 2016, will include a special feature on health disparities, in commemoration of the 30th anniversary of the Secretary's Report on Black and Minority Health (known as the Heckler Report).

As the principal statistical agency responsible for monitoring the health of the nation, NCHS collaborates with the other federal statistical agencies on the Federal Interagency Forum on Aging-Related Statistics (the Aging Forum) and the Federal Interagency Forum on Child and Family Statistics (the Children's Forum). In FY 2015, NCHS, as the lead agency on the Planning Committee coordinated the publication of [America's Children: Key National Indicators of Well-Being, 2015](#).²⁸⁴ The report presents a set of key indicators that measure important aspects of children's lives and are collected regularly, reliably, and rigorously by a number of federal agencies. These forums were cited in the July 2015 OMB memorandum, [Improving Statistical Activities through Interagency Collaboration](#).²⁸⁵ The forums were put forth as prominent examples of collaboration that have substantially improved the collection and dissemination of statistics by adopting a comprehensive, common federal approach, rather than relying on stove-piped releases of information from each office.

On-line access systems provide quick access to key health data as well as tools that allow users with varying analytic skills to customize and display data in the way that fits their needs. Examples include:

- [FastStats A to Z](#)²⁸⁶ provides quick access to statistics and associated web links and pre-tabulated tables on topics of public health importance, including diseases, health-related behaviors, injuries,

²⁸¹<http://blogs.cdc.gov/nchs-data-visualization/>

²⁸²<http://www.cdc.gov/nchs/events/2015nchs/presentations.htm>

²⁸³<http://www.cdc.gov/nchs/hus.htm>

²⁸⁴<http://www.childstats.gov/americaschildren/index.asp>

²⁸⁵<https://www.whitehouse.gov/sites/default/files/omb/memoranda/2015/m-15-15.pdf>

²⁸⁶<http://www.cdc.gov/nchs/fastats/>

health care, and health insurance. In FY 2015, CDC released a new FastStats A to Z mobile application to make it easier than ever to find the latest health statistics.

- [Health Data Interactive](#)²⁸⁷ provides tables with national health statistics for infants, children, adolescents, adults, and older adults.
- [Health Indicators Warehouse](#)²⁸⁸ serves as the federal data hub for national, state, and community health indicators and data.

Selected 2015 NCHS Data Products

For data users seeking to...	Product
Explore changes in the birth rate for the nation, teenagers, and unmarried women	Births in the United States, 2014 ²⁸⁹
Conduct analyses of the impact of various demographic characteristics on life expectancy or mortality	2014 Mortality Multiple Cause Files ²⁹⁰
Examine health disparities in access to care and use of services	Health Care Access and Utilization Among Adults Aged 16–64, by Race and Hispanic Origin: United States, 2013 and 2014 ²⁹¹
Explore trends in access and use of care, serious psychological distress, asthma, diabetes, and other conditions	Early Release of Selected Estimates Based on Data from the 2014 National Health Interview Survey ²⁹²
Learn the number of American homes with only wireless telephones for designing telephone-based surveys	Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January–June 2015 ²⁹³

²⁸⁷<http://www.cdc.gov/nchs/hdi.htm>

²⁸⁸<http://healthindicators.gov/>

²⁸⁹http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_06.pdf

²⁹⁰http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm

²⁹¹<http://www.cdc.gov/nchs/data/databriefs/db208.htm>

²⁹²<http://www.cdc.gov/nchs/nhis/released201506.htm>

²⁹³<http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201512.pdf>

Surveillance, Epidemiology, and Public Health Informatics Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$273.464	\$279.000	\$283.008	+\$4.008
- <i>Lab Safety (non-add)</i>	N/A	\$5.000	\$10.000	+\$5.000
ACA /PPHF	\$0.000	\$0.000	\$0.000	\$0.000
Total	\$273.464	\$279.000	\$283.008	+\$4.008

Overview

CDC's public health scientific services provide expertise in public health surveillance systems and informatics, epidemiologic analysis, and laboratory standards and services. CDC supports public health science through various surveillance systems, using external sources of information, and sharing best practices in collecting, managing, and using information among CDC programs and the public health community.

During FY 2015, CDC added functionality to Epi Info™ outbreak investigation software. The design provides health departments rapid data collection using mobile devices, an interface for analyzing and visualizing multiple data sets from their organizational databases, and integration with cloud infrastructure that provides more flexibility and scalability for disease outbreak data collection. CDC also provided critical epidemiological data and recommendations for solving public health problems to over 250,000 clinicians, epidemiologists, laboratorians, and other public health professionals through an extensive network of electronic communication channels for the Morbidity and Mortality Weekly Report (MMWR). In support of CDC Laboratory Safety initiatives, CDC initiated the development of a portfolio of 20 new laboratory biosafety courses.

Budget Request

CDC's FY 2017 request of **\$283,008,000** for Surveillance, Epidemiology, Informatics, and Laboratory Science, is \$4,008,000 above the FY 2016 Enacted level.

Laboratory Science and Safety

CDC is committed to continuous improvements in laboratory science and safety, as well as the quality of its public health laboratory services. The Office of the Associate Director for Laboratory Science and Safety (OADLSS) was established to provide oversight of CDC's laboratory programs and will implement the following enhancements:

- Standardized, electronic document tracking and control systems for efficient review of laboratory safety procedures
- Enhanced software for reporting, tracking, and analysis of data related to laboratory incidents
- Centralized calibration of laboratory equipment to meet quality standards and improve efficiencies and cost savings
- Updated tools for delivery and tracking of laboratory safety training for CDC staff

In October 2015, the CDC Advisory Committee to the Director's (ACD) External Lab Safety Workgroup report assessed CDC's response to the Workgroup's 2014 recommendations for improving safety in CDC labs. The report recognized that substantial progress has been made, acknowledging that culture change is a long and continuous process, and provided additional recommendations for further improvements, in which CDC has begun addressing.

The External Lab Safety Workgroup report noted these 2015 milestones:

- Appointed the Associate Director for Laboratory Science and Safety and stood up the office to have a single point of accountability.
- Obtained input from lab staff, internal and external workgroups, and moving forward with their recommendations.
- Established a laboratory safety review board to conduct safety reviews of lab protocols for work in BSL-3 and BSL-4 labs.
- Standardized procedures for inactivation and verifying the sterility of any materials including dangerous germs for all labs before they are transferred to lower levels of containment.
- Expanded biosafety training at CDC including a course to assess the risks related to lab work.
- Implemented enhanced procedures for prompt notification of lab incidents to CDC leadership and staff.
- Worked across teams within CDC to collect all notification information in one location to look for patterns in incident reporting and fix problems.
- Established a new fellowship program to grow managers in biosafety and laboratory processes.
- Exploring external accreditation of CDC labs to implement the strongest possible quality management systems.
- Created a recognition program for lab staff who go above and beyond to improve safety.

CDC has also made progress on lab training, making it a fundamental mission for the Agency. Recent milestones include:

- Established a core safety training curriculum through the Associate Director for Laboratory Science and Safety (OADLSS).
- Formed the Laboratory Leadership Service (LLS) in 2014 as a program designed to train scientists to serve as leaders and safety professionals. The fellowship combines core public health laboratory competency-based coursework with practical, applied research and service. The first class of fellows began their two-year commitment on July 1, 2015.
- Made concentrated efforts to house responsibilities and facilities for laboratory safety training within the agency through the OADLSS.
- Established the Laboratory Safety Training Board to review laboratory safety training materials for regulatory compliance and best practices. This chartered group serves as the governing body for CDC's laboratory safety training curriculum.

The FY 2017 budget request includes an increase of \$5,000,000 above the FY 2016 Enacted level. Recent reviews of CDC's laboratory programs highlighted the need for improvements in process and standard operating procedures, facilities, systems and software, training, and agency-wide communication.

The FY 2017 request will continue to enhance the critical work underway at CDC to improve lab science and safety through:

- The purchase of lab safety equipment
- Support for coordinated and timely reporting of incidents and near misses
- New tools and resources to continue the awareness of CDC's culture of lab safety
- Access to public health data to inform decision-making
- Development of new methods to improve lab quality and timeliness
- Additional training courses for specialized areas

Surveillance

CDC's public health surveillance and informatics program strengthens the quality and utility of public health surveillance and the ability of state and local public health departments to benefit from and manage advances in electronic health information. The PHSS Budget line funds:

- Two major CDC surveillance systems (Behavioral Risk Factor Surveillance System and the National Notifiable Diseases Surveillance System)
- Operational support for the National Syndromic Surveillance Program and BioSense Platform (funded through the Public Health Preparedness and Response budget line)
- Countermeasures Tracking System management and support
- Public Health Information Network applications

Surveillance Systems and Applications

Surveillance Systems and Applications	Examples of Activities
Behavioral Risk Factor Surveillance System (BRFSS)	Funds states and territories to collect information on the health status, risk behaviors, and use of preventive health services among adult populations, providing state and local-level data.
National Notifiable Diseases Surveillance System (NNDSS)	Enables all levels of public health (federal, state, local, territorial, and international) to share health information to monitor, control, and prevent the occurrence and spread of state-reportable and nationally notifiable infectious and some non-infectious diseases and conditions.
National Syndromic Surveillance Program (NSSP) ²⁹⁴	Funds operations assisting states and localities in increasing use of public health syndromic surveillance to efficiently, rapidly, and collaboratively monitor and respond to harmful health effects of exposure to disease or hazardous conditions. The National Syndromic Surveillance Program is funded through the Public Health Preparedness and Response budget line.
Countermeasures Tracking System (CTS)	Provides federal, state, and local public health agencies the capability to track usage and manage inventory of countermeasures and medical equipment during both day-to-day operations and responses to public health emergencies.
Secure Messaging Transport Services for Public Health	Provides the backbone for secure and reliable data exchange for a wide range of CDC programs that receive data related to emergency preparedness and response, routine disease surveillance, specialized laboratory surveillance, cancer registries, immunization registries, adverse events, and vital statistics. The current software providing this service, the Public Health Information

²⁹⁴As of FY 2015, the Biosense program is now referenced as the National Syndromic Surveillance Program.

Surveillance Systems and Applications	Examples of Activities
	Network Messaging System (PHIN MS), is undergoing a major overhaul to update technology, improve services, and better facilitate data linkages between public health and healthcare.

CDC works in partnership with state and territorial health departments through cooperative agreements to administer the BRFSS. The BRFSS is a dynamic state-based system, which is used to gather a wide array of information about health issues such as diabetes, heart disease, injury, and immunization, primarily through telephone surveys conducted by the health departments of all 50 states, Washington, D.C., Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, Palau, and the Federated States of Micronesia with help from CDC. The BRFSS is the world's largest continuously conducted telephone health survey, through both landline and cell phones. States use BRFSS's up-to-date state and local data to identify emerging health problems, establish health objectives and track their progress toward meeting these objectives, and develop and evaluate public health policies and programs. The BRFSS is the primary source of data for local entities and states on the health-related behaviors of adults. In FY 2017, CDC will fund an estimated 57 grantees to obtain approximately 450,000 completed BRFSS surveys. There is no prescribed funding formula; awards are based primarily on the required sample size needed in the state to produce reliable estimates, the type of data collector used by the state (i.e., in-house, university, or private company) and special projects (e.g., mail and web pilots, call-back surveys).

Behavioral Risk Factor Surveillance System (BRFSS) Grants^{1,2}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	+/- FY 2016
Number of Awards	56	56	57	57	57	0
- New Awards	0	0	57	0	0	0
- Continuing Awards	56	56	0	57	57	0
Average Award	\$0.236	\$0.236	\$0.244	\$0.231	\$0.231	\$0.000
Range of Awards	\$0.065 - \$0.393	\$0.050 - \$0.329	\$0.116 - \$0.357	\$0.093 - \$0.342	\$0.093 - \$0.342	N/A
Total Awards	\$13.200	\$13.248	\$13.901	\$13.171	\$13.171	\$0.000

¹Table includes core funding from the Surveillance, Epidemiology, and Public Health Informatics budget activity and other CDC programs.

²These funds are not awarded by formula.

One of the four initiatives of the [CDC Surveillance Strategy](http://www.cdc.gov/surveillance/)²⁹⁵, the [NNDSS Modernization Initiative](http://www.cdc.gov/nndss/) (NMI)²⁹⁶, provides CDC with the opportunity to update and strengthen the capabilities of this broad national surveillance system. NMI uses new information technologies and message structures to enhance the system's ability to provide more comprehensive, timely, and higher quality data needed to the local, state and federal levels. As part of the modernization effort, CDC is exploring ways to help eliminate duplicative processes and retire outdated legacy systems. NMI has three key components:

- Developing prioritized Message Mapping Guides (MMGs) for Health Level 7 (HL7) case notifications. These guides support collection, transmission, and analysis of data needed at the national level for public health surveillance. MMGs provide content standardization and an information exchange structure that will establish consistency in the message format used to transmit data from state partners to CDC programs. Using HL7 standards, the accepted standards for transfer of clinical and

²⁹⁵<http://www.cdc.gov/surveillance/>

²⁹⁶http://www.cdc.gov/nndss/script/NNDSS_Modernization_Initiative.aspx

- administrative data, will provide the elements required for seamless information exchange between systems.
- Developing the Message Validation, Processing, and Provisioning System (MVPS), software that will validate and process nationally notifiable disease case notification messages sent by jurisdictions and provision the data to CDC programs; and
 - Providing technical assistance to state and local health departments for implementation of HL7 case notification messages.

During FY 2015, CDC developed MMGs supporting CDC's sexually transmitted diseases (STD), hepatitis, mumps, and pertussis programs—as well as programs representing conditions covered by the Generic v2 MMG.⁵² Selected MMGs were piloted in 13 jurisdictions providing data transmission to CDC in a test environment.

During FY 2016, CDC will begin fielding the piloted MMGs to jurisdictions while developing additional MMGs for other conditions. As messages are updated to these standards, data will be more comprehensive, timely and of higher quality, allowing CDC programs to better monitor disease occurrence, identify potential outbreaks, recognize emerging trends, and monitor the impact of public health interventions. By the end of FY 2016, new HL7-based MMGs will be available for over 80% of the NNDSS conditions. In order to allow state and local health jurisdictions enough time to implement the new MMGs, the 2016 target is to have 41% of case notifications submitted using the new guides. By FY 2017, over 40% of data reported through NNDSS will be submitted using HL7 message standards.

In FY 2014, NNDSS began a new five-year cooperative agreement using the Epidemiology and Laboratory Capacity (ELC) Cooperative Agreement Health Information Systems Capacity section and required that jurisdictions begin implementing the new HL7 MMGs. CDC's NNDSS funding provides local and state public health agencies with the means to track, report, and respond to notifiable diseases.

National Notifiable Diseases Surveillance System (NNDSS) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	64	63	61	63	63	0
- New Awards	0	0	0	0	0	0
- Continuing Awards	64	63	61	63	63	0
Average Award	\$0.162	\$0.162	\$0.155	\$0.160	\$0.160	\$0.000
Range of Awards	\$0.104 - \$.361	\$0.005 - \$0.332	\$0.007-\$0.348	\$0.006-\$0.331	\$0.006-\$0.331	N/A
Total Awards	\$10.370	\$10.247	\$9.468	\$10.247	\$10.247	\$0.000

¹These funds are not awarded by formula.

Epidemiology

CDC supports evidence-based decision making by providing CDC scientists with access to epidemiological resources, scientific literature, and databases covering multidisciplinary topics related to disease prevention and control. In FY 2015, the [Stephen B. Thacker CDC Library](#) provided the foundation for research and programmatic initiatives across the agency by supporting desktop electronic access for all of CDC staff to more than one million journal articles, books, and databases. CDC supports health departments, non-profit hospitals, and others engaged in assessing the health of their communities with epidemiologic tools and resources including health metrics, survey instruments, and interactive web applications.

Epi Info™

Epi Info™ is a flexible, scalable suite of software tools—available through a desk, mobile application or virtual platform—that provides medical and public health personnel the ability to rapidly create data collection instruments, conduct data analysis and visualization, and report data using epidemiologic methods. *Epi Info™* has been used in support of the Ebola containment efforts in West Africa throughout the response. It provided support to the humanitarian response to unaccompanied children from Central America, and has supported mass gathering surveillance efforts internationally using mobile and cloud technology.

The customizable features of *Epi Info™* allow staff to develop custom surveillance case report forms to collect information about unaccompanied children and patients during the Ebola response.

CDC continues to develop *Epi Info™* software and support Global Health in their efforts to conduct surveillance using the mobile app and cloud technology during mass gathering events during events such as the 2014 World Cup and the upcoming 2016 Olympics.

The Community Guide

Decision-makers in communities, businesses, healthcare institutions, and public health agencies at the local, state, and federal level rely on recommendations from the [Community Preventive Services Task Force \(Task Force\)](#)²⁹⁷ when they want to know what works to improve and protect population health. Task Force recommendations, which are based on rigorous systematic reviews of all available evidence and compiled in [The Guide to Community Preventive Services \(The Community Guide\)](#)²⁹⁸, identify programs, services, and policies proven effective in a variety of real-world settings—from communities and counties to worksites, schools, and healthcare systems to reduce future demand for healthcare spending that is driven by preventable disease and disability and to increase the productivity and competitiveness of the U.S. workforce. Community preventive services evaluated by the Task Force include informational and education programs and services, programs to support healthful lifestyles, organizational and public policies, changes to the built environment, and health systems interventions.

CDC is directed by statute (*Public Health Services Act § 399U*) to provide ongoing administrative, research, and technical support for the operations of the non-federal, nonpartisan, independent, unpaid Task Force. In support of the Task Force, in FY 2015, CDC completed systematic reviews of effective programs, services, and policies for preventing high-priority public health problems including cardiovascular disease, health equity, and vaccinations. These systematic reviews form the basis for Task Force recommendations. CDC also provided technical assistance and support, as requested, to a wide range of users including state health departments, local health agencies, public health, healthcare organizations, community based organizations, and other healthcare providers in 27 different states to help them identify and implement Task Force recommendations that meet their particular needs.

Communities across the country are choosing to implement evidence-based recommendations from the Task Force that meet their specific needs to make their communities safer and healthier. [Community Guide in Action stories](#) are documenting their results. Task Force work has been supported by Budget Authority since the Task Force was first established in 1996. In FY 2017, CDC will utilize Public Health Scientific Services Budget Authority to continue to support the work of the Task Force by:

- Conducting systematic reviews of the evidence on the effectiveness of community preventive programs, services, and policies

²⁹⁷<http://www.thecommunityguide.org/about/aboutTF.html>

²⁹⁸<http://www.thecommunityguide.org/index.html>

- Expanding the reach and usefulness of [The Community Guide website](#),²⁹⁹ the repository of all Task Force findings and recommendations, along with information and tools to help partners and stakeholders locate, select, and implement recommendations they determine to meet their needs
- Increasing dissemination of Task Force findings in public health practice through partnerships and collaborations
- Multiplying options for technical assistance for those who wish to implement Task Force findings

Morbidity and Mortality Weekly Report (MMWR)

In FY 2015, CDC published over 250 *MMWR* Weekly Reports, which provide critical epidemiological data and recommendations to clinicians, epidemiologists, laboratorians, and other public health professionals. Fifty-two reports were published regarding Ebola, with the publications serving as critical CDC tools for disseminating scientific and public health information about the international Ebola response. During the same period, *MMWR* also increased its publication of non-Ebola reports, all of which were disseminated through an extensive electronic media network comprised of the [MMWR website](#), subscriptions to *MMWR* content, and social media outlets. *MMWR* electronic media reach increased by 8% since FY 2013 from 21.4 million to 23.0 million in FY 2015.

MMWR Ranked #1

In FY 2015, *MMWR* Weekly was ranked as the number one epidemiology journal by [Google Scholar](#). Rankings are based on citations for articles published in the last five complete years.

CDC is modernizing *MMWR* production processes and enhancing technological functionality, including providing *MMWR* content in electronic formats that exceed current best practices in publication and web design. The enhanced technology will allow greater redistribution of content through multiple information channels and a responsive design website that enhances use via mobile devices and traditional desktop computers. In FY 2017, CDC will continue with enhancements, which will further expand the reach of critical epidemiological data and improve the user experience in multiple formats and settings.

Vital Signs

One goal of *CDC Vital Signs* is to broaden *MMWR* readership by making its data and recommendations more relevant and widely available to its target audiences (especially state and local health departments, clinicians, and the general public) through print, broadcast, cable, electronic, and social media. In FY 2015, *CDC Vital Signs* electronic media reach, which includes the [CDC Vital Signs website](#), electronic subscriptions, and social media outlets, was 6.6 million potential viewings, almost doubling the annual year-end goal of 3.9 million.³⁰⁰

In FY 2017, CDC will continue to expand the electronic media reach for *CDC Vital Signs* through partnerships and special initiatives and through the use of mechanisms such as the [CDC Vital Signs website](#), electronic subscriptions, and social media outlets.

What is the CDC Platform?

The Platform is a unified data and software platform that, once complete, will allow CDC programs to receive, process, store, access, share, and analyze health-related data, including electronic health record (EHR) data, to further the agency's public health goals.

Public Health Informatics

CDC's informatics program supports public health surveillance by bridging the gap between the public health community and clinical care using

²⁹⁹ <http://www.thecommunityguide.org/index.html>

³⁰⁰ Measured using Omniture® web analytics, which is a software product that provides consolidated and accurate statistics about interactions with CDC.gov and social media outlets as individuals seek and access information about *CDC Vital Signs*

advances in information technology and electronic health information. CDC supports interoperability between public health agencies and healthcare in support of CMS [Electronic Health Records Incentive Program](#)³⁰¹ by:

- Improving the CDC Platform's Message Validation, Processing, and Provisioning System (MVPS) as part of an integrated surveillance strategy. By 2017, MVPS will be online and processing over 70 percent of the data CDC programs receive. Work will continue throughout the period to develop the necessary Message Mapping Guides to move the remaining data inputs into the system.
- Hosting an innovative applied public health informatics laboratory and research cloud allowing evaluation and use of new software and technology for use within surveillance
- Providing data management and information exchange services to CDC programs and state and local health departments
- As of the 2015 Q2 the Immunization Information Systems Support Branch (IISB) Meaningful Use Quarterly Survey, 50 of 59³⁰² eligible immunization programs reported readiness to receive MU data. A total of 50 of 59 programs also reported the ability to receive and consume data using the required HL7 2.5.1 standard.

In FY 2015, CDC increased the utility and further explored new public health uses of Electronic Health Records-Meaningful Use (EHR-MU) automated laboratory information systems and health information exchanges by supporting standard informatics guidelines and tools in collaboration with other CDC programs. CDC will use these standards to support critical public health functions such as health information exchange, emergency outbreak alerting, and laboratory science practices.

By late 2016, CDC's sexually transmitted diseases (STD) and hepatitis programs, as well as infectious disease programs requiring only basic information in a disease notification, are expected to receive timely, complete, and high-quality case notification data from at least eight jurisdictions through the MVPS. Also during 2016, the mumps, pertussis, varicella, and arboviral disease programs will begin receiving data through the MVPS.

CDC Data Hub

CDC's Data Hub provides centralized management of, and access to, health-related datasets increasing data availability, which in turn improves analytic methods and expands use of multiple data sets for public health impact analysis and interventions. This consolidated effort provides CDC programs, public health professionals, and academia access to some of the largest health databases in the nation. CDC continues to move the Data Hub to a customer focused system. By 2017, CDC expects to expand the customer base across the agency and establish an oversight and accountability process to monitor and better understand customer needs and use of different data sources across the agency.

CDC Data Hub Expands Access to Public Health Data

The CDC Data Hub provides coordination for training, development of data use agreements, technical assistance and resources on how to use the data, reducing costs in data purchases and potential operational and process costs to users.

³⁰¹<http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRI incentivePrograms/index.html>

³⁰² As of 2015, invited respondents for the IISB Meaningful Use Quarterly Survey include the following 59 immunization programs: Alabama, Alaska, American Samoa, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, New York, NY, North Carolina, Oklahoma, Oregon, Pennsylvania, Philadelphia, PA, Puerto Rico, Rhode Island, San Antonio, TX, South Carolina, South Dakota, Tennessee, Texas, U.S. Virgin Islands, Utah, Vermont, Virginia, Washington, West Virginia

Enhancing the systematic approach to CDC Data Hub will maximize the use of available resources to efficiently use the acquired data for public health priorities.

The Data Hub helps streamline the coordination of administrative and training requirements needed to use these datasets, and provides users with support in accessing and utilizing the data. As a result, this consolidated effort helps reduce the overall operational costs.

The Data Hub includes the following national datasets:

CDC WONDER³⁰³, developed by CDC, is a publicly accessible, web-based, menu-driven system that makes the information resources of CDC available to public health professionals, academia, and the public at large. It furthers CDC's mission of health promotion and disease prevention by speeding and simplifying access to a wide array of public health data sets and products for state and local health departments. CDC WONDER is valuable for public health research, decision-making, priority setting, program evaluation, and resource allocation.

MarketScan³⁰⁴ is a unique suite of healthcare-related databases and tools, licensed by CDC from Truven Health Analytics. Currently, 203 CDC researchers have access to use the databases and tools to conduct a variety of ongoing research studies. The data available from MarketScan are not otherwise available from other sources or providers in terms of size, scale, data quality, and the ability to explore complex public health research problems longitudinally, regionally, and at the patient level. These databases are critical to a wide-range of CDC programs and activities and are the primary data source for scores of peer-reviewed publications, policy statements, and impact analysis studies.

The Centers for Medicare and Medicaid Services (CMS) Virtual Research Data Center (VRDC) is CDC's gateway to CMS Data. The CMS VRDC is a new, efficient mechanism for researchers to virtually access and analyze healthcare data collected and maintained by CMS. The CMS VRDC coordination unit at CDC coordinates and facilitates CDC access to CMS data via the CMS VRDC, and CDC scientists have authored many publications using CMS data.

The American Hospital Association (AHA) Annual Survey of Hospitals profiles a universe of 6,500+ hospitals throughout the United States. The Healthcare IT Database contains information on the depth and level of technology integration within more than 3,400 hospitals, including hospital readiness in achieving meaningful use, primary inpatient and outpatient vendors for electronic health record (EHR)/electronic medical record (EMR) systems, and adoption of computerized systems. Future plans include linking to CMS data to investigate the relationship between hospital financial health and patient health outcomes.

The Healthcare Cost and Utilization Project (HCUP), developed through a federal-state-industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ), includes a family of healthcare databases built from hospital administrative data to create a national information resource of patient-level healthcare data. HCUP includes the largest collection of longitudinal hospital care data in the United States.

Laboratory Standards and Services

CDC's laboratory standards and services provide leadership to improve the quality of public health and clinical laboratory testing and related practices in the United States and globally. CDC supports these efforts by:

- Providing laboratory training services and other scientific support to CDC and extramural researchers
- Providing biorepository services to CDC and extramural researchers

³⁰³<http://wonder.cdc.gov/>

³⁰⁴<http://intranet.cdc.gov/MarketScan/>

- Developing regional networks and other mechanisms strengthening the quality, sustainability, and effectiveness of the nation's public health laboratory system

With support from the Centers for Medicare and Medicaid Services (CMS), Clinical Laboratory Improvement Amendments (CLIA) Program, CDC establishes quality laboratory testing standards by:

- Developing evidence-based guidelines
- Supporting standardized test ordering and reporting linked to electronic health records

In FY 2014, CDC initiated evaluation of the impact of evidence-based practice guidelines for ensuring laboratory quality. CDC also supported the National Institute of Standards and Technology (NIST) accreditation and validation tool for certifying 2017 Edition Meaningful Use EHR technology. As a result, electronic health record vendors will be able to test the functionality of the EHR to meet the accreditation and regulatory requirements for ordering and resulting laboratory testing.

In FY 2015, CDC published the first-ever comprehensive set of public health laboratory competencies to strengthen laboratory workforce development strategies and activities. CDC continues to support implementation of agency-wide policy for specimen management. In FY 2017 CDC will continue to support implementation of agency-wide policy for specimen management. CDC will also build upon FY 2015 plans and achievements aimed at strengthening the quality of laboratory testing by continuing to collaborate with federal and professional organizational partners to support harmonization of coding standards and functional requirements used in electronic medical records by all laboratories reporting test results.

Public Health Laboratory Training

In response to the Ebola outbreak, Laboratory Preparedness training courses saw a 151% increase in successful course completions among global public health and clinical laboratories. More than 4,200 laboratory professionals successfully completed the Packaging and Shipping of Division 6.2 Materials training and qualified for Department of Transportation (DOT) mandated certification necessary to safely package and ship infectious agents such as Ebola.

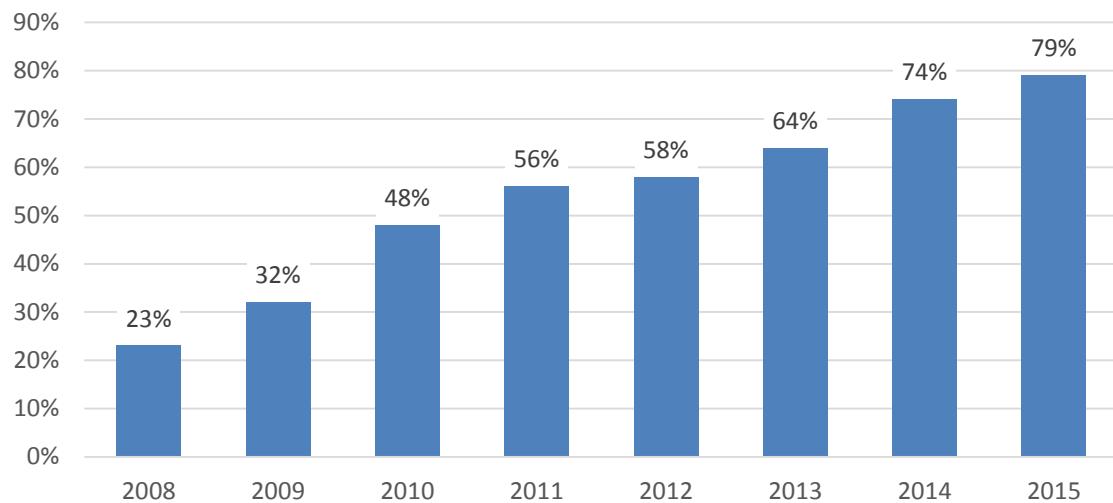
Laboratory Leadership Service Program

The alignment of the LLS and EIS programs is strengthening the critical linkage between epidemiology and laboratory science in CDC's public health efforts. For example, in the first month of the LLS program, an Epi-Aid team that included an EIS Officer and an LLS Fellow responded to an outbreak of *Mycobacterium avium* complex infections associated with cardiothoracic surgery at a hospital.

In FY 2015, CDC launched the Laboratory Leadership Service (LLS), a 2-year postdoctoral fellowship that offers intense, applied training in biosafety, quality management systems, and laboratory leadership and management. The LLS includes a competency-based curriculum based on the 2015 published public health laboratory competencies. The fellowship is modeled on CDC's successful Epidemic Intelligence Service (EIS), and similarly includes a practical, applied service and learning experiences. CDC matriculated seven LLS fellows in FY 2015, and is planning on having 10 new fellows in FY 2016 and 10 in FY 2017. The LLS is an important component of CDC's multi-pronged efforts to strengthen the workforce focused on public health laboratory leadership and

management.

**Percentage of Public Health and Clinical Laboratory Professionals
who Improve Laboratory Policies and Practices as a Result of
Participating in CDC Laboratory Workshops (Outcome)**



The chart above indicates the impact of implementing new training techniques to improve laboratory policies and practices in public health and clinical laboratories around the world (GPRA measure 8.B.3.2). In 2015, 79.3% of the scientists attending a CDC training workshop reported implementation of new or improved laboratory testing procedures resulting in a reduction of test time or cost as well as more accurate test results. The 79.3% change in practice exceeds the 2014 target by 4.3%.

Public Health Workforce and Career Development Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$52.200	\$52.200	\$20.950	-\$31.250
ACA/PPHF	\$0.000	\$0.000	\$36.276	+\$36.276
Total	\$52.200	\$52.200	\$57.226	+\$5.026

Overview

The nation's public health workforce is facing ongoing and emerging challenges—health problems that require multifaceted solutions, use of new technology, collaboration with the health care sector, and the need for continuing education and training. In addition, over 63,000 ^{305, 306} state and local public health jobs have been lost since 2008. A well-trained public health workforce is critical to ensuring the highest level of efficiency and effectiveness in protecting America's health, a responsibility only the public health system ensures.

CDC supports a competent, sustainable, and empowered public health workforce through programs that:

- Strengthen education, training, and professional development of the public health workforce
- Enhance service, response, and consultation
- Provide leadership in national public health workforce efforts
- Offer experiential service and learning opportunities in epidemiology, informatics, prevention effectiveness, policy and leadership and management

In FY 2015, 138 of 154 Epidemic Intelligence Service (EIS) officers had an EOC-coordinated deployment for CDC's Ebola response, either domestically or internationally. These 138 EIS officers deployed for a total of 5,798 days during FY 2015. As the Ebola response showed, CDC often needs to deploy EIS officers on a moment's notice. In FY 2015, CDC provided additional mandatory deployment trainings as the new EIS class arrived to increase the immediate response readiness of the officers.

Budget Request

CDC's FY 2017 request of **\$57,226,000** for Public Health Workforce and Career Development, including \$36,276,000 from the Affordable Care Act Prevention and Public Health Fund, is an increase of \$5,026,000 over the FY 2016 Enacted level.

CDC strengthens the public health workforce through programs that recruit new talent through on-the-job fellowships, increase access to high quality training (including e-learning), and improve academic education about population health. In FY 2015, CDC supported 475 fellows and trainees who received in-depth, on-the-job training in applied epidemiology, public health operations and management, informatics, prevention effectiveness, policy, and preventive medicine. Fellows and trainees provide service while learning. Sixty-one percent of these fellows and

The Public Health Associate Program (PHAP) builds infrastructure of the U.S. public health system through recruiting, placing, and training of early career professionals. In FY 2015, PHAP exceeded its target of hiring 200 associates to support the capabilities of public health agencies across the country. Additionally, PHAP implemented a systematic evaluation through nine data collection instruments in FY 2015 to assess the quality, effectiveness, and impact of PHAP. Evaluation results show that 79% of associates graduating from PHAP in FY 2015 are continuing their career or education within public health or healthcare, strengthening the public health workforce.

³⁰⁵Budget Cuts Continue to Affect The Health of Americans", ASTHO, September 2014

³⁰⁶Forces of Change Survey, NACCHO, 2015

trainees were assigned to state and local public health agencies, providing direct on-the-ground service where needed most.

CDC supports the current workforce by offering public health training and continuing education. CDC is the only HHS agency accredited to award seven types of continuing education for health professionals. In FY 2015, over 227,000 learners earned free CDC continuing education (CE), a 20% increase from FY 2014. CDC provides a central location for quality public health e-learning, training information, and learning resources through the [CDC Learning Connection](#)³⁰⁷. In FY 2015 246,901 people from 209 countries visited the CDC Learning Connection website to find out about public health training opportunities. This website provides access to CDC TRAIN, a free resource where individuals across public health and health care can identify educational activities to support their professional development. At the end of FY 2015, over 7,369 courses were available to over 132,000 registered learners.

In FY 2015, CDC focused on enhancing the training of and service provided by Public Health Associates, Epidemic Intelligence Service officers, Presidential Management fellows, Public Health Informatics fellows, and other fellows; enhancing the new Laboratory Leadership Service fellowship program; and strengthening collaboration with the healthcare sector, particularly for fellow assignments and projects.

Continuing Education Units through CDC

In FY 2015, more than 227,000 people—equivalent to 13% of the 2015 U.S. college graduates—earned free continuing education units through CDC.

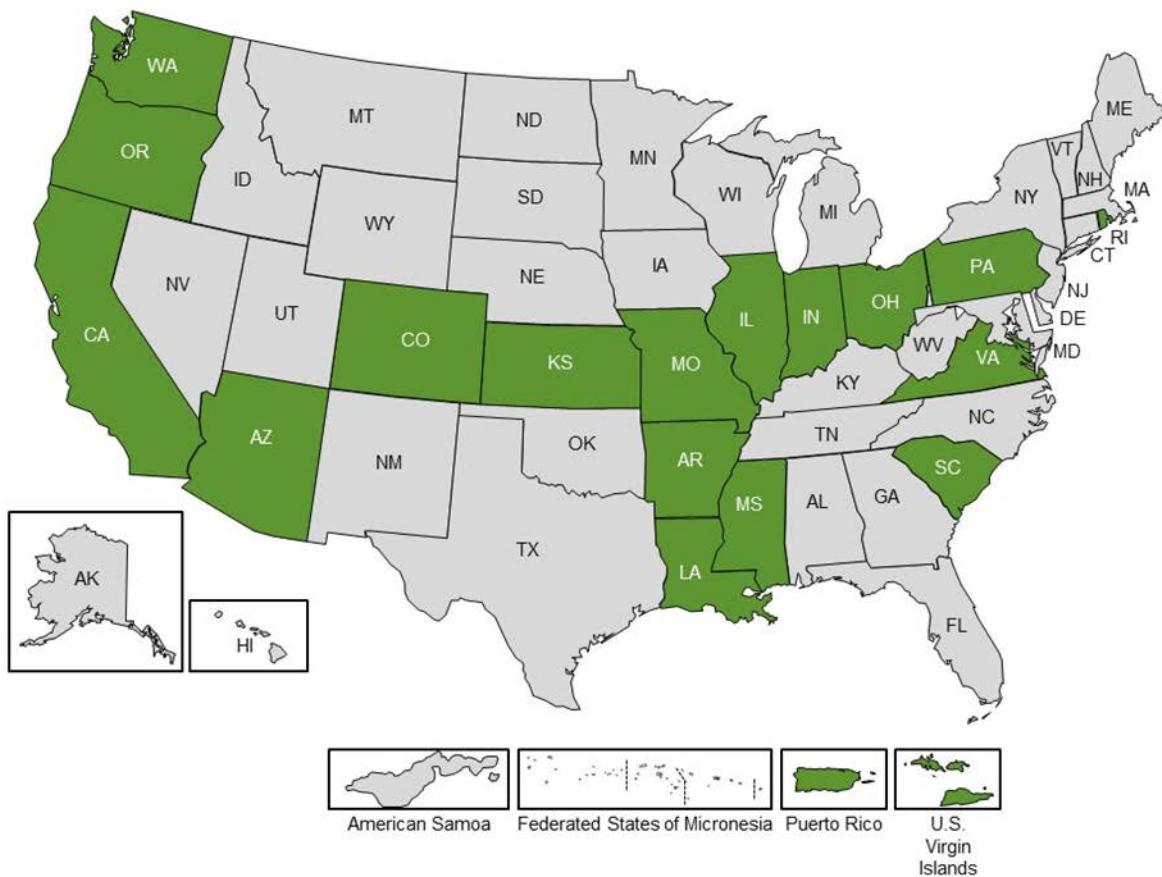
At the proposed funding level for FY 2017 for Public Health Workforce (which includes a \$5M increase from PPHF), CDC will continue to focus on high-priority activities like EIS and PHAP, will expand public health e-learning (which benefits state and local partners) and will strengthen informatics and population health training, particularly at the intersection of public health and healthcare. The proposed increase for Public Health Workforce will be used to place more CDC trainees in state and local health departments, ensure that trainees are gaining cutting-edge skills that will equip them to meet current challenges, and increase access to high-quality training for the current public health workforce.

CDC Provides Free Access to Public Health Training

Over 132,000 people—enough to fill at least 1,300 college lecture halls—have registered for CDC TRAIN, a free resource for public health training.

³⁰⁷<http://www.cdc.gov/learning/>

In FY2015, 19 individual states and territories invited CDC to provide epidemiologic assistance through Epi-Aids



Epidemiologic Assistance through Epi-Aids

- CDC's EIS officers work on the public health frontlines, 24/7, conducting epidemiologic investigations and public health surveillance, nationally and internationally.
- States, territories, tribal governments, federal agencies, and other countries' ministries of health request epidemiologic assistance (Epi-Aids) from EIS officers during urgent health events.
- In FY 2015, EIS officers conducted 40 Epi-Aids:
 - 27 Epi-Aids to 17 U.S. states and 2 territories
 - 2 Epi-Aids at Federal facilities
 - 1 multi-state Epi-Aid
 - 10 international Epi-Aids in 10 countries

CDC works with academic partners to promote the integration of population health concepts into the curricula of medical and nursing schools and to ensure that public health education is focused on ground-level public health priorities. Through cooperative agreements of about \$200,000 per year, CDC funds four national academic associations representing the education of public health professionals, physicians, and nurses: the Association of Schools and Programs of Public Health, Association for Prevention Teaching and Research, Association of American Medical Colleges, and American Association of Colleges of Nursing. Activities focus on improving population health through curricular enhancements, inter-professional exchange, partnerships, and fellowships. At the end of five years, CDC expects awardees to expand by 25% the number of medical and nursing schools that integrate population health concepts into their curricula.

The goal of CDC's Strengthening Health Systems through Inter-professional Education (project SHINE) cooperative agreements is to improve population health through innovative and integrated workforce development strategies to strengthen health system effectiveness. This is achieved by having fellows collaboratively engage in information-driven projects focused on community health improvement at the intersection of public health and healthcare. These cooperative agreements, averaging about \$1.25 million per year, have three fellowships under their umbrella: the Applied Public Health Informatics Fellowship, the Informatics Training-in-Place Program, and the Health Systems Integration Program. Each has fellows assigned to or coming from state and local health departments. Project SHINE is implemented through cooperative agreements with the National Association of County and City Health Officials and the Council of State and Territorial Epidemiologists.

State Table: Behavioral Risk Factor Surveillance System¹

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$222,649	\$222,649	\$222,649	\$0
Alaska	\$231,502	\$231,502	\$231,502	\$0
Arizona	\$231,502	\$231,502	\$231,502	\$0
Arkansas	\$210,649	\$210,649	\$210,649	\$0
California	\$280,240	\$280,240	\$280,240	\$0
Colorado	\$231,502	\$231,502	\$231,502	\$0
Connecticut	\$238,649	\$238,649	\$238,649	\$0
Delaware	\$210,649	\$210,649	\$210,649	\$0
District of Columbia	\$210,649	\$210,649	\$210,649	\$0
Florida	\$244,199	\$244,199	\$244,199	\$0
Georgia	\$240,649	\$240,649	\$240,649	\$0
Hawaii	\$225,649	\$225,649	\$225,649	\$0
Idaho	\$231,502	\$231,502	\$231,502	\$0
Illinois	\$237,561	\$237,561	\$237,561	\$0
Indiana	\$208,562	\$208,562	\$208,562	\$0
Iowa	\$230,973	\$230,973	\$230,973	\$0
Kansas	\$291,215	\$291,215	\$291,215	\$0
Kentucky	\$213,208	\$213,208	\$213,208	\$0
Louisiana	\$222,540	\$222,540	\$222,540	\$0
Maine	\$228,176	\$228,176	\$228,176	\$0
Maryland	\$231,502	\$231,502	\$231,502	\$0
Massachusetts	\$265,593	\$265,593	\$265,593	\$0
Michigan	\$263,206	\$263,206	\$263,206	\$0
Minnesota	\$307,338	\$307,338	\$307,338	\$0
Mississippi	\$235,785	\$235,785	\$235,785	\$0
Missouri	\$257,023	\$257,023	\$257,023	\$0
Montana	\$259,843	\$259,843	\$259,843	\$0
Nebraska	\$234,561	\$234,561	\$234,561	\$0
Nevada	\$241,502	\$241,502	\$241,502	\$0
New Hampshire	\$229,442	\$229,442	\$229,442	\$0
New Jersey	\$233,049	\$233,049	\$233,049	\$0
New Mexico	\$310,593	\$310,593	\$310,593	\$0
New York	\$225,437	\$225,437	\$225,437	\$0
North Carolina	\$224,295	\$224,295	\$224,295	\$0
North Dakota	\$215,207	\$215,207	\$215,207	\$0
Ohio	\$262,143	\$262,143	\$262,143	\$0
Oklahoma	\$247,938	\$247,938	\$247,938	\$0
Oregon	\$269,343	\$269,343	\$269,343	\$0
Pennsylvania	\$234,073	\$234,073	\$234,073	\$0
Rhode Island	\$225,222	\$225,222	\$225,222	\$0
South Carolina	\$210,871	\$210,871	\$210,871	\$0
South Dakota	\$200,000	\$200,000	\$200,000	\$0
Tennessee	\$210,824	\$210,824	\$210,824	\$0
Texas	\$232,142	\$232,142	\$232,142	\$0
Utah	\$267,509	\$267,509	\$267,509	\$0
Vermont	\$244,236	\$244,236	\$244,236	\$0
Virginia	\$210,649	\$210,649	\$210,649	\$0
Washington	\$341,502	\$341,502	\$341,502	\$0
West Virginia	\$210,649	\$210,649	\$210,649	\$0
Wisconsin	\$235,471	\$235,471	\$235,471	\$0
Wyoming	\$231,502	\$231,502	\$231,502	\$0

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Territories				
America Samoa	\$93,238	\$93,238	\$93,238	\$0
Guam	\$189,325	\$189,325	\$189,325	\$0
Micronesia	\$108,418	\$108,418	\$108,418	\$0
Palau	\$138,815	\$138,815	\$138,815	\$0
Puerto Rico	\$267,218	\$267,218	\$267,218	\$0
Virgin Islands	\$163,594	\$163,594	\$163,594	\$0
Subtotal States	\$12,210,675	\$12,210,675	\$12,210,675	\$0
Subtotal Territories	\$960,608	\$960,608	\$960,608	\$0
Total	\$13,171,283	\$13,171,283	\$13,171,283	\$0

¹Table includes core funding from the Surveillance, Epidemiology, and Public Health Informatics budget activity and other CDC programs.

State Table: National Notifiable Diseases Surveillance System (NNDSS)^{1,2,3}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	Difference +/-2016
Alabama	\$270,691	\$225,901	\$225,901	\$0
Alaska	\$273,165	\$178,874	\$178,874	\$0
Arizona	\$202,658	\$178,818	\$178,818	\$0
Arkansas	\$171,894	\$142,208	\$142,208	\$0
California	\$270,406	\$229,306	\$229,306	\$0
Colorado	\$261,190	\$209,696	\$209,696	\$0
Connecticut	\$214,566	\$196,101	\$196,101	\$0
Delaware	\$57,777	\$41,219	\$41,219	\$0
Florida	\$339,163	\$254,110	\$254,110	\$0
Georgia	\$166,126	\$143,376	\$143,376	\$0
Hawaii	\$205,504	\$156,688	\$156,688	\$0
Idaho	\$73,350	\$73,080	\$73,080	\$0
Illinois	\$342,201	\$298,518	\$298,518	\$0
Indiana	\$335,515	\$226,180	\$226,180	\$0
Iowa	\$431,489	\$303,922	\$303,922	\$0
Kansas	\$326,781	\$233,897	\$233,897	\$0
Kentucky	\$123,297	\$100,903	\$100,903	\$0
Louisiana	\$155,225	\$143,055	\$143,055	\$0
Maine	\$154,760	\$144,818	\$144,818	\$0
Maryland	\$218,451	\$245,739	\$245,739	\$0
Massachusetts	\$324,700	\$208,586	\$208,586	\$0
Michigan	\$373,419	\$254,570	\$254,570	\$0
Minnesota	\$321,602	\$243,318	\$243,318	\$0
Mississippi	\$127,947	\$106,445	\$106,445	\$0
Missouri	\$116,672	\$74,569	\$74,569	\$0
Montana	\$167,026	\$116,465	\$116,465	\$0
Nebraska	\$203,479	\$166,170	\$166,170	\$0
Nevada	\$211,396	\$149,025	\$149,025	\$0
New Hampshire	\$164,687	\$146,009	\$146,009	\$0
New Jersey	\$219,391	\$205,929	\$205,929	\$0
New Mexico	\$167,118	\$159,612	\$159,612	\$0
New York	\$363,923	\$303,400	\$303,400	\$0
North Carolina	\$250,841	\$201,582	\$201,582	\$0
North Dakota	\$128,837	\$96,225	\$96,225	\$0
Ohio	\$317,813	\$237,350	\$237,350	\$0
Oklahoma	\$185,418	\$160,359	\$160,359	\$0
Oregon	\$208,002	\$181,665	\$181,665	\$0
Pennsylvania	\$266,546	\$200,828	\$200,828	\$0
Rhode Island	\$224,971	\$153,199	\$153,199	\$0
South Carolina	\$211,323	\$127,484	\$127,484	\$0
South Dakota	\$168,355	\$123,537	\$123,537	\$0
Tennessee	\$280,678	\$282,107	\$282,107	\$0
Texas	\$98,719	\$107,778	\$107,778	\$0
Utah	\$315,929	\$229,414	\$229,414	\$0
Vermont	\$213,505	\$196,047	\$196,047	\$0
Virginia	\$379,721	\$331,443	\$331,443	\$0
Washington	\$283,121	\$259,472	\$259,472	\$0
West Virginia	\$116,352	\$85,950	\$85,950	\$0
Wisconsin	\$270,609	\$202,372	\$202,372	\$0
Wyoming	\$98,434	\$81,787	\$81,787	\$0

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	Difference +/-2016
Territories	--	--	--	--
Guam	\$111,017	\$93,836	\$93,836	\$0
Marshall Islands	\$4,627	\$5,947	\$5,947	\$0
Micronesia	\$7,511	\$8,809	\$8,809	\$0
Northern Mariana Islands	\$7,728	\$8,089	\$8,089	\$0
Palau	\$26,632	\$43,970	\$43,970	\$0
Puerto Rico	\$50,875	\$22,375	\$22,375	\$0
Virgin Islands	\$90,498	\$23,564	\$23,564	\$0
Cities	--	--	--	--
Chicago	\$96,785	\$126,386	\$126,386	\$0
District of Columbia	\$34,307	\$29,602	\$29,602	\$0
Houston	\$153,197	\$145,754	\$145,754	\$0
Los Angeles	\$182,859	\$174,504	\$174,504	\$0
New York City	\$400,031	\$324,857	\$324,857	\$0
Philadelphia	\$163,974	\$120,307	\$120,307	\$0
Subtotal, States	\$11,374,747	\$9,119,104	\$9,119,104	\$0
Subtotal, Territories	\$298,888	\$206,591	\$206,591	\$0
Subtotal, Cities	\$1,031,153	\$921,411	\$921,411	\$0
Total	\$12,704,789	\$10,247,105	\$10,247,105	\$0

¹This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit

<http://www.cdc.gov/FundingProfiles/FundingProfilesRIA/>.

² <http://www.cdc.gov/exposurereport/>

³ CFDA NUMBER: 93-521 [Discretionary]

ENVIRONMENTAL HEALTH

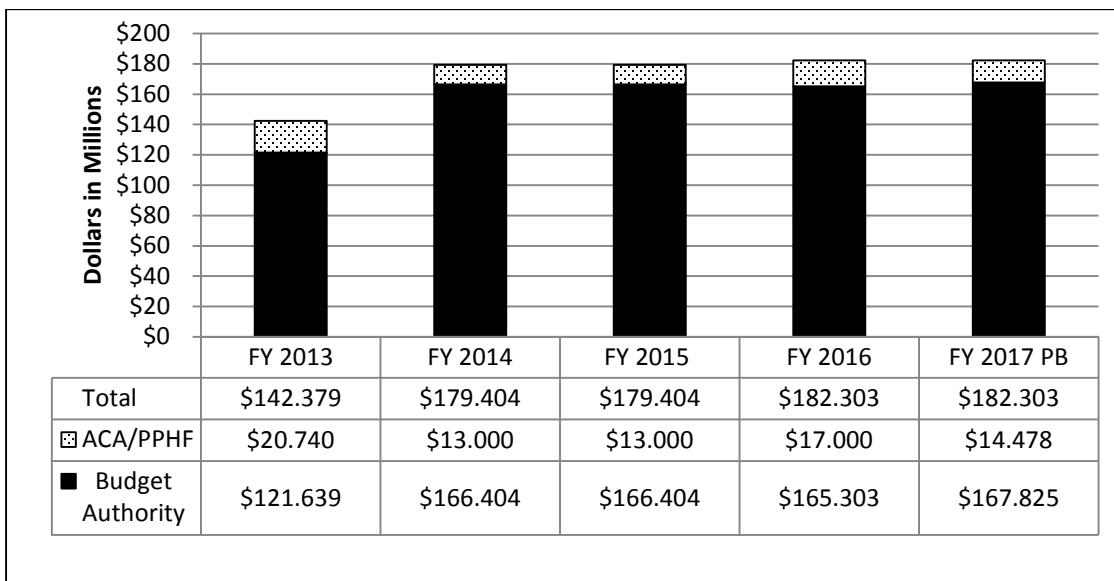
(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$166.404	\$165.303	\$167.825	+\$2.522
ACA/PPHF	\$13.000	\$17.000	\$14.478	-\$2.522
Total Request	\$179.404	\$182.303	\$182.303	\$0.000
FTEs	448	448	448	0
Environmental Health				
- Environmental Health Laboratory	\$55.870	\$56.000	\$56.000	\$0.000
- Environmental Health Activities	\$45.580	\$46.303	\$46.303	\$0.000
- Climate & Health (non-add)	\$8.613	\$10.000	\$10.000	\$0.000
- Built Environment & Health Initiative (non-add)	\$2.843	\$0.000	\$0.000	\$0.000
Environmental & Health Outcome Tracking Network	\$34.904	\$34.000	\$24.000	-\$10.000
- Asthma	\$27.528	\$29.000	\$29.000	\$0.000
- Childhood Lead Poisoning	\$15.522	\$17.000	\$17.000	\$0.000
ACA/PPHF (non-add)	\$13.000	\$17.000	\$14.478	-\$2.522
- Hearing Loss	\$0.000	\$0.000	\$10.000	+\$10.000

Summary

CDC protects America's health from environmental hazards that can be present in the air we breathe, the water we drink, and the world that sustains us. CDC investigates the relationship between environmental factors and health, develops guidance, and builds partnerships to support healthy decision making. These investments contribute to CDC's overall goal of keeping Americans safe from environmental hazards. CDC's FY 2017 request of **\$182,303,000** for Environmental Health, including \$14,478,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. The FY 2017 Budget includes a new \$10 million hearing loss prevention, awareness, and education program that targets young to older adults, low to moderate hearing loss, and social stigma.

Performance Highlights

- Since the launch of the [National Environmental Assessment Reporting System \(NEARS\)](#) [formerly National Voluntary Environmental Assessment Information System (NVEAIS)] in April 2014, 15 health departments (10 state and six city/county) have registered and agreed to begin reporting foodborne illness outbreak environmental assessment data into the system. NEARS standardizes reporting of environmental factors that cause foodborne illness outbreaks so that local, state, territorial, and tribal food-safety programs can conduct assessments and better prevent foodborne illness outbreaks.
- CDC distributed more than 1,189 radiation emergency tool kits in FY 2015 to public health professionals and clinicians. Recent evaluation results demonstrate that the toolkits were valuable resources for planning (pre-event) and just-in-time (intra-event) use. Since the creation of the toolkit distribution program in 2005, CDC has provided more than 29,200 kits to professionals across the nation and internationally to assist clinicians in developing plans and response capacity for radiation emergencies.
- In FY 2015, the CDC-funded Louisiana Healthy Homes and Childhood Lead Poisoning Prevention Program piloted blood-lead testing at Women, Infants, and Children (WIC) clinics in four Louisiana parishes. The partnership with WIC demonstrated that WIC clinics are an efficient place to screen children ages 12 to 24 months who are at risk for lead poisoning and who would not otherwise be tested. The program reached an additional 581 children, 79% of whom had never before been tested.

Environmental Health Funding History¹

¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Environmental Health Laboratory Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$55.870	\$56.000	\$56.000	\$0.000

Overview

The [Environmental Health Laboratory](#)³⁰⁸ improves the detection, diagnosis, treatment, and prevention of diseases resulting from exposure to harmful environmental chemicals and diseases that need advanced laboratory measurement for accurate diagnosis. The lab develops and applies innovative measurement techniques to assess disease risk, determine Americans' exposure levels, and respond to public health emergencies. It also assures the quality of newborn screening tests for early detection of deadly, but treatable diseases. Additionally, the lab standardizes cholesterol tests and diagnostic tests for chronic diseases to ensure results are sufficiently accurate for clinical and research use.

Budget Request

CDC's FY 2017 request of **\$56,000,000** for the Environmental Health Laboratory is level with the FY 2016 Enacted level. Requested funds are needed to maintain the world's most advanced, state-of-the-art environmental public health laboratory.

Environmental Health Laboratory's projected contributions in FY 2017:

- Measure more than 300 priority chemicals and nutrition indicators in Americans
- Conduct 90 studies of harmful chemical exposures
- Ensure accurate testing in over 1,900 laboratories
- Standardize cholesterol tests and develop new reference tests for chronic disease biomarkers
- Fund up to 10 grantees to investigate harmful exposures and expand newborn screening

Biomonitoring to Assess Americans' Nutrition Status and Exposure to Harmful Chemicals

CDC uses biomonitoring—measurements in human blood and urine—to identify harmful environmental exposures or nutrition deficiencies in the U.S. population. The Environmental Health Laboratory, the sole source for numerous high-quality laboratory tests, measures more than 300 chemicals and nutrition indicators in Americans. CDC publishes findings in the [National Report on Human Exposure to Environmental Chemicals](#)³⁰⁹ and the [National Report on Biochemical Indicators of Diet and Nutrition in the U.S. Population](#).³¹⁰

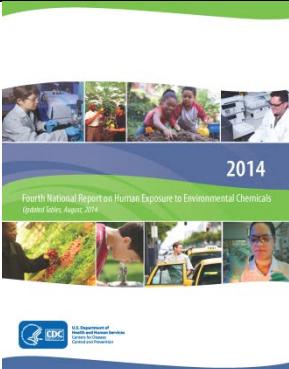
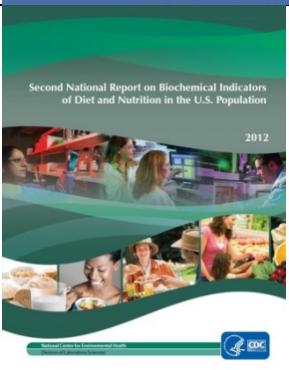
In FY 2017, CDC expects to release new biomonitoring results, adding to previously published data for 305 chemicals and 58 nutrition indicators. CDC also expects to collaborate on 90 studies to assess environmental exposures in vulnerable population groups or investigate the relationship between environmental exposures and adverse health effects. These studies help determine safe and harmful levels of exposure, identify true hazards, avoid unnecessary regulation, and assess the effectiveness of exposure reduction interventions.

³⁰⁸http://www.cdc.gov/nceh/information/health_laboratory.htm

³⁰⁹<http://www.cdc.gov/exposurereport/>

³¹⁰<http://www.cdc.gov/nutritionreport/>

CDC's Biomonitoring Reports

	<p>National Report on Human Exposure to Environmental Chemicals³¹¹</p> <ul style="list-style-type: none"> The most comprehensive assessment of Americans' exposure to environmental chemicals Includes biomonitoring data for 300+ chemicals including pesticides, metals, and chemicals in everyday products Establishes national exposure levels and trends over time Used by scientists and public health officials to identify harmful exposures Updated with new biomonitoring results every year
	<p>National Report on Biochemical Indicators of Diet and Nutrition³¹²</p> <ul style="list-style-type: none"> The most comprehensive assessment of Americans' nutrition status Regularly updated data for 58 nutrition biomarkers that are important to human health, including fat- and water-soluble vitamins, iron-status indicators, and iodine Establishes national reference levels and trends over time Helps physicians, scientists, and public health officials assess inadequate or excess intake of nutrients

Improving Testing Quality and Standardizing Laboratories

CDC uses expert measurement science to continuously improve the accuracy, precision, and cost effectiveness of laboratory tests for environmental chemicals, nutrition indicators, heart disease and stroke, and newborn screening. CDC's efforts reach more than 1,800 domestic and international laboratories, including newborn screening laboratories in all 50 states. In FY 2016 and FY 2017, CDC will provide quality assurance materials, conduct trainings, and transfer laboratory testing methods to state, local, research, and clinical laboratories. CDC will help state newborn screening programs use new molecular testing techniques to improve detection of diseases like cystic fibrosis and congenital adrenal hyperplasia.³¹³ The lab will continue implementing advanced technologies, such as automation, to increase testing speed, reduce cost, and enable measurement of multiple substances in a single laboratory test. In addition, CDC will continue partnering with private sector companies and manufacturers of laboratory tests to improve the accuracy and precision of test results.

Standardizing Chronic Disease Biomarkers

CDC standardizes tests for important chronic disease biomarker measurements that need improvement in accuracy and precision. The lab develops reference methods and materials to assure the quality of tests in clinical, research, and academic laboratories, including more than 300 million cholesterol tests in the United States each year. Accurate and precise laboratory measurements help doctors better diagnose and determine

³¹¹<http://www.cdc.gov/exposurereport/>

³¹²<http://www.cdc.gov/nutritionreport/>

³¹³ People with congenital adrenal hyperplasia lack an enzyme needed to make the vital hormones cortisol and aldosterone, which causes problems with growth and development. Early detection and proper treatment can help affected people lead a normal life.

risk for heart disease, improve the diagnosis and treatment of breast cancer, and reduce costs from repeated laboratory testing.

Progress in Standardizing Chronic Disease Biomarkers

FY 2014	FY 2015	FY 2016	FY 2017
Maintained reference methods and provided standardization services for 10 biomarkers: Cholesterol Triglycerides LDL HDL Estradiol Apolipoprotein A1 Apolipoprotein B Testosterone Vitamin D2 Vitamin D3	Maintained reference methods and provided standardization services for 10 biomarkers: Cholesterol Triglycerides LDL HDL Estradiol Apolipoprotein A1 Apolipoprotein B Testosterone Vitamin D2 Vitamin D3	Maintain reference methods and provide standardization services for 14 biomarkers: Cholesterol Triglycerides LDL HDL Estradiol Apolipoprotein A1 Apolipoprotein B Testosterone Vitamin D2 Vitamin D3 Triiodothyronine Thyroxine Sex hormone binding globulin Parathyroid hormone	Maintain reference methods and provide standardization services for 15 biomarkers: Cholesterol Triglycerides LDL HDL Estradiol Apolipoprotein A1 Apolipoprotein B Testosterone Vitamin D2 Vitamin D3 Triiodothyronine Thyroxine Sex hormone binding globulin Parathyroid hormone Glucose
Completed 50% of development of new, reference-quality tests for measuring size fractions of cholesterol.	Completed 80% of development of new tests for cholesterol size fractions.	Complete 100% of development of new tests for cholesterol size fractions. Apply cholesterol size fraction tests to large cohort studies of cardiovascular disease.	Apply cholesterol size fraction tests to large cohort studies of cardiovascular disease. Begin to establish reference levels for cholesterol size fractions.
Standardized estradiol measurements in six major research and clinical laboratories.	Standardized estradiol measurements in eight major research and clinical laboratories. Measured estradiol in a nationally representative sample of Americans to help identify population groups at risk for disease.	Standardize estradiol measurements in eight major research and clinical laboratories. Apply new, highly accurate estradiol methods to major research studies and help clinical and research laboratories with establishing better estradiol tests.	Standardize estradiol measurements in 12 major research and clinical laboratories. Apply highly accurate and specific estradiol methods to help clinical and research laboratories establish accurate tests for cancer patients and vulnerable groups like pregnant women. Apply new, highly accurate methods to improve glucose monitors, helping diabetes patients correctly measure blood glucose levels.

In FY 2017, CDC will continue to ensure the quality of clinical tests for chronic disease biomarkers, providing standardization services for one additional biomarker (glucose) that will help improve diagnosis of diabetes and thyroid disease. CDC will also continue applying newly developed tests for different sizes of cholesterol in studies that establish reference levels for healthy patients and patients with varying degrees of cardiovascular disease. These studies will help define the health risks associated with different sizes of cholesterol, which are promising diagnostic markers for heart disease and stroke.

Supporting State-based Laboratory Biomonitoring Programs

Biomonitoring grants from CDC help states assess environmental factors that can make people sick. Grantees are chosen competitively based on laboratory expertise, facilities, and local biomonitoring support. In order to assess exposures of concern in local communities, state-based laboratories use CDC funding to purchase laboratory equipment and supplies; hire and train specialized staff; and conduct fieldwork and data analysis. CDC started a five-year, cooperative agreement cycle in FY 2014 with six grantees: California, Massachusetts, New Hampshire, New Jersey, Utah (as lead member of a consortium, which includes Arizona, Colorado, and New Mexico), and Virginia. In FY 2017, CDC plans to award the fourth year of funding.

Grants to State-based Laboratory Biomonitoring Programs¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	3	6	6	6	6	0
- New Awards	0	0	0	0	0	0
- Continuing Awards	3	6	6	6	6	0
Average Award	\$1.667	\$0.833	\$0.833	\$0.833	\$0.833	\$0.000
Range of Awards	\$1.000-\$2.652	\$0.784-\$1.000	\$0.784-\$1.000	\$0.784-\$1.000	\$0.784-\$1.000	N/A
Total Awards	\$5.000	\$5.000	\$5.000	\$5.000	\$5.000	\$0.000

¹These funds are not awarded by formula.

Expanding State Newborn Screening for Severe Combined Immunodeficiency

State and territorial newborn screening laboratories receive CDC funding to implement and improve testing for severe combined immunodeficiency (SCID), a deadly disease that is curable if treated soon after birth. Laboratories are eligible if they demonstrate sufficient expertise, facilities, and legal authority to conduct screenings. Grantees use funding to purchase laboratory equipment and supplies; hire and train specialized staff; and conduct population-based screening for SCID. In FY 2015, CDC began a two-year non-research cooperative agreement cycle with Louisiana, Nevada, and North Carolina to implement state-wide SCID screening. In addition, CDC started a new, three-year research cooperative agreement with New York to improve SCID laboratory tests using innovative technologies. In FY 2017, CDC will begin another non-research cooperative agreement with up to three new states and will award the third year of research funding.

Grants to Implement and Improve SCID Testing¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	3	3	4	4	4	0
- New Awards	0	0	4	0	3	+3
- Continuing Awards	3	3	0	4	1	-3
Average Award	\$0.281	\$0.281	\$0.237	\$0.237	\$0.237	\$0.000
Range of Awards	\$0.269–\$0.299	\$0.269–\$0.299	\$0.179–\$0.349	\$0.179–\$0.349	\$0.075–\$0.350	N/A
Total Awards	\$0.845	\$0.845	\$0.950	\$0.950	\$0.950	\$0.000

¹These funds are not awarded by formula.

Environmental Health Activities Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Environmental Health Activities	\$45.580	\$46.303	\$46.303	\$0.000
- Climate & Health (non-add)	\$8.613	\$10.000	\$10.000	\$0.000
- Built Environment & Health Initiative (non-add)	\$2.843	\$0.000	\$0.000	\$0.000

Overview

Americans cannot be truly secure if basic, life-sustaining necessities are under threat. The threats impacting the water we drink, the air we breathe, the food we eat in restaurants and delicatessens, and the environments where we live, work, and play are reemerging and evolving as society changes. The World Health Organization estimates that, overall, 13% of the disease burden in the United States is due to environmental factors. The Agency for Toxic Substances and Disease Registry (ATSDR) estimated that 5.6 million disability-adjusted life years and 398,000 deaths annually can be attributed to environmental factors in the United States.

Specific threats posed by the environment include contamination of drinking water, including federally unregulated drinking water sources; dangerous retail food practices; other environment-related food hazards; rising sea levels, extreme heat, drought; the expansion of infectious disease; radiation emergencies; and the decline of the state, local, and tribal environmental health workforce, which is the frontline defense for environmental health in our communities. To ensure the security of the American people from these environmental threats, CDC monitors environmentally-related disease trends; applies scientific evidence to address public health problems; helps state and local governments incorporate health considerations into planning decisions; funds and supports state, local, and tribal health; and provides environmental health expertise to federal, state, local, and tribal authorities. CDC also identifies the environmental exposures that make people sick, investigates how those exposures are transmitted in the environment, and finds ways to eliminate the threat to people's health—thereby saving money and lives.

Each day, people everywhere experience environmental exposures that can make them sick, cause death, and lead to very costly health conditions. CDC programs funded under Environmental Health Activities monitor environmentally related disease, respond to urgent public health threats, apply environmental health research, provide training and guidance for the nation's environmental health workforce, assist in emergency preparedness and response efforts, and support grants that improve state and local capacity.

Budget Request

CDC's FY 2017 request of **\$46,303,000** for Environmental Health Activities is level with the FY 2016 Enacted level.

In FY 2017, Environmental Health Activities will also include:

- Training 1,250 state and local officials in environmental emergency response
- Training 500 state and local environmental health specialists in investigating the environmental causes of foodborne illness outbreaks
- Helping 15 state health departments collect and analyze data about the environmental causes of foodborne illness outbreaks so they can prevent future outbreaks
- Strengthening existing safe drinking water programs at 19 health departments so they will be better able to identify and respond to drinking water threats
- Investigating 25 public health threats from non-infectious agents

- Working with 18 states and 2 cities in addressing the implications of climate change

Amyotrophic Lateral Sclerosis Registry

The congressionally mandated [National Amyotrophic Lateral Sclerosis Registry](#)³¹⁴—a joint effort between CDC and the Agency for Toxic Substances and Disease Registry (ATSDR)—is an important resource for scientists to understand, and potentially cure and prevent the disease. Also known as Lou Gehrig's disease, Amyotrophic Lateral Sclerosis (ALS) is a progressive, fatal, neurodegenerative disorder that has no cure and the cause of which is not fully understood. The main goals of the registry are to determine the incidence and prevalence of ALS within the United States, characterize the demographics of those living with ALS, and identify the potential risk factors for the disease.

ALS is not a notifiable disease³¹⁵ in the United States. As such, CDC/ATSDR developed novel approaches to identify ALS cases. The first approach identifies existing cases from current national administrative databases—Medicare, Medicaid, Veterans Health Administration, and Veterans Benefits Administration. The second approach uses a secure web portal to identify cases not included in the national administrative databases and offers persons with ALS the opportunity to take brief, online surveys to help researchers learn more about potential risk factors for the disease. It is possible that these novel approaches could be used—in whole or in part—to determine the prevalence of other non-notifiable conditions (e.g., Parkinson's disease and multiple sclerosis).

In FY 2014, the registry released its [first annual report](#)³¹⁶ in CDC's Morbidity and Mortality Weekly Report. This is the first report to summarize population-based estimates for all ALS cases in the United States. From October 19, 2010 to December 31, 2011, the registry identified a total of 12,187 persons meeting the surveillance case definition of definite ALS, providing a prevalence of 3.9 cases of ALS per 100,000 persons. In the United States, ALS was more common among whites, non-Hispanics, and persons aged 60–69 years. To date, patients in all 50 states have enrolled in the registry and the number of enrollees increases each day.

In FY 2015, ATSDR published more peer-reviewed studies that helped to quantify the number of new and existing cases of ALS in selected states and large metropolitan areas around the country and described the demographic characteristics of people living with the disease. The Registry also collected more data about risk factors for the disease from enrolled patients. To date, approximately 50,000 surveys have been completed, and CDC/ATSDR is continuing to analyze the data.

CDC/ATSDR's ALS biorepository (i.e., collection of biological specimens such as blood and tissues) pilot project concluded in FY 2015. The project demonstrated that a full-scale biorepository is feasible and important for ALS research. Through the biorepository pilot project, approximately 300 living ALS patients contributed biological specimens (e.g., hair, fingernails, blood), along with 18 deceased ALS patients, to date, who contributed post-mortem specimens (e.g., brain, spinal fluid, bone, skin). Over 12,000 biospecimens will be made available to researchers in FY 2016. The Registry was also used to help researchers around the country and abroad recruit [registry-enrolled patients for research](#).³¹⁷ To date, CDC/ATSDR has recruited hundreds of patients to participate

³¹⁴<http://wwwn.cdc.gov/als/>

³¹⁵A notifiable disease is any disease or condition, typically one of a serious communicable nature that is reported to CDC from state health departments.

³¹⁶http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6307a1.htm?s_cid=ss6307a1_w

³¹⁷<https://wwwn.cdc.gov/als/ALSResearchNotificationClinicalTrialsStudies.aspx>

in 21 different clinical trials and epidemiological studies. In FY 2015, CDC/ATSDR funded two more researcher-initiated grants for a total of 10 studies³¹⁸ to help further explore the causes of ALS and potential risk factors.

In FY 2016, CDC/ATSDR will release a combined second report of cases for calendar years 2012-2013. This new report will include national prevalence and mortality estimates. Additionally, the accumulation of these new cases will help determine disease trends and patterns, along with examining the spatial distribution of cases throughout the country. CDC/ATSDR also will test the completeness of the registry using active surveillance data collected from three states and eight metropolitan areas, along with using capture/recapture methodology. Based on the results from the completed biorepository study, CDC/ATSDR launched the full-scale National ALS Biorepository in the fall of FY 2016. The Biorepository will offer researchers new insights into ALS, and will collect specimens such as hair, nails, tissue, skin, brain, and cerebrospinal fluid from living and deceased ALS patients. Biospecimens collected through the pilot project are being used to pre-populate the new biorepository. This biorepository is unique in that it will pair biological specimens with detailed epidemiological and risk factor data from registry-enrolled patients. The additional funding provided in FY 2016 will likely allow CDC to fund at least one more researcher-initiated grant in FY 2016, increase the number of biospecimens collected, and implement a national communications contract to increase the number of registrants enrolled in the Registry.

In FY 2017, CDC/ATSDR will continue to publish findings through the third Registry report and via peer-reviewed publications; collect more risk factor data from registry-enrollees to learn about etiology; collect additional biospecimens to help researchers learn more about the disease; help researchers use the registry to recruit ALS patients for research; and potentially fund additional studies to evaluate potential risk factors.

ALS Research Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	0	0	2	3	3	0
- New Awards	0	0	2	1	0	-1
- Continuing Awards	0	0	0	2	3	+1
Award						
Average Award	\$0.000	\$0.000	\$0.400	\$0.400	\$0.400	\$0.000
Range of Awards	\$0.000-\$0.000	\$0.000-\$0.000	\$0.400- \$0.400	\$0.400- \$0.400	\$0.400- \$0.400	N/A
Total Awards	\$0.000	\$0.000	\$0.800	\$1.200	\$1.200	\$0.000

¹These funds are not awarded by formula.

Climate and Health

Extreme weather events devastate environments and place American lives in danger. Extreme heat and cold, stronger storms, longer pollen seasons, expanding geographic ranges of vectorborne diseases, weather, and degrading air quality put millions at risk and will cost thousands of lives.

- 10,649 Americans died of weather-related causes between 2006 and 2010
- The death rate from extreme weather doubles for people with incomes under \$36,000 versus incomes over \$49,000
- Since 1995, the pollen season has lengthened by up to 27 days in some parts of North America

³¹⁸<https://www.cdc.gov/als/ALSExternalResearchfundedbyRegistry.aspx>

- Total pollen is also increasing, affecting people with allergies and asthma

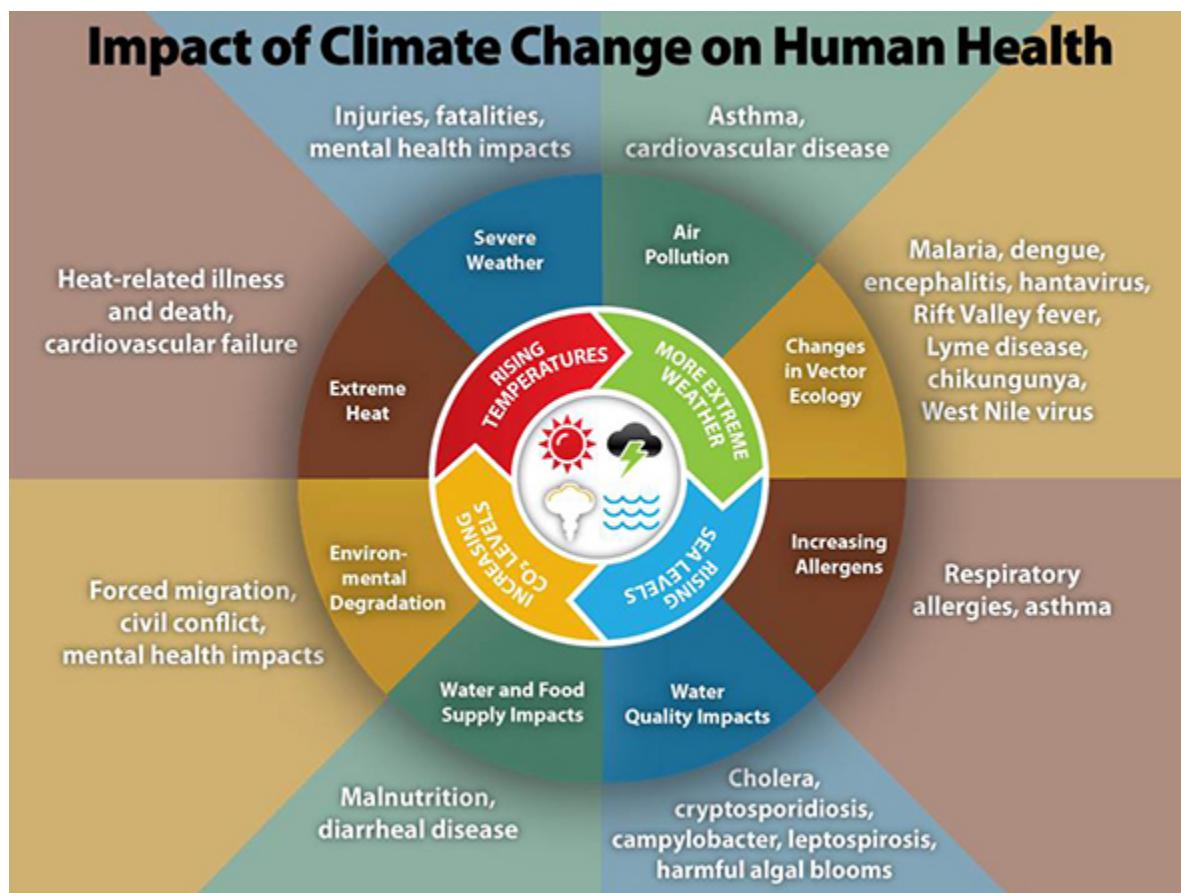
CDC's [Climate and Health](#)³¹⁹ program addresses these risks by improving community readiness to respond to extreme heat and cold, severe storms, floods, droughts, pollen, and expanding geographic ranges of vectorborne diseases (e.g., Lyme disease, dengue, West Nile virus, chikungunya, Rocky Mountain spotted fever). Since 2009, CDC scientists have worked to prepare for the impact our changing climate will have on the health of the U.S. population and healthcare system. In FY 2017, CDC will continue to work with state, local, and federal partners to build and implement evidence-based interventions. Current grantees will be able to move forward with our Climate and Health Adaptation Monitoring Program (CHAMP), which will implement and evaluate strategies that were identified in the climate and health adaptation planning process.

In FY 2017, CDC will continue to directly fund 16 states and two local health departments to implement the Building Resilience Against Climate Effects (BRACE) to forecast climate and health impacts in communities, identify vulnerabilities, and create and implement climate and health adaptation plans. CDC funding improves the readiness of communities to respond to extreme weather events, floods, droughts, and increased climate-related infectious diseases leading to public health impact. For example,

- New York City, Maine, and Michigan now have climate surveillance and modeling systems to identify people at risk of heat-related illness and death during extreme summer weather. This allows state officials to implement life-saving heat alert measures earlier than previously done..
- Vermont public health officials used the Environmental Public Health Tracking System as a platform to develop a web-based, crowd sourced reporting tool to track and map ticks that serve as vectors for Lyme and other vectorborne diseases. This allows people to avoid areas of high tick activity when outdoors.
- North Carolina is protecting the 1 million state residents vulnerable to sea level rise and storm surge, which can cause the failure of drinking and waste-water infrastructure, resulting in waterborne disease outbreaks. The state used climate models to estimate high-risk areas.
- Arizona convened a statewide heat preparedness meeting, which resulted in an institutionalized health emergency communications plan. This was done to address the 2,500 combined hospitalizations and emergency room visits related to heat that occur in Arizona each year.

Beginning in FY 2016, CDC will also fund five tribal and territorial organizations to implement a climate and health planning process based more on qualitative methods. These awardees will benefit from technical assistance from previous grantees and from CDC.

³¹⁹<http://www.cdc.gov/climateandhealth/>



Climate and Health Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	18	18	18	23	23	0
- New Awards	0	0	0	23	0	-23
- Continuing Awards	18	18	18	0	23	+23
Average Award	\$0.208	\$0.208	\$0.208	\$0.208	\$0.208	\$0.000
Range of Awards	\$0.173-\$0.250	\$0.173-\$0.250	\$0.173-\$2.080	TBD	TBD	N/A
Total Awards	\$3.618	\$3.618	\$3.618	\$4.784	\$4.784	\$0.000

¹These funds are not awarded by formula.

Safe Water

Clean and safe drinking water is necessary to sustain human health. More than 300 million adults and children living in the United States rely on our nation's water supply for drinking, recreation, sanitation, hygiene, and economic health. The American people need to be secure in the belief that the water they drink and play in will not make them sick. Environmental contamination and waterborne illness occur naturally as well as through industrial processes and accidents, water system failure, climate, and extreme weather events like storms and floods. As a result, everyone in America is at risk of waterborne illness. The 43 million Americans using federally unregulated drinking water sources and those in rural or tribal communities are particularly vulnerable. Overall,

water-related illness, such as Legionnaire's disease, results in an estimated 40,000 hospitalizations and \$970 million in costs each year.³²⁰

CDC's Safe Water [program](#)³²¹ is non-regulatory and focuses on protecting public health by decreasing the environmental threats to water systems and reducing exposures to waterborne contaminants. CDC enhances the ability of state, territorial, local, and tribal (STLT) governments to protect their citizens by providing unique expertise, conducting research, collecting data, and providing assistance which would not otherwise be available to STLT health departments facing waterborne contamination and/or waterborne illness. CDC's comprehensive efforts include investigating and identifying the nature and causes of contamination, designing and helping STLTs implement public health interventions to combat water contamination, providing expertise and hands-on responses to disasters that affect drinking water safety, and helping STLT governments identify vulnerabilities to water contamination and then helping them put critical preventive policies in place. In FY 2015, CDC trained more than 2,500 public health professionals to identify and reduce exposures that can lead to contamination of drinking water, to prevent waterborne disease, and to prepare for water emergencies. CDC also estimated contaminant levels in well water; estimated the disease and economic burden of exposure to arsenic in private wells; and evaluated the effectiveness of interventions to prevent harmful exposures related to unregulated water sources.

In FY 2017, CDC will fund state and local health departments to improve drought preparedness and resiliency, and to reduce drought-related morbidity and mortality; continue providing scientific expertise to prevent and investigate outbreaks of waterborne illness; improve our understanding of health risks and outcomes from non-infectious drinking water contaminants; and train state, local, and tribal public health staff on issues related to drinking water safety.

In addition to its work to ensure the safety of water supplies not protected by the federal Safe Drinking Water Act, CDC works to protect the American people during the 300 million pool visits they make every year. Hazards such as drowning, exposure to pool chemicals, or waterborne illness from swimming in unsafe pools and aquatic facilities combine to cause over 3,000 deaths, 5,000 hospitalizations, and thousands of illnesses annually. CDC supports the prevention of waterborne illness such as Legionnaire's disease, and other risks associated with recreational water sources through the national [Model Aquatic Health Code](#),³²² which provides voluntary guidance for local and state agencies on the design, construction, operation, and maintenance of pools, spas, and hot tubs. In FY 2017, CDC will continue to support state and local recreational water program needs.

CDC directly funds state and local health departments through [Safe Water cooperative agreements](#).³²³ These cooperative agreements are intended for communities and populations using small drinking water systems not covered by the Federal Safe Drinking Water Act (e.g., private wells, springs, cisterns). CDC funding allows recipients to identify and address drinking water program performance gaps, improve program efficiency and effectiveness, and identify and reduce exposures that can lead to contamination of drinking water. These efforts will include identifying water systems with elevated levels of arsenic and uranium, and those systems at risk of biological contamination. In FY 2017, CDC will fund 19 awards in the third year of a five-year cooperative agreement cycle.

In FY 2016, CDC will begin funding organizations to improve drought preparedness in communities, focusing on reducing drought-related morbidity and mortality. Awardees will identify and quantify the current and potential health effects of drought in their region, identify at-risk communities, and develop and implement interventions

³²⁰ Collier, SA et al. 2012. "Direct healthcare costs of selected diseases primarily or partially transmitted by water," *Epidemiol. Infect.* 140: 2003-2013.

³²¹<http://www.cdc.gov/nceh/ehs/activities/water.html>

³²²<http://www.cdc.gov/healthywater/swimming/pools/mahc/index.html>

³²³<http://www.cdc.gov/nceh/ehs/news/features/2015/funding-safe-water.html>

to mitigate identified health effects in their at-risk communities. In FY 2017, CDC plans to fund 5-6 awards in the second year of a five-year cooperative agreement cycle.

CDC is also funding the National Network of Public Health Institutes (NNPHI) to develop training for environmental health water program managers (\$400,000); the Public Health Foundation (PHF) to provide performance improvement technical assistance to environmental health water program managers (\$350,000); and Change Labs Solutions (CLS) to develop guidance and provide assistance to health departments on the development of improved safe drinking water policies and practices (\$200,000).

Safe Water Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	11	11	19	19	19	0
- New Awards	0	0	19	0	0	0
- Continuing Awards	11	11	0	19	19	0
Average Award	\$0.145	\$0.145	\$0.130	\$0.130	\$0.130	\$0.000
Range of Awards	\$0.050-\$0.171	\$0.050-\$0.171	\$0.100-\$0.134	\$0.100-\$0.134	\$0.100-\$0.134	N/A
Total Awards	\$1.595	\$1.595	\$2.455	\$2.455	\$2.455	\$0.000

¹These funds are not awarded by formula.

Drought Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	N/A	N/A	N/A	5	5	0
- New Awards	N/A	N/A	N/A	5	0	-5
- Continuing Awards	N/A	N/A	N/A	0	5	+5
Average Award	N/A	N/A	N/A	\$0.150	\$0.150	\$0.000
Range of Awards	N/A	N/A	N/A	TBD	TBD	TBD
Total Awards	N/A	N/A	N/A	\$0.750	\$0.750	\$0.000

¹These funds are not awarded by formula.

Other Environmental Health Activities

CDC provides critical assistance and expertise to assist federal, state, and local entities to respond to disease outbreaks and emergencies; investigate and respond to toxic health threats; provide unique expertise and training regarding radiation; protect the public from unsafe food in retail settings and elsewhere; and work to ensure that the nation has a strong and knowledgeable environmental health workforce now and then in the future.

Responding to Environmental Health Emergencies

Non-infectious disease outbreaks and environmental emergencies can threaten people anywhere in the country at any time. CDC's environmental health experts assist in federal and state responses to disease outbreaks and emergencies. For example, CDC environmental health scientists assisted New York City in identifying building cooling towers associated with an outbreak of community acquired Legionnaire's disease. Environmental assessments conducted by New York City and CDC environmental health scientists lead to the development of

environmental interventions that helped stop the outbreak, and prevent future outbreaks. CDC provided assistance to the West Virginia Bureau of Public Health to help address health concerns following the 2014 chemical spill in the Elk River. CDC's data analysis identified at-risk people, leading to action by federal, state, and local officials. Public health and emergency management officials rely on CDC's experts and its rapid needs assessment toolkit—[Community Assessment for Public Health Emergency Response](#)³²⁴ (CASPER)—to quickly prioritize resources in response to a disaster. In FY 2015, CDC conducted two CASPERs and provided technical assistance on six others. In total, over 180 public health staff were trained on the CASPER methodology in FY 2015. CDC's [Environmental Health Training in Emergency Response courses](#)³²⁵ teach state and local officials how to restore clean drinking water, dispose of sewage properly, ensure food is protected from unsafe environmental conditions, and prevents the spread of diseases after disasters. In FY 2016, CDC will release a new online environmental health training in emergency response course. CDC anticipates at least 1,250 state and local officials will take the course by FY 2017.

Responding to Toxic Health Threats

Environmental health programs at CDC respond to public health threats from non-infectious agents, such as acute toxic poisonings, that can result in severe or fatal illnesses. For example, epidemiologists and toxicologists in CDC's National Chemical and Radiation Surveillance activity use real-time data from poison control centers to identify public health threats and alert state public health authorities. If needed, states can request CDC's assistance to investigate further or initiate a rapid response. For example, CDC has provided in depth technical assistance to the state of Mississippi to investigate over 700 cases of severe illness associated with the use of synthetic cannabinoids.

Providing Expertise on Radiation and Health

CDC is the nation's public health authority on radiation. [CDC's radiation guidelines](#)³²⁶ help public officials and clinicians prepare for and respond to radiation emergencies and treat exposures. CDC's radiation experts assisted in major nuclear disasters, such as the Fukushima Daiichi incident in 2011, and stand ready for a 24/7 response to new threats. In FY 2015, CDC launched online training programs for public health professionals on radiation basics and medical countermeasures against radiation exposure and partnered with the National Association of County and City Health Officials (NACCHO) to develop [A Guide to Operating Public Shelters in a Radiation Emergency](#).³²⁷ The guide identifies radiation specific considerations for shelter operations and is the result of a multiyear collaboration among CDC, Oak Ridge Institute for Science and Education, NACCHO, radiation control officials, and stakeholders responsible for shelter operations at all levels of the U.S. government. In FY 2017, CDC will expand online training to address risk communications and medical response for a radiation emergency. CDC also plans to expand work beyond preparedness to examine the impact of the increasing use of medical radiation exposure on health.

Supporting State and Local Environmental Health Professionals

CDC's support for environmental health staff at the state and local level is a key component of keeping our communities safe from environmental threats. Staff in health departments do the day-to-day environmental health work that keeps us safe in our communities. They are the front line in preventing environment-related illness—ensuring the safety of drinking water, wastewater, restaurants, swimming pools, and other facilities. They are also charged with keeping us safe from environmental health impacts related to disasters and climate effects.

³²⁴<http://www.cdc.gov/nceh/hsb/disaster/casper.htm>

³²⁵<http://www.cdc.gov/nceh/ehs/eLearn/EHTER.htm>

³²⁶<http://emergency.cdc.gov/radiation/>

³²⁷<http://emergency.cdc.gov/radiation/pdf/operating-public-shelters.pdf>

Environmental health staffing at the state and local level has decreased dramatically since 2008, and retirements threaten to decrease it further in the coming years. Maintaining the capabilities and staffing levels of environmental health professionals is vital to keep Americans safe. CDC acted to maintain the environmental health workforce in FY 2015 and FY 2016 by supporting accredited environmental health undergraduate programs and a summer environmental health internship program at CDC; by documenting current and future environmental health workforce needs; and by supporting environmental health performance standards.³²⁸ In FY 2017, CDC will continue these activities and also provide training and guidance for approximately 3,000 state and local public health specialists on topics such as integrated pest management, drinking water safety, wastewater, restaurant safety, and environmental health emergencies.

Retail Food Protection and Foodborne Illness Prevention

Every year, 48 million Americans get sick from foodborne diseases, and 3,000 people die.³²⁹ The United States spends approximately \$78 billion per year on costs (healthcare, workplace, and other) related to foodborne illnesses.³³⁰ Situational environmental factors are responsible for a great many of these foodborne illnesses, particularly in restaurants and delicatessens, where two-thirds of these outbreaks begin. CDC seeks to prevent such outbreaks from happening. When they do occur, CDC works quickly to contain them. Prevention means changing practices to promote safe operation of restaurants and retail food establishments. Achieving this requires research into risk factors and safe practices, the collection and translation of high quality surveillance data, and the development of a well-trained environmental health workforce at the state and local level. These activities form the core of CDC's efforts to prevent foodborne illness outbreaks before they start.

CDC collects and translates high quality surveillance data through the recently established National Environmental Assessment Reporting System³³¹ (NEARS). NEARS represents the only national effort to systematically collect, analyze, interpret, and disseminate environmental data from foodborne illness outbreak investigations. This data can be used to prevent outbreaks by improving practices at the state and local level. In FY 2017, CDC will analyze data on restaurant food safety practices to improve its understanding of the environmental causes of restaurant-related foodborne illness outbreaks.

CDC also supports the work of state and local health departments to prevent and respond to foodborne illness outbreaks. State and local health departments participating in CDC's Environmental Health Specialists Network³³² are better equipped to identify and address the root causes of foodborne illness such as unsafe food handling practices, ill restaurant workers, and a lack of certified kitchen managers in restaurants. In FY 2017, CDC will provide training and guidance for approximately 500 state and local environmental health specialists on investigating the environmental causes of foodborne illness. These efforts are supplemented by an online training course³³³ that launched along with NEARS.

Finally, through Environmental Health Services Network cooperative agreements,³³⁴ CDC supports state and local health departments in conducting research on and addressing the environmental causes of foodborne disease. Findings from CDC-supported research have prompted a number of beneficial changes in foodservice industry practices. In FY 2017, CDC will fund eight states and communities to conduct research and apply that research to preventing and responding to outbreaks. Grantees are selected competitively based on their

³²⁸<http://www.cdc.gov/nceh/ehs/EnvPHPS/default.htm>

³²⁹<http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html>

³³⁰<http://www.ncbi.nlm.nih.gov/pubmed/22221364>

³³¹<http://www.cdc.gov/nceh/ehs/NEARS>

³³²<http://www.cdc.gov/nceh/ehs/EHSNet/>

³³³http://www.cdc.gov/nceh/ehs/eLearn/EA_FIO/index.htm

³³⁴<http://www.cdc.gov/nceh/ehs/EHSNet/partners/index.htm>

capacity to implement prevention activities and address risks for exposure to unsafe food. The food safety work being done at CDC is critically important to the implementation of the Food Safety Modernization Act (FSMA).

Environmental Health Specialists Network¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	15	15	8	8	8	0
- New Awards	15	0	8	0	0	0
- Continuing Awards	0	15	0	8	8	0
Average Award	\$0.155	\$0.155	\$0.192	\$0.192	\$0.192	\$0.000
Range of Awards	\$0.075-\$0.175	\$0.075-\$0.175	\$0.178-\$0.200	\$0.178-\$0.200	\$0.178-\$0.200	N/A
Total Awards	\$2.325	\$2.325	\$1.540	\$1.540	\$1.540	\$0.000

¹These funds are not awarded by formula.

Environmental and Health Outcome Tracking Network Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$34.904	\$34.000	\$24.000	-\$10.000

Overview

The [Environmental and Health Outcome Tracking Network](#)³³⁵ is a dynamic, [web-based system](#)³³⁶ for use by public health officials, policy makers, and the general public that integrates data from a variety of sources, tracks, and reports environmental hazards and related health outcomes. Before the use of tracking networks, even simple questions about health and the environment could take months to answer. Tracking data enables public health officials to apply the same disease detection skills used in infectious disease surveillance to locate hazard sources or respond to residents' concerns quickly, often within hours. Tracking networks empower public health officials to protect the public's health more efficiently, and makes data and information directly accessible to communities in a one-stop shop.

Budget Request

CDC's FY 2017 request of **\$24,000,000** for the Environmental and Health Outcome Tracking Network is \$10,000,000 below the FY 2016 Enacted level. In FY 2017, CDC will fund a new three-year cooperative agreement to conduct environmental and health outcome tracking. The FY 2017 budget will maintain core tracking network activities and functions, but funding and assistance to states will be reduced. CDC will focus on capacity building for existing grantees to ensure that public health actions based on these data continue.

Supporting the National Environmental Public Health Tracking Infrastructure

CDC maintains the national tracking network's technological infrastructure. CDC routinely updates and adds data to the tracking network, acquires information technology, creates animated maps that show multi-year disease trends, manages projects that link environmental and health data, establishes data sharing agreements, and hosts data for other public health programs. To date, the tracking network includes 19 datasets, 96 indicators, and 385 health measures, including data on air quality, water, and health outcomes like asthma and birth defects.

In FY 2016, the tracking program will add new content on blood lead levels between 5 and 10 mcg/dL; updated heat vulnerability metrics; precipitation; and a disasters module, focusing on disaster occurrence, population vulnerability, and community infrastructure and resources. Each addition or improvement to tracking network data capacity helps state and local governments make more informed decisions to protect and promote the health of their populations.

³³⁵<http://ephtracking.cdc.gov/>

³³⁶<http://ephtracking.cdc.gov/QueryPanel/EPHTNQuery/EPHTQuery.html>

Recent Public Health Actions Using the Tracking Network

Activities	Examples
Inform policy, legislation, and regulation	New York City used tracking data to develop and inform policy to replace heavy heating oil with cleaner burning fuel. To date, this has prevented 210 avoided premature deaths, 140 avoided hospitalizations for cardiovascular and respiratory disease, and 400 emergency department visits for asthma, annually across New York City.
Respond to community, agency, or legislator concerns	Massachusetts used tracking data to respond to community concerns about cancer rates. Because they were able to rapidly analyze data on cancer type, location, and incidence, the health department was able to assure residents that the occurrence of cancer in their communities was not unusual.
Identify populations at risk or risk factors to better target intervention	Maine used tracking data to target limited resources for lead poisoning prevention efforts to vulnerable children in high-risk areas. Preliminary data showed that lead poisoning rates in three out of the five highest risk areas had dropped significantly.
Address environmental health impact and city planning	Local officials were trying to figure out what to do with a parcel of vacant land in Utica, New York. New York state tracking data were used to develop community-level health indicators, which helped support and justify funding for a neighborhood park that will be built at the site in the next year.
Issue health alerts and advisories	Vermont developed two new web applications that enable scientists to approve reports of Lake Champlain blue-green algae conditions posted by citizen volunteers. Validated observations that alert swimmers and boaters of potentially hazardous situations are now provided to the public at more than 60 locations in near real-time.

Funding State and Local Tracking Programs

CDC directly funds state and local tracking programs through competitive cooperative agreements. Grantees use CDC funding to create their own tracking networks, add data to the national system, and support epidemiologic capacity. CDC will award funding to 16 states through a new three-year cooperative agreement in FY 2017. Because of the proposed funding reduction, CDC will reduce the number of awards under the new cooperative agreement. CDC will make 10 fewer awards so that the remaining grantees receive sufficient funding to be able to fully implement a tracking network, carry out public health actions, and conduct activities required by the cooperative agreement.

Making Other CDC Programs More Effective

The tracking network is a vital tool used by several other CDC programs. These programs, among others, include the Interactive Atlas of Heart Disease and Stroke, the Autism and Developmental Disabilities Monitoring Network, and state biomonitoring programs supported by the Environmental Health Laboratory.

Tracking Network Grants¹

(dollars in millions)	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2017 +/- FY 2016
	Actual	Final	Final	Enacted	PB	
Number of Awards	24	26	26	26	16	-10
- New Awards	0	26	0	0	16	+16
- Continuing Awards	24	0	26	26	0	-26
Average Award	\$0.596	\$0.869	\$0.869	\$0.869	\$0.870	+\$0.001
Range of Awards	\$0.375–\$0.715	\$0.513–\$1.200	\$0.513–\$1.200	\$0.513–\$1.200	\$0.513–\$1.200	N/A
Total Awards	\$14.304	\$22.605	\$22.605	\$22.605	\$14.000	-\$8.605

¹These funds are not awarded by formula.

Asthma Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$27.528	\$29.000	\$29.000	\$0.000

Overview

The [National Asthma Control Program](#)³³⁷ helps millions of Americans understand, manage, and gain control over their asthma. CDC launched the National Asthma Control Program in 1999 to address the rising prevalence of asthma. In the United States today, nearly 26 million people have asthma, including seven million children. The disease disproportionately affects African American children, who are twice as likely to be hospitalized and over four times more likely to die from asthma than white children. The National Asthma Control Program seeks to decrease the number of deaths, hospitalizations, emergency department visits, and reduce limitations on activity, including school days or workdays missed due to asthma.

Budget Request

CDC's FY 2017 request of **\$29,000,000** for the National Asthma Control Program is level with the FY 2016 Enacted level. Requested funds are needed for CDC to lead a coordinated public health effort to understand and address asthma in the United States. In addition, these funds support projects on indoor and outdoor air pollution to better understand and evaluate the effects of air pollution on people with asthma. Expansion of health insurance coverage under the Affordable Care Act allows more people with asthma to access healthcare providers and medication, and CDC supports critical components of comprehensive asthma control. In FY 2017, CDC will continue to offer education and expertise to inform public health action, quantify risks and vulnerabilities to asthma control, and provide funding to state health departments to implement comprehensive asthma control programs.

Implementing a Comprehensive Approach

Comprehensive asthma control aligns the full array of asthma care services across the public health and healthcare sectors so that people with asthma receive all of the care that they need. CDC implements a tiered approach to asthma control, using asthma interventions with the strongest evidence of effectiveness, delivered as a comprehensive package. For people with asthma, a comprehensive approach assures availability of and access to [guidelines-based medical management](#)³³⁸ and appropriate medication use. For those whose asthma remains poorly controlled, additional steps progressively provide more individualized services, such as self-management education, school- and home-based trigger (e.g., dust and cockroaches) reduction, and other environmental management strategies.

Monitoring Asthma Trends

Asthma surveillance is the collection of asthma data at both the national and the state level. Data collection is important to understand asthma trends and identify people who are most at risk of developing asthma or having asthma-related illness. National data sources for asthma include CDC's National Health Interview Survey and Vital Statistics System. CDC epidemiologists use these surveillance systems to analyze asthma prevalence, activity limitation, days of work or school missed, rescue and control medication use, asthma self-management education, physician visits, emergency department visits, hospitalizations due to asthma, and deaths due to asthma. CDC surveillance systems also provide state-specific asthma data. State-specific adult and child asthma

³³⁷<http://www.cdc.gov/asthma/nacp.htm>

³³⁸<http://www.nhlbi.nih.gov/health-pro/guidelines/current/asthma-guidelines/index.htm>

prevalence are available from CDC's Behavioral Risk Factor Surveillance System (BRFSS), which also administers an in-depth Asthma Call-Back Survey (ACBS). In FY 2017, CDC will continue to support the use of ACBS, as well as publish three AsthmaStats documents to provide national estimates of asthma burden.

Strengthening Community and Clinical Linkages

CDC works closely with health departments and partners to strengthen and expand asthma control efforts in homes and schools, while linking with services offered by health care organizations. Home- and school-based efforts might include reducing environmental triggers, improving poor indoor air quality, or educating parents, teachers, and students. For example, the CDC-funded New York State Asthma Program uses community health worker visits as an opportunity to provide tips on asthma management and how to reduce asthma triggers. In Buffalo, the effort reduced asthma attacks and symptoms by 67% and increased daily asthma medication use from 83% to 100% among participants. CDC will continue to engage state partners in communities of practice concerning health systems and in home- and school-based interventions, and promote the collaborative development of guidance documents.

Improving Asthma Care Coordination

Good asthma management requires improving coverage, delivery, and use of clinical and other services. Examples of asthma care coordination include healthcare provider trainings, patient education, and quality improvement initiatives. In Montana, CDC funding supported the development of an asthma-specific software system to coordinate care, track patient outcomes, and ensure better follow up. In FY 2017, CDC will continue to offer tools, methodologies, and guidance documents as technical resources for state and local public health practice related to asthma.

Evaluating and Improving on Program Successes

CDC believes comprehensive asthma control must include an evaluation component. Sound evaluation practices ensure efficient use of resources and help identify what works. For example, when Massachusetts conducted an evaluation of its asthma program it found community health workers were able to effectively connect asthma patients, community organizations, and local health care providers in communities with disparities and high asthma burdens. In FY 2017, CDC will disseminate additional modules of the "Learning and Growing through Evaluation" series for state partners, and provide technical assistance based on Practical Strategies for Culturally Competent Evaluation. CDC will also develop and disseminate success stories from state grantees, highlighting public health impact, innovative reimbursement mechanisms, and return on investment.

Funding Cooperative Agreements

State Health Departments

CDC funds state health departments to implement comprehensive asthma control programs. State health departments must focus efforts on geographic areas or communities with a high or disproportionate burden of asthma, particularly among racial and ethnic minorities and low-income groups. In FY 2014, CDC began a five-year, competitive cooperative agreement cycle for 23 states that had received funding previously. In 2016, CDC will increase the number of funded states to 26. Funding decisions were based on the strength of applications, capacity of state programs to implement effective interventions, and use of evaluation and performance measures, among other factors. CDC will consider using a population-adjusted disease burden formula as a factor when awarding new funding. CDC plans to award the fourth year of funding in FY 2017.

Asthma Grants to Health Departments¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	40	23	23	26	26	0
- New Awards	0	0	0	3	0	-3
- Continuing Awards	40	23	23	23	26	+3
Average Award	\$0.358	\$0.604	\$0.604	\$0.604	\$0.604	\$0.000
Range of Awards	\$0.232–\$0.486	\$0.450–\$0.800	\$0.450–\$0.800	\$0.450–\$0.800	\$0.450–\$0.800	N/A
Total Awards	\$12.872	\$13.896	\$13.896	\$15.704	\$15.704	\$0.000

¹These funds are not awarded by formula.

Non-governmental Organizations

CDC funds four non-governmental organizations to develop communication, education, or policy interventions to enhance the management of asthma and indoor air quality. These efforts target individuals with asthma, their caretakers, clinicians, and other stakeholders. This partnership allows CDC's National Asthma Control Program to reach a national audience in a coordinated manner. CDC awarded a new, five-year cooperative agreement to four grantees in FY 2015.

Asthma Grants to Non-governmental Organizations¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	4	4	4	4	4	0
- New Awards	0	0	4	0	0	0
- Continuing Awards	4	4	0	4	4	0
Average Award	\$0.094	\$0.094	\$0.094	\$0.094	\$0.094	\$0.000
Range of Awards	\$0.076–\$0.100	\$0.076–\$0.100	\$0.076–\$0.100	\$0.076–\$0.100	\$0.076–\$0.100	N/A
Total Awards	\$0.377	\$0.377	\$0.377	\$0.377	\$0.377	\$0.000

¹These funds are not awarded by formula.

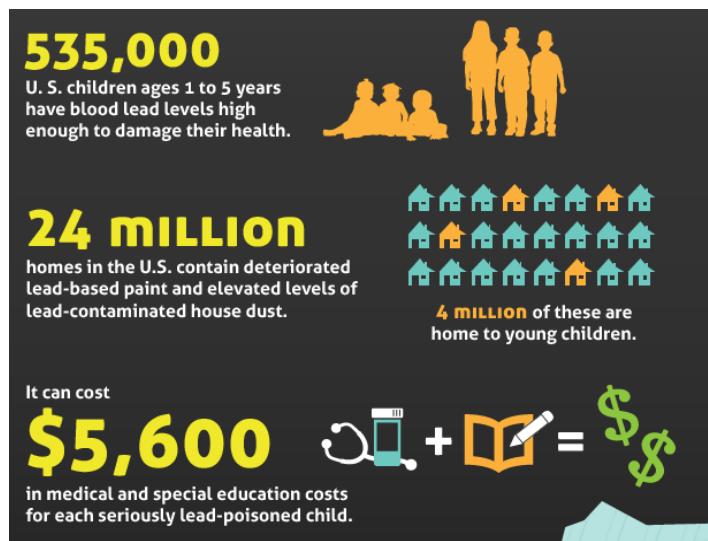
Childhood Lead Poisoning Prevention Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$2.522	\$0.000	\$2.522	+\$2.522
ACA/PPHF	\$13.000	\$17.000	\$14.478	-\$2.522
Total	\$15.522	\$17.000	\$17.000	\$0.000

Overview

The [Childhood Lead Poisoning Prevention](#)³³⁹ program provides national expertise, guidance, and surveillance of childhood lead poisoning in the United States. Lead poisoning is still a major public health concern in the United States today. An estimated 535,000 children in the United States have blood lead levels greater than or equal to the reference value of 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$). Of these, levels in 150,000 children are greater than or equal to $10 \mu\text{g}/\text{dL}$, indicating grave risk for intellectual, behavioral, and academic deficits.

Lead poisoning poses a social and economic burden on families, communities, and the country. Medical and special education expenses alone can equal \$5,600 for each child with serious lead poisoning. Low-income and minority children bear an unequal burden from this condition. The primary source of children's lead exposure is their homes. Some 24 million homes in the United States have lead-based paint hazards that can result in childhood lead poisoning and young children live in approximately four million such homes. Also, some areas of the United States report that as many as 35% of children with high blood lead levels are exposed via contaminated items like toys, imported cosmetics, pottery, and candy.



Budget Request

CDC's FY 2017 request of **\$17,000,000** for Childhood Lead Poisoning Prevention, including \$14,478,000 from the Affordable Care Act Prevention and Public Health Fund, is level with the FY 2016 Enacted level. Funding for the program builds on CDC's past success in reducing children's blood lead levels in the United States. In FY 2017, CDC will fund 38 state and local lead poisoning prevention programs, advise state and local agencies and stakeholders in lead poisoning prevention, provide epidemiological and laboratory expertise, and [monitor](#)

³³⁹http://www.cdc.gov/nceh/information/healthy_homes_lead.htm

trends in childhood blood lead levels³⁴⁰ for states that provide data. CDC will provide funding for healthy homes training, licensing of lead inspectors, and to support state and local advisory committees.

Data Collection for Action

Lead poisoning is a serious pediatric health problem in the United States, even though actions to prevent exposure or respond to elevated blood levels by controlling or eliminating lead in children's environments are well understood. CDC manages national data collection on children with blood-lead levels of concern and provides expert guidance to state and local surveillance programs. CDC partners—such as state and local health departments, community organizations, and social service agencies—use surveillance data to identify children at risk. Partners can then provide blood-lead testing, identify and reduce sources of exposure, and link exposed children to health care. Other federal agencies also rely on CDC data to fulfill their mandate to protect children. For example, the U.S. Department of Housing and Urban Development uses CDC lead surveillance data to identify housing properties where multiple children have been lead poisoned, and the Environmental Protection Agency uses CDC data to target enforcement actions.

State and Local Cooperative Agreements

In FY 2016, CDC will fund additional activities within the 35 state and local lead programs. In FY 2017, CDC will begin a new 3-year, competitive cooperative agreement for 38 state and local health departments. These awards will emphasize primary prevention of lead poisoning through the elimination and control of lead hazards before children are exposed. Based on CDC-funded data collection, state and local health departments implement primary prevention interventions, including housing rehabilitation, housing and health code enforcement, early childhood programs, and engagement with clinical care. These interventions protect children who live in the highest risk housing in buildings, blocks, and neighborhoods.

Childhood Lead Poisoning Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	0	35	35	35	38	0
- New Awards	0	0	0	0	38	+38
- Continuing Awards	0	35	35	35	0	-35
Awards						
Average Award	\$0.000	\$0.314	\$0.278	\$0.314	\$0.314	\$0.000
Range of Awards	\$0.000-\$0.000	\$0.102-\$0.421	\$0.102-\$0.421	\$0.102-\$0.421	\$0.102-\$0.421	N/A
Total Awards	\$0.000	\$11.000	\$9.452	\$10.990	\$11.932	+\$0.942

¹These funds are not awarded by formula.

³⁴⁰<http://www.cdc.gov/nceh/lead/data/index.htm>

Hearing Loss Initiative Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	N/A	N/A	\$10.000	\$10.000

Summary

Public Health Burden of Hearing Loss

Normally, sounds in our everyday environment, such as those from the television, household appliances, and traffic, are at safe levels that do not damage our hearing. However, sounds that are too loud, even for a brief time, can cause damage to sensitive structures in the inner ear, causing NIHL. After exposure to high sound levels, a temporary or permanent shift in the ability to hear can occur. This reduction in hearing ability could occur from exposure to noise from concerts, sporting events, personal listening devices, movie theaters, or other sources. For example, studies show that young adults who use personal listening devices at high volume report a significantly higher incidence of tinnitus. Hearing loss can become permanent with permanent injury or death of hearing cells. If the NIHL is permanent, hearing cannot be restored.

An estimated 30 million or 12.7% of Americans greater than 12 years of age had hearing loss in both ears during 2001-2008, increasing to 48 million or 20.3% when including hearing loss in at least one ear. The prevalence of hearing loss in the United States is expected to increase as the population ages. An estimated 15% of young people are exposed to high levels of leisure noise (e.g., concerts, sporting events, music, shooting sports) sufficient to cause NIHL. High levels of noise can cause immediate or cumulative decrements in hearing over a lifetime, and it is important to understand that high noise levels from any source can be damaging. While hearing loss has multiple causes, including diseases, certain medicines, and physical damage to the ears, the major preventable cause of hearing loss is exposure to high decibel (loud) sound levels.

NIHL can affect people of all ages. However, the cumulative impacts of hearing impairment become more pronounced among older adults. As described in a [report](#) from the President's Council of Advisors on Science and Technology, untreated hearing loss, particularly in older adults, is associated with social isolation, depression, dementia, falls, inability to work or travel, and lower physical activity.³⁴¹ Hearing loss also results in a significant economic impact on the healthcare system and the economy. Severe to profound hearing loss has been reported to cost society nearly \$300,000 over the life of an individual, largely as the result of reduced work productivity and special education resources for children. Individuals who have hearing loss have nearly two times higher odds of being unemployed or underemployed compared to those with normal hearing. Additionally, animal and human studies have shown that exposure to excessive noise during pregnancy may result in intrauterine growth retardation, high frequency hearing loss in the newborn that endures into adulthood, accelerated age-related hearing loss, and other adverse effects.

Need for Public Health Prevention Efforts

A lack of public awareness of the hazards of high noise levels, along with limited awareness among the medical and professional communities, has resulted in a lack of national prevention efforts. Prevention efforts that reduce NIHL have the potential to decrease healthcare costs, through improvements in both physical and cognitive health, as well as decreased need for high-cost hearing aids.

³⁴¹https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast_hearing_tech_letterreport_final.pdf

Budget Request

CDC's FY 2017 request is **\$10,000,000** for its Hearing Loss Prevention Program—a new hearing loss initiative to be managed by CDC's National Center for Environmental Health. These resources will support a new hearing loss prevention, awareness, and education program that targets children to older adults, low to moderate hearing loss, and various effects associated with hearing loss (social isolation, stigma, depression, inability to work). The majority of funds will be dispersed as social marketing activities or campaigns through competitive grants or cooperative agreements. Some funds will be used to better understand the epidemiology of hearing loss and evaluate the effectiveness of the outreach programs. Additionally, CDC will develop voluntary public health criteria to prevent exposure to dangerous levels of noise exposure for indoor and outdoor places and personal listening devices. The major focus of the program will be non-occupational noise-induced hearing loss (NIHL), given that the major preventable cause of hearing loss is exposure to high decibel (loud) noise levels. However, the project would include study of non-noise environmental risk factors (e.g., exposure to chemicals and drugs toxic to hearing).

Because of NCEH's expertise in community communication and awareness, combined with experience in environmental surveillance programs and prevention programs, the Center has the expertise and capability to carry out a public health prevention program on noise-induced hearing loss. NCEH also has responsibility for outreach, education, and intervention programs for those affected by environmental hazards, such as asthma and lead poisoning. In these programs, NCEH has worked to successfully connect at-risk and affected populations with prevention and intervention services, similar to the activities proposed.

Other CDC centers will collaborate on the project, including the National Center on Birth Defects and Developmental Disabilities, the National Center for Injury Protection and Control, the National Center for Chronic Disease Prevention and Health Promotion, and the National Institute for Occupational Safety and Health.

The specific objectives for CDC's new Hearing Loss Program in FY 2017 will be as follows:

- Through a competitive extramural process (grants or cooperative agreements), launch a vigorous hearing loss prevention, awareness, and education program that targets children to older adults, low to moderate hearing loss, and various secondary social and health effects associated with hearing loss (e.g., social isolation, stigma, depression, inability to work). Outreach programs will have evaluation components to assess effectiveness of the program.
- Leverage the expertise of other CDC Centers, Institutes, and Offices (CIOs) and other government and non-government organizations to assess economic burden and develop best practice interventions related to preventing exposure to high level of noise.
- Conduct analyses of the latest National Health and Nutritional Examination Survey data to better understand the epidemiology of hearing loss in the population, for instance by comparing recent data with older hearing loss survey data. Evaluate the feasibility of examining other sources of data, for example, Department of Defense audiology data, to study trends in hearing loss.
- Develop non-occupational voluntary public health criteria to prevent dangerous levels of noise exposure in indoor and outdoor venues, and potentially for personal listening devices. This effort would involve outreach to stakeholders and involve need for public input and participation.
- Study the role of non-noise environmental risk factors for hearing loss and

- Improve the medical, audiology and environmental health communities' awareness of hearing health and public aspects of the dangers of high noise exposures through reports in peer-reviewed journals. Develop health communication materials for physicians to provide to their patients.

State Table: Environmental Health Funding¹

	FY 2013 Enacted	FY 2014 Enacted	FY 2015 Enacted	2015 +/-2014
Alabama	\$256,690	\$24,000	--	--
Alaska	--	--	--	--
Arizona	\$189,135	\$572,890	\$702,988	\$138,098
Arkansas	--	--	--	--
California	\$4,995,899	\$4,269,498	\$3,738,791	(\$530,707)
Colorado	\$734,896	\$1,141,956	\$1,191,437	\$49,481
Connecticut	\$956,448	\$1,802,416	\$1,773,485	(\$28,931)
Delaware	--	\$102,133	\$102,133	--
District of Columbia	\$1,814,017	\$825,963	\$362,146	(\$463,817)
Florida	\$1,533,163	\$2,281,677	\$1,858,226	(\$423,451)
Georgia	\$969,866	\$1,619,016	\$1,057,335	(\$561,681)
Hawaii	\$523,003	\$515,000	\$500,000	(\$15,000)
Idaho	--	--	--	--
Illinois	\$603,604	\$1,827,228	\$1,357,784	(\$469,444)
Indiana	\$371,777	\$901,800	\$1,008,484	\$106,684
Iowa	\$731,253	\$1,149,864	\$873,000	(\$276,864)
Kansas	\$435,827	\$639,717	\$617,886	(\$21,831)
Kentucky	\$328,200	\$1,331,146	\$946,904	(\$384,242)
Louisiana	\$891,813	\$684,522	\$1,283,272	\$598,750
Maine	\$1,320,514	\$1,876,701	\$1,567,652	(\$309,049)
Maryland	\$2,477,037	\$2,798,957	\$1,343,441	(\$1,455,516)
Massachusetts	\$1,423,564	\$3,253,984	\$3,099,224	(\$154,760)
Michigan	\$715,859	\$1,876,371	\$1,914,356	\$37,985
Minnesota	\$1,536,369	\$2,573,577	\$2,361,158	(\$212,419)
Mississippi	\$464,614	\$183,148	\$108,170	(\$74,978)
Missouri	\$1,222,161	\$2,036,341	\$1,998,058	(\$38,283)
Montana	\$354,200	\$508,000	\$450,000	(\$58,000)
Nebraska	\$166,675	\$6,900	--	(\$6,900)
Nevada	\$10,000	\$10,000	\$371,504	\$361,504
New Hampshire	\$1,229,864	\$2,782,651	\$2,308,257	(\$474,394)
New Jersey	\$926,759	\$2,001,472	\$2,029,382	\$27,910
New Mexico	\$1,198,414	\$2,113,999	\$1,811,147	(\$302,852)
New York	\$4,149,859	\$4,845,641	\$4,532,717	(\$312,924)
North Carolina	\$593,661	\$200,817	\$925,366	\$724,549
North Dakota	--	\$5,000	--	(\$5,000)
Ohio	\$690,742	\$1,278,707	\$1,076,451	(\$202,256)
Oklahoma	\$534,689	\$582,266	\$259,921	(\$322,345)
Oregon	\$1,928,532	\$2,466,273	\$2,196,895	(\$269,378)
Pennsylvania	\$915,343	\$1,871,773	\$1,788,390	(\$83,383)
Rhode Island	\$920,631	\$1,291,717	\$1,259,537	(\$32,180)
South Carolina	\$560,300	\$750,432	\$750,078	(\$354)
South Dakota	--	\$10,000	--	(\$10,000)
Tennessee	\$500,000	\$737,682	\$537,901	(\$199,781)
Texas	\$388,840	\$310,669	\$381,815	\$71,146
Utah	\$1,126,147	\$2,362,697	\$2,210,870	(\$151,827)
Vermont	\$1,000,261	\$1,879,200	\$1,923,361	\$44,161
Virginia	\$769,654	\$1,911,249	\$783,753	(\$1,127,496)
Washington	\$2,515,190	\$1,227,733	\$1,151,683	(\$76,050)
West Virginia	\$370,862	\$210,480	\$285,256	\$74,776
Wisconsin	\$1,355,069	\$2,327,783	\$2,193,176	(\$134,607)
Wyoming	--	--	--	--
Territories				

CDC FY 2017 Congressional Justification

American Samoa	--	--	--	--
Guam	--	--	--	--
Marshall Islands	--	--	--	--
Micronesia	--	--	--	--
Northern Marianas	--	--	--	--
Puerto Rico	\$423,453	\$62,359	--	(\$62,359)
Palau	--	--	--	--
Virgin Islands	--	--	--	--
Subtotal, States	\$46,701,401	\$65,946,677	\$58,993,950	(\$6,952,727)
Subtotal, Territories	\$423,453	\$62,359	\$0	(\$62,359)
Total	\$47,125,793	\$66,009,475	\$58,993,950	(\$7,015,525)

¹ FY 2014 and FY 2015 are not directly comparable due to a change in what is reported. FY 2014 totals included awards to non-governmental organizations within a state, but FY 2015 totals include only awards to state and local governmental entities.

INJURY PREVENTION AND CONTROL

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Injury Prevention and Control Total Request	\$170.447	\$236.059	\$298.629	+\$62.570
FTEs	241	250	250	0
Discretionary Funding Total	\$170.447	\$236.059	\$268.629	+\$32.570
Intentional Injury	\$92.001	\$97.730	\$107.730	+\$10.000
-Rape Prevention (non-add)	\$38.827	\$44.430	\$44.430	\$0.000
-Gun Violence Prevention Research (non-add)	\$0.000	\$0.000	\$10.000	+\$10.000
NVDRS	\$11.302	\$16.000	\$23.570	+\$7.570
Injury Prevention Activities	\$48.950	\$104.529	\$119.529	+\$15.000
-Prescription Drug Overdose (non-add)	\$20.000	\$70.000	\$80.000	+\$10.000
-Illicit Opioid Use Risk Factors (non-add)	\$0.000	\$5.579	\$5.579	\$0.000
-National Concussion Surveillance System (non-add)	\$0.000	N/A	\$5.000	+\$5.000
Unintentional Injury	\$8.598	\$8.800	\$8.800	\$0.000
Injury Research and Control Centers	\$9.596	\$9.000	\$9.000	\$0.000
Mandatory Funding Total	N/A	N/A	\$30.000	\$30.000
Mental Health Initiative	N/A	N/A	\$30.000	\$30.000

Summary

CDC is the nation's leading authority on [violence and injury prevention](#).³⁴² CDC keeps Americans safe by researching the best ways to prevent violence and injuries, using science to create real-world solutions to keep people safe, healthy, and productive. This budget supports the prevention of injuries and violent acts that occur outside of the workplace, contributing to CDC's overall goal of preventing the leading causes of disease, disability, and death. CDC's FY 2017 request of **\$298,629,000** for Injury Prevention and Control is \$62,570,000 above the FY 2016 Enacted level and includes:

- +\$7,570,000 to improve the National Violent Death Reporting System (NVDRS) by promoting greater functionality and improved access to data
- +\$10,000,000 to promote opioid prescribing guideline dissemination and uptake
- +\$10,000,000 to support gun violence prevention research
- +\$5,000,000 to create a national surveillance system to accurately determine the incidence of sports-related concussions among youth ages 5-21
- +\$30,000,000 in mandatory funding in FY 2017 to implement and evaluate comprehensive suicide prevention program in partnership with the Injury Control Research Centers and state health departments.

Performance Highlights

- A large, regional healthcare provider began integrating CDC's older adults falls prevention initiative (STEADI) into its primary care practices in 2012, modifying its electronic health records (EHR) to incorporate STEADI and providing point-of-care clinical decision support. As of 2015, 17 of its primary care practices and 74 clinicians are presently using the EHR-based tools. Among practices that have

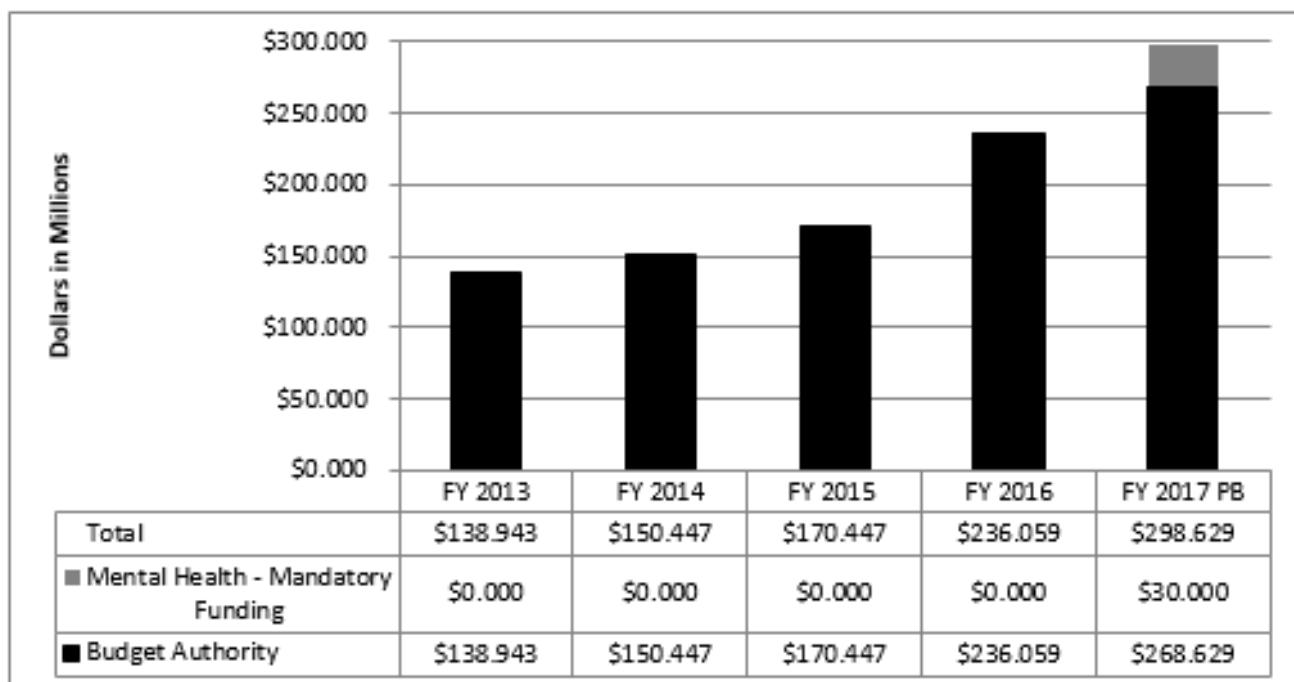
³⁴²<http://www.cdc.gov/injury/>

implemented STEADI, more than 70% of patients aged 65+ were screened for falls. Over 75% of those patients screened also underwent assessments.

- In the first multi-state study of intimate partner violence and corollary homicides, CDC examined the frequency and characteristics of intimate partner homicides and related deaths (i.e., corollary victims—including family members, new intimate partners, friends, acquaintances, police officers, and strangers) in 16 National Violent Death Reporting System states. This study demonstrated that intimate partners and corollary victims represented 80% and 20% of incidents respectively and that a substantial number of corollary victims were children.

CDC funded North Carolina Violent Death Reporting System (NC-VDRS) informed the development of the 2015 North Carolina Suicide Prevention Plan. More than 180 diverse stakeholders from across the state were involved in the development of the plan, and the data were used to inform stakeholders regarding statewide trends in suicide rates, populations at increased risk for suicide, and the circumstances surrounding suicide deaths.

Injury Prevention and Control Funding History¹



¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Intentional Injury Prevention Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Rape Prevention (non-add)	\$38.827	\$44.430	\$44.430	\$0.000
Gun Violence Prevention Research (non-add)	\$0.000	\$0.000	\$10.000	+\$10.000
Budget Authority	\$92.001	\$97.730	\$107.730	+\$10.000
Total	\$92.001	\$97.730	\$107.730	+\$10.000

Overview

CDC's Intentional Injury Prevention program focuses on primary prevention of youth violence, child maltreatment, teen dating violence, sexual violence, intimate partner violence, suicide, and firearm-related injuries and deaths nationally. Using a public health approach, CDC provides national leadership in understanding the causes of violence and how to prevent harm. CDC works closely with other government agencies, including those within the U.S. Department of Justice, to comprehensively address the risk factors for violence. CDC experts collect and review data on violence, help assess the effectiveness of policies and programs, and issue guidance on evidence-based violence prevention interventions. CDC implements violence prevention interventions through state and local public health agencies, universities, and non-governmental organizations. Recognizing the important role that states have in violence prevention, CDC improves the ability of state health departments to track trends, implement effective interventions, and share successes.

Budget Request

CDC's FY 2017 request of **\$107,730,000** for Intentional Injury Prevention is \$10,000,000 above the FY 2016 Enacted level for gun violence prevention research. This maintains the \$5,603,000 FY 2016 Enacted level increase for the Rape Prevention Program (RPE) to support evaluation activities.

In FY 2017, the Intentional Injury Prevention program will:

- Work with high-risk communities across the country to implement evidence-informed youth violence prevention strategies through the [National Centers of Excellence in Youth Violence Prevention](http://www.cdc.gov/violenceprevention/ace/),³⁴³ [STRYVE On-Line](http://vetoviolence.cdc.gov/STRYVE/home.html)³⁴⁴ and [technical assistance to local health departments working on youth violence prevention](http://www.cdc.gov/violenceprevention/youth-violence-prevention-training-and-TA.html)³⁴⁵
- Collaborate with all 50 states and five territories to implement evidence-based sexual violence prevention strategies through the [Rape Prevention and Education \(RPE\) program](http://www.cdc.gov/violenceprevention/rpe/)³⁴⁶
- Continue to directly support five states in implementing evidence-based child maltreatment prevention strategies and provide training and technical assistance in the form of tailored webinars and resource materials to 20 other states through the [Essentials for Childhood](http://www.cdc.gov/violenceprevention/childmaltreatment/essentials/index.html)³⁴⁷ initiative
- Sustain the implementation of evidence-based intimate partner and teen dating violence prevention strategies by supporting 10 states through the [DELTA FOCUS](http://www.cdc.gov/violenceprevention/delta-focus/)³⁴⁸ program

³⁴³ <http://www.cdc.gov/violenceprevention/ace/>

³⁴⁴ <http://vetoviolence.cdc.gov/STRYVE/home.html>

³⁴⁵ <http://www.cdc.gov/violenceprevention/youth-violence-prevention-training-and-TA.html>

³⁴⁶ <http://www.cdc.gov/violenceprevention/rpe/>

³⁴⁷ <http://www.cdc.gov/violenceprevention/childmaltreatment/essentials/index.html>

³⁴⁸ <http://www.cdc.gov/violenceprevention/deltafocus/index.html>

- Continue to provide national data on intimate partner and sexual violence to states and researchers through the [National Intimate Partner and Sexual Violence Survey \(NISVS\)](#)³⁴⁹ surveillance system
- Conduct research into the causes and prevention of gun violence, focusing on those questions with the greatest potential for public health impact

Rape Prevention and Education

The RPE program strengthens sexual violence prevention efforts at the state and local levels. More than one million women report being raped each year and one in five women report having been raped in their lifetime. One in 59 men report having been raped in their lifetime. Rape and other forms of sexual violence are preventable. That is why CDC promotes healthy relationships and supports rape prevention in coordination with state and local partners. The RPE program funds health departments in states, territories, and Washington, D.C. to work with rape crisis centers, state sexual assault coalitions, and others to advance the primary prevention of sexual violence.

The RPE program supports implementation of proven, culturally relevant rape prevention and education activities. In FY 2014, CDC began a five-year cooperative agreement cycle for all 50 states, Washington, D.C., and four territories. Award amounts were determined based on population after providing base funding of \$150,000 per state or \$35,000 per territory. Grantees use CDC funding to operate state and community hotlines, implement statewide sexual violence prevention plans, and address local needs. For example, several state health departments are using CDC funding to conduct seminars on college campuses to reduce sexual assault and create a culture where sexual violence is not tolerated. In FY 2016, CDC will use the increase of \$5.6 million to improve sexual violence prevention nationwide and to allow CDC to fund a maximum of five academic or research institutions to evaluate promising prevention strategies emerging from the field. A portion of the funding will also support a robust program evaluation that will feature improved performance monitoring, enhanced data collection, and an outcome evaluation to measure the RPE program's effects on intermediate indicators, health outcomes, and rates of sexual violence. CDC's rape prevention grantees collect data and scientifically evaluate their programs to build the evidence base in sexual violence prevention and scale up evidence-based efforts throughout the RPE program. In FY 2017, CDC will award the fourth year of funding in this cycle to 55 grantees.

Evaluation of rape prevention programs is critical to reducing sexual violence in the United States. Public health needs evidence of what interventions work best for a given audience in a given location. CDC continues to support four studies to evaluate promising sexual violence prevention strategies. Three of these studies (which take place in Pennsylvania and Rhode Island) focus on engaging young men in prevention. The fourth study is evaluating a bystander prevention program among high school youth in New Hampshire. In FY 2017, CDC will solicit research proposals focused on prevention of teen dating violence, intimate partner violence, and sexual violence.

³⁴⁹ <http://www.cdc.gov/violenceprevention/nisvs/>

Rape Prevention and Education Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB ²	FY 2017 +/- FY 2016
Number of Awards	57	55	55	55	55	0
- New Awards	57	55	0	0	0	0
- Continuing Award	0	0	55	55	55	0
Average Award	\$0.572	\$0.644	\$0.583	\$0.583	\$0.583	\$0.000
Range of Awards	\$0.005-\$3.880	\$0.001-\$3.432	\$0.035-\$3.046	\$0.035-\$3.046	\$0.035-\$3.046	N/A
Total Awards	\$38.256	\$35.446	\$32.044	\$32.044	\$32.044	\$0.000

¹These funds are awarded by formula.

²Total awards for FY 2017 do not include additional funding for evaluation activities.

Gun Violence Prevention Research

The President's Now is the Time plan calls for research to better understand the causes and prevention of gun violence in the United States. Over 32,000 firearm-related deaths occur each year and more than 81,000 nonfatal firearm injuries from assault or self-harm are treated in hospital emergency departments annually. Together, deaths and injuries due to gun violence account for more than \$47.2 billion each year in medical and lost productivity costs to the United States. To address gaps in knowledge about firearm injury prevention, the Institute of Medicine and the National Research Council developed a set of research questions in a 2013 Consensus Report (*Priorities for Research to Reduce the Threat of Firearm-Related Violence*). The research questions address youth access to firearms, risk factors for firearm violence, and the risks and benefits of firearm ownership, among other issues. In FY 2017, CDC proposes to fund research to begin examining the questions outlined in the Consensus Report.

Domestic Violence and Sexual Violence

The fields of intimate partner violence and sexual violence prevention have made strides in the past two decades to acknowledge the value of primary prevention and to emphasize the need to focus on preventing perpetration of violence. More data and research, however, are needed to support the development of effective preventive interventions.

In FY 2017, the Domestic Violence and Sexual Violence budget will support activities ranging from surveillance to rigorous program and research evaluations to inform prevention. CDC will support a wide range of major investments in this area, including the National Intimate Partner and Sexual Violence Survey (NISVS) and evaluation of the effectiveness of programs to prevent sexual violence through engaging young men in prevention and bystander intervention. NISVS is the first ongoing survey dedicated solely to describing, monitoring, and providing national and state level data on experiences of intimate partner violence, sexual violence, and stalking among adults in the United States. In FY 2017, NISVS will release a set of data showing state-level prevalence of sexual violence, intimate partner violence, and stalking behavior. Also in FY 2017, CDC will complete implementation of Dating Matters®, a comprehensive teen dating violence prevention initiative with an estimated 100,000 student and adult participants and will continue to follow youth through high school until FY 2018 to monitor the long-term effectiveness of the program. If found to be effective and economical, CDC will disseminate the comprehensive model to communities around the United States.

Child Maltreatment

Essentials for Childhood: Actions to Create Safe, Stable, Nurturing Relationships

CDC is committed to preventing child maltreatment, which encompasses child abuse and neglect, before it begins, thereby eliminating the long-term adverse health effects—such as physical and emotional harm—and associated financial burdens. Children who are maltreated are at higher risk as adults for serious health problems, including smoking, obesity, and heart disease. A recent CDC study found the lifetime estimated financial costs associated with one year of confirmed cases of child maltreatment—physical abuse, sexual abuse, psychological abuse, and neglect—total \$124 billion. Further, CDC research shows expenditures associated with child maltreatment cost the Medicaid system an estimated \$5.9 billion per year, due in part to higher utilization of healthcare services, including inpatient and outpatient care.

In FY 2013, CDC began a five-year, competitive cooperative agreement in five states—California, Colorado, Massachusetts, North Carolina, and Washington—to implement CDC’s comprehensive child maltreatment prevention recommendations. Funded state health departments are implementing strategies based on the best available scientific evidence to improve child well-being and to prevent child maltreatment. Additionally, over 30 unfunded states have elected to participate in Essentials for Childhood, with more limited engagement, due to high interest in the initiative.

In FY 2017, CDC will award the fifth year of funding, with an average award of \$175,000 per state, to implement a comprehensive suite of child maltreatment prevention interventions. With state health department leadership, communities will promote safe, stable, and nurturing relationships and environments. They will do so by raising awareness of and strengthening commitment to preventing child maltreatment, using data to inform state and local prevention efforts, creating the context for healthy children and families through norms change and programs (e.g., parenting or home visiting programs), and implementing evidence-informed strategies (e.g., improving access to quality child care and early education, and reducing financial obligations for vulnerable families).

Essentials for Childhood Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017
						+/- FY 2016
Number of Awards	5	5	5	5	5	0
- New Awards	5	0	0	0	0	0
- Continuing Awards	0	5	5	5	5	0
Award						
Average Award	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	\$0.000
Range of Awards	\$0.175	\$0.175	\$0.175	\$0.175	\$0.175	N/A
Total Awards	\$0.873	\$0.873	\$0.873	\$0.873	\$0.873	\$0.000

¹These funds are not awarded by formula.

In addition to the Essentials for Childhood initiative, CDC’s budget for Child Maltreatment supports a variety of surveillance and research efforts to strengthen the development, implementation, evaluation, and dissemination of promising child maltreatment prevention strategies across the nation, such as: The Adverse Childhood Experiences (ACE) Study; The National Survey of Children’s Exposure to Violence (NATSCEV); Triple P—Positive Parenting Program; and conducting research in Colorado to understand if an integrated service model—one that integrates Temporary Assistance to Needy Families (TANF) services with child welfare services—has an impact on rates of child maltreatment and associated child welfare outcomes.

The ACE Study is one of the largest investigations ever conducted to assess associations between child maltreatment and later-life health and well-being, and findings are used to improve CDC’s ongoing child

maltreatment prevention efforts. Almost two-thirds of ACE Study participants reported at least one ACE, and more than one in five reported three or more ACEs. The short- and long-term outcomes of these childhood exposures include a multitude of health and social problems, such as suicide attempts, alcohol abuse, sexually transmitted diseases, and elevated risk for intimate partner violence. NATSCEV is the first comprehensive effort to measure children's exposure to multiple forms of violence in the home, school, and community across all age groups, and the first attempt to measure the cumulative exposure to violence over a child's lifetime. Findings have influenced the development of the U.S. Department of Justice's Defending Childhood initiative and inform CDC's ongoing work with the ACE Study. CDC recently concluded a three-year demonstration project in two sites of Triple P-Positive Parenting Program, an evidence-based system of interventions that enhances parental knowledge, skills, and confidence to prevent behavioral, emotional, and developmental problems in children. Findings included that local health departments have the community connections, staff capacity, broad portfolio of services, and flexibility needed to coordinate Triple P implementation.

Youth Violence Prevention

Preventing Violence in Early Adolescence

In FY 2017, CDC will support communities (through their respective local health departments) to prevent multiple forms of violence affecting children in early adolescence, including peer-to-peer violence, teen dating violence, sexual violence, and bullying. This program will focus on the implementation of comprehensive prevention strategies targeting youth in low-income, high-crime cities and metropolitan areas with the greatest number of adolescents at increased risk for violence. Awardees will focus on prevention activities for 11-14 year old youth in high-risk communities, implementing evidence-based strategies to prevent interpersonal violence, including effective implementation strategies identified by CDC's Dating Matters® and Striving to Reduce Youth Violence Everywhere (STRYVE) initiatives. This program will build on successes achieved through CDC's Dating Matters® and STRYVE projects. Through Dating Matters®, over 10,000 youth received dating violence prevention curricula in the 2013-2014 school year, in conjunction with parent and educator training, and over 800 educators have completed surveys on school climate and dating violence in their schools. STRYVE cities implemented evidence based programs such as YES, an after-school program that provides opportunities to learn specific skills, practice those skills, and helps youth establish the social and cognitive resources that will help them effectively navigate and change their social interactions. Evaluations of these and other programs—including evidence-based or evidence-informed programs that demonstrate the potential to impact multiple forms of violence, including teen dating violence and youth violence will inform future activities in this area.

National Centers of Excellence in Youth Violence Prevention

In FY 2015, CDC funded five universities to serve as local, regional, and national resources for developing and applying effective violence prevention strategies in communities. These National Centers of Excellence in Youth Violence Prevention (YVPCs, formerly Academic Centers for Excellence on Youth Violence Prevention) receive funding through competitive, five-year cooperative agreements, currently serving the communities of Baltimore, Maryland; Chicago, Illinois; Denver, Colorado; Flint, Michigan; and Louisville, Kentucky.

In FY 2017, CDC plans to continue to fund a total of five YVPCs for the next funding cycle. CDC will continue to work with the YVPCs to build communities' capacities to implement evidence-based youth violence prevention strategies. Universities, because of their strong local ties and academic resources, provide unique opportunities to work within communities to prevent violence.

National Centers of Excellence in Youth Violence Prevention¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	6	6	5	5	5	0
- New Awards	0	0	3	2	0	-2
- Continuing Award	6	6	2	3	5	+2
Average Award	\$1.040	\$1.040	\$1.100	\$1.240	\$1.240	\$0.000
Range of Awards	\$1.040	\$1.040	\$1.040-\$1.240	\$1.240	\$1.240	N/A
Total Awards	\$6.238	\$6.238	\$5.862	\$6.232	\$6.232	\$0.000

¹These funds are not awarded by formula.

Domestic Violence Community Projects*Domestic Violence Prevention Enhancements and Leadership through Alliances, Focusing on Outcomes for Communities United with States (DELTA FOCUS)*

Over the course of a year, more than 12 million women and men are victims of rape, physical violence, or stalking by an intimate partner in the United States. CDC funds state domestic violence coalitions to implement and evaluate intimate violence prevention strategies at the state and local levels. CDC's competitive cooperative agreement program—Domestic Violence Prevention Enhancements and Leadership through Alliances, Focusing on Outcomes for Communities United with States (DELTA FOCUS)—funds 10 state domestic violence coalitions for a five-year period.

DELTA FOCUS emphasizes evaluation, building the evidence base, training and mentoring, and the role of local coalitions in preventing violence. For example, the California Partnership Against Domestic Violence is partnering with the California School Boards Association to develop a guide on dating abuse prevention that will help education stakeholders draw linkages between dating abuse prevention, sexual harassment prevention, safety planning, and school climate improvement. It will also inform schools about implementing evidence-informed prevention strategies.

CDC-funded coalitions provide prevention-focused training, technical assistance, and funding to local community response centers. In FY 2017, DELTA FOCUS grantees will continue implementing and evaluating intimate partner violence primary prevention strategies. Grantees will address community and societal level factors to prevent intimate partner violence, including increasing gender equity in schools and within faith communities, and educational initiatives to promote healthy relationships.

DELTA FOCUS Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	10	10	10	10	10	0
- New Awards	10	0	0	0	0	0
- Continuing Award	0	10	10	10	10	0
Average Award	\$0.391	\$0.391	\$0.391	\$0.391	\$0.391	\$0.000
Range of Awards	\$0.344-\$0.410	\$0.344-\$0.410	\$0.344-\$0.410	\$0.344-\$0.410	\$0.344-\$0.410	N/A
Total Awards	\$3.907	\$3.907	\$3.907	\$3.907	\$3.907	\$0.000

¹These funds are not awarded by formula.

National Violent Death Reporting System Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$11.302	\$16.000	\$23.570	+\$7.570

Overview

The [National Violent Death Reporting System](#)³⁵⁰ (NVDRS) is critical to CDC's efforts to prevent violence. The system equips funded states, researchers, and CDC to better understand the circumstances surrounding violent deaths. NVDRS is the only state-based surveillance system that pools information from multiple data sources into a usable, anonymous database. These sources include hospitals, state and local medical examiners, coroners, law enforcement, crime labs, and vital statistics. NVDRS covers all types of violent deaths—including homicides, suicides, and child maltreatment fatalities—in all settings and for all age groups. NVDRS data are far more comprehensive than what is available elsewhere. For example, in the case of suicides, NVDRS may include data on whether there was a history of depression or other mental health problems; recent problems with a job, finances, or relationships; or the recent death of a family member.

Budget Request

CDC's FY 2017 request of **\$23,570,000** for the NVDRS is \$7,570,000 above the FY 2016 Enacted level.

In FY 2017, CDC's NVDRS program will:

- Support all 50 states and Washington, D.C. to collect data as part of the NVDRS system and provide technical assistance to help grantees monitor and report their state data
- Ensure NVDRS data support and are integrated into violence prevention activities by increasing dissemination and use of NVDRS data nationally. Data will be used by states to produce standard analyses on a range of topics (including intimate partner homicides, homicides followed by suicide, and suicides of specific groups such as veterans)
- Link NVDRS data with other data sources, such as child fatality review reports and adult protective services reports

CDC continues to improve the NVDRS system by promoting greater functionality and improved access to data. NVDRS data are available online to the general public through CDC's [WISQARS](#)³⁵¹ (Web-based Injury Statistics Query and Reporting System).

In FY 2014, CDC expanded the number of states funded to participate in NVDRS from 18 to 32 states. In FY 2015, the newly funded states began collecting data. With the increase received in FY 2016, CDC will add 4-7 new states to the system. The applications will compete through an objective review panel process. States will be funded based upon the number of violent deaths in their jurisdiction. States recognize the importance of the system for understanding violent deaths and guiding prevention efforts.

With resources at the FY 2017 request level, CDC will complete expansion of NVDRS to include all 50 states and Washington, D.C., and will increase the average award. CDC is well-positioned to expand the NVDRS system; CDC

³⁵⁰<http://www.cdc.gov/violenceprevention/nvdrs/index.html>

³⁵¹<http://www.cdc.gov/injury/wisqars/>

has reduced the burden of participation for states, streamlined and improved data exchange through adoption and enhancement of a web-based data collection platform, and strengthened CDC's scientific and technical support to states.

For the first time, prevention researchers, practitioners, and policymakers will be able to gauge the magnitude, trends, and characteristics of violent deaths at the national, state, and local levels. These data will inform the development, implementation, and evaluation of violence prevention strategies, which will ultimately save lives. The expansion will allow CDC to provide greater scientific and programmatic support to all states, including enhanced training, orientation for new users, data analysis, dissemination, and evaluation. Funding will also support system enhancements to improve overall data collection, increase system responsiveness, and will allow CDC to better identify and report on national trends of different types of homicides, including mass shootings, as well as trends seen in particular populations.

NVDRS collects and shares data to support decision making at the federal, state, and local levels. For example, in Oregon, the rate of suicide among those above age 65 years was three times the rate for those aged 10-24 years. Through NVDRS, Oregon was able to learn many details about the circumstances of older adult suicides that informed prevention. For example, almost 50% of men and 60% of women above age 65 years who died by suicide were reported to have a depressed mood before death, but many were not treated for mental illness. Overall, only about 21% of elder men and 38% of elder women who died by suicide were in treatment for mental illness, suggesting that

screening and treatment for mental illness might have saved lives. Oregon developed a state Older Adult Suicide Prevention Plan that recommended primary care be better integrated with mental health services so that suicidal behavior and ideation are recognized and older adults receive appropriate treatment.

In addition, CDC has collaborated with the Defense Centers for Excellence (DCoE) for Psychological Health and Traumatic Brain Injury (TBI)/National Center for Telehealth and Technology (T2) and linked NVDRS data to T2's DoD Suicide Event Report (DoDSER) data. This collaboration has resulted in a number of reports, two of which have been published already in leading peer-reviewed scientific journals and highlighted the importance of improving intimate partner and household relationships to help prevent suicide among military personnel.

CDC Releases Article to Inform Military Suicide Prevention Efforts

In the journal article *Precipitating Circumstances of Suicide among Active Duty U.S. Army Personnel Versus U.S. Civilians, 2005–2010*, CDC compared suicide events between active duty U.S. Army personnel and civilians who completed suicide to identify differences and inform military suicide prevention efforts. Scientists linked Army suicide records to NVDRS data and learned that both soldiers and civilians commonly had mental health and intimate partner precipitating circumstances, but that soldiers who committed suicide less commonly disclosed suicide intent.

National Violent Death Reporting System (NVDRS) Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	18	31 ²	31 ²	TBD	51	TBD
- New Awards	0	13	0	TBD	TBD	TBD
- Continuing Awards	18	18	31	0	TBD	TBD
Average Award	\$0.203	\$0.243	\$0.248	TBD	\$0.362	TBD
Range of Awards	\$0.121-\$0.256	\$0.148-\$0.427	\$0.151-\$0.427	TBD	TBD	TBD
Total Awards	\$3.662	\$7.549	\$7.700	TBD	\$18.471	TBD

¹Funds are awarded by formula in FY 2017. Earlier awards are competitive.

²Thirty-two states are supported by 31 awards; Maine and Vermont are funded together with Maine as the lead CDC awardee.

Injury Prevention Activities Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Injury Prevention Activities Total Funding	\$48.950	\$104.529	\$149.529	+\$45.000
Discretionary Funding Total	\$48.950	\$104.529	\$119.529	+\$15.000
-Prescription Drug Overdose (non-add)	\$20.000	\$70.000	\$80.000	+\$10.000
-Illicit Opioid Use Risk Factors (non-add)	\$0.000	\$5.579	\$5.579	\$0.000
-National Concussion Surveillance System (non-add)	\$0.000	N/A	\$5.000	+\$5.000
Mandatory Funding Total	N/A	N/A	\$30.000	+\$30.000
- Mental Health Initiative	N/A	N/A	\$30.000	+\$30.000

Overview

Injuries kill more than 180,000 people each year—that’s one death every three minutes. Violence and injuries affect everyone, regardless of sex, race, or economic status. CDC works to prevent injuries and violence through a host of programs spanning surveillance, development and evaluation of recommendations, and implementation of effective strategies. Areas highlighted below include [prescription drug overdose](#),³⁵² [motor vehicle injury](#),³⁵³ and [suicide](#).³⁵⁴ The [Core Violence and Injury Prevention Program](#)³⁵⁵ (Core VIPP) supports interventions across violence and injury topics, including these areas of focus.

Budget Request

CDC’s FY 2017 request of **\$119,529,000** for Injury Prevention Activities is \$15,000,000 above the FY 2016 Enacted level. This increase includes a \$10,000,000 increase for prescription drug overdose (PDO) guideline dissemination and uptake, and a \$5,000,000 increase to create a national surveillance system to accurately determine the incidence of sports-related concussions among youth ages 5-21 years.

CDC’s FY 2017 funding request aligns with the U.S. Health and Human Services opioid initiative. CDC’s efforts will advance the initiative’s first priority to improve opioid prescribing practices to reduce opioid use disorders and overdose.

The United States remains in the midst of an epidemic of opioid overdose deaths involving both prescription opioid pain relievers and illicit opioids like heroin. The opioid overdose epidemic killed more than 28,000 people in 2014 alone.

Overdose deaths are only part of the problem—for each death involving prescription opioids, hundreds of people abuse or misuse these drugs. Emergency department visits for prescription painkiller abuse or misuse have doubled in the past few years to nearly half a million. Prescription opioid-related overdoses cost an estimated \$20 billion in medical and work-loss costs each year.

A four-fold increase in the prescribing of opioid pain relievers created and continues to fuel the epidemic. The last 15 years have seen massive increases in opioid overdose deaths, driven largely by deaths from the most commonly prescribed prescription opioids, and in the last five years, sharp increases in heroin and illicit opioid

³⁵²<http://www.cdc.gov/homeandrecreationsafety/overdose/index.html>

³⁵³<http://www.cdc.gov/motorvehiclesafety/>

³⁵⁴<http://www.cdc.gov/violenceprevention/suicide/>

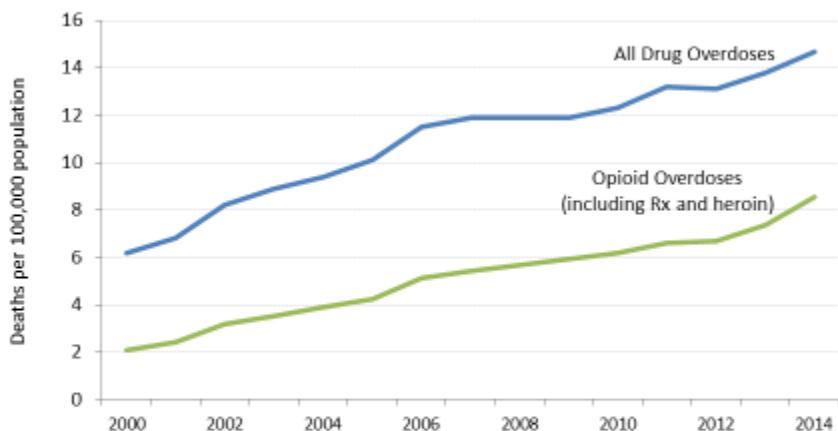
³⁵⁵<http://www.cdc.gov/injury/stateprograms/index.html>

overdose deaths. Continued action is urgently needed. Stemming this epidemic is essential to CDC's goal of preventing the leading causes of disease, disability, and death.

CDC applies its scientific expertise to help curb the epidemic in three ways:

- Improving data quality and surveillance to monitor and respond to the epidemic
- Supporting states in their efforts to implement effective solutions and interventions
- Equipping healthcare providers with the data and tools needed to improve the safety of their patients

Figure 1. Age-adjusted rate of drug overdose deaths and drug overdose deaths involving opioids[§], United States, 2000-2014



NOTE: [§]Based on *International Classification of Diseases, Tenth Revision* underlying cause-of-death codes X40-X44, X60-X64, X85 and Y10-Y14. Drug poisoning deaths involving opioids are drug poisoning deaths with a multiple cause code of T40.0, T40.1, T40.2, T40.3 or T40.4. Approximately one-fifth of drug poisoning deaths lack information on the specific drugs involved. Some of these deaths may involve opioids. Age-adjusted death rates were calculated using the direct method and the 2000 standard population.

SOURCE: National Vital Statistics System Mortality File.

In FY 2017, CDC will:

- Support prescription drug overdose prevention programs in all 50 states and Washington, D.C.
- Increase uptake among providers of opioid prescribing guidelines for chronic pain outside of active cancer treatment, palliative care, and end-of-life care currently in development and slated for release after the public comment period.
 - Funds will be used to fully support and adapt the translation and dissemination of prescribing guidelines into succinct, usable formats accessible to providers across the country, and fully expand a major dissemination effort to promote use among as many providers as possible.
 - CDC will expand training modules, including online modules, available for continuing medical education credit and maintenance of certification, as one means for partnering with and encouraging professional societies and health systems to spur uptake of guidelines.
 - CDC will also be able to fully develop, evaluate, and publicly disseminate clinical decision support tools derived from the opioid prescribing guidelines. CDC will coordinate efforts to increase uptake of the guidelines with Office of the National Coordinator for Health Information Technology to ensure guidelines are effectively disseminated and translated into clinical support tools for integration into clinical workflow.
- Maximize the use of state-based Prescription Drug Monitoring Programs (PDMPs) as a public health tool to assist in clinical decision making and in conducting public health surveillance.

- Identify and scale up promising prevention practices in the nation's hospitals and health systems, including working to expand and evaluate an innovative model to coordinate care for high-risk opioid patients to ensure they receive safer, more effective treatment.
- Advance data collection and analysis efforts on overdoses related to heroin use.

In FY 2014, CDC began a three-year funding cycle, funding five states with high PDO burdens and demonstrated readiness to accelerate efforts to address the epidemic within their borders under Prescription Drug Overdose: Boost for State Prevention (Prevention Boost). These five states are implementing innovative insurance strategies, maximizing state-based PDMPs, and evaluating programs and policies directed at prescription drug overdose prevention and heroin overdose prevention, such as policies related to naloxone administration.

Prevention Boost-funded states initiated important steps to advance data-driven prevention by acquiring and deploying data to advance prevention. For instance, states began linking PDMP data to other health systems data to better analyze and target interventions. Oklahoma made strong progress linking Medicaid and PDMP data, and the state will use these new data sets to identify and prevent high-risk patient and provider behaviors and inform Medicaid prevention efforts. Tennessee secured access to state Workers Compensation data and is linking it with PDMP data, which will provide a fuller picture of prescribing trends within the Workers Compensation program. With this foundational data linkage and analysis, Tennessee stands equipped to develop a high-risk provider model that can be used to identify and provide intervention strategies targeted to high-risk providers.

In FY 2015, CDC received an increase of \$20 million to scale up the PDO program targeted to states. With this increase, CDC launched the PDO Prevention for States program. PDO Prevention for States is a new competitive cooperative agreement program that capitalizes on the infrastructure of the existing Prevention Boost and Core VIPP programs, with a specific focus on those interventions which exhibit the most promise for reversing the PDO epidemic. In FY 2015, CDC began funding 16 states through a competitive cooperative agreement, specifically targeting those states at the intersection of public health burden and demonstrated readiness to implement effective interventions. In evaluating applications for funding awards, CDC considered each state's 2013 age-adjusted drug overdose death rate as a significant criterion. Applications from states with the highest rates were given extra points in the objective review process based on their respective levels of burden for drug overdose deaths. Final Prevention for States awardees include eight of the 10 states with the highest drug overdose rates in the country. Four of the five states funded under Prevention Boost are now funded under the PDO Prevention for States program; the state of West Virginia continues to be funded under Prevention Boost. Under PDO Prevention for States, funded state health departments are awarded between \$750,000 and \$1 million a year for the next four years to implement multi-pronged approaches to improving opioid prescribing and preventing prescription drug overdoses.

Funded states are:

- Implementing effective prescription drug overdose prevention in the hardest hit communities
- Enhancing prescription drug monitoring programs and leveraging them as public health tools
- Improving health system and insurer practices to improve opioid prescribing
- Demonstrating collaboration with a variety of state entities, including law enforcement

To track and ensure progress, CDC developed process and outcome performance measures with annual targets for the PDO Prevention for States program. CDC is conducting an evaluation of this new state-level program with the expectation that findings will greatly inform program improvements to ensure the highest public health impact possible as this program continues to grow and expand. To amplify these state-level interventions, CDC will continue efforts begun in 2014 to develop and implement a suite of evidence-based, tested, and well-aligned communications materials that will be part of an implementation guide for states' use.

In FY 2016, CDC received a further increase of \$50 million dollars to expand the state prevention activities to a national scale. CDC aims to distribute these funds by making major prevention investments in states at the intersection of burden and readiness—that is, states that have a high burden of drug overdose death but are poised to make immediate progress with the necessary resources and support. CDC will also make strategic investments in states that have a significant burden but need assistance lifting a program off the ground and where the epidemic has not yet gained as significant a foothold, so as to stave off future increases in opioid overdose deaths. This approach puts major investments where they are needed yet remains responsive to the reality that the opioid overdose epidemic affects all states, even though current rates and the scale of the crisis within a state's borders may vary. As with programmatic activities begun in FY 2015, CDC will continue to coordinate with the Bureau of Justice Assistance's Harold Rogers Prescription Drug Monitoring Program while helping states maximize the use of their PDMPs as a public health tool to identify and address inappropriate prescribing.

In FY 2016, CDC will also be releasing tools to guide states in the implementation of judicious opioid prescribing through coordinated care. The coordinated care plan is based on a major initiative by Group Health Cooperative, a nonprofit healthcare system based in Seattle, to improve care for high-risk opioid patients. Group Health was successful in getting 85% of the chronic, non-cancer pain population enrolled in a coordinated care plan that included treatment goals, medication regimens, frequent monitoring visits, and requirements for urine drug screening. Well-implemented coordinated care programs include provider guidance for treating patients addicted to opioids and helping them avoid heroin as well as other opioids. Pilot implementation of the coordinated care plan is anticipated to start in Spring 2016. CDC is planning for scaling up implementation of the coordinated care plan for wider use following pilot implementation and its evaluation.

Also in FY 2016, CDC received an increase of \$5,579,000 to address the concerning rise in overdose deaths attributable to illicit opioids, namely heroin. Activities will improve data collection and quality, which includes working to collect near real-time emergency department data and higher quality and more timely mortality data by rapidly integrating death certificate and toxicology information. In July 2015, CDC released troubling findings about ways in which the heroin epidemic is changing. As heroin use, abuse, and dependence have increased, so have heroin-related overdose deaths—tripling in the United States between 2010 and 2014. In addition, about 45% of people who used heroin also abuse or had dependence on prescription opioid pain relievers.

Many activities to address and prevent PDO have implications to address and prevent illicit opioid use as well. In FY 2016, CDC will strengthen surveillance efforts specific to heroin to further examine the nexus between prescription opioids and heroin. In particular, CDC will work to improve emergency department surveillance for heroin overdoses in states, building on CDC's work in HHS's Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) and New Jersey, and likewise building on an Epi Aid conducted within the state of Ohio to assist in response to a troubling rise in overdoses attributable to illicitly-manufactured opioids. This surveillance activity will be conducted using either hospital discharge data or syndromic surveillance. CDC also will assess the feasibility of testing heroin case definitions on a national syndromic network. In alignment with CDC's Surveillance Strategy, CDC will leverage existing data systems, such as the National Violent Death Reporting System (NVDRS) platform, with the aim of capturing details on heroin and other illicitly-manufactured opioid-related overdose deaths.

The FY 2017 Budget includes funding to continue state support for prescription drug overdose prevention programs in all 50 states and Washington, D.C. This investment will continue to support rigorous monitoring and evaluation and improvements in data quality and monitoring at a national level. CDC also will continue efforts to increase uptake among providers of CDC's opioid prescribing guideline for chronic pain outside of active cancer treatment, palliative care, and end-of-life care slated for release after the public comment period, as well as implementation of a coordinated care plan that addresses both opioid and heroin overdose prevention by improving care for high-risk opioid patients.

In addition, requested funds will be used to continue to address the rising rate of overdoses attributable to illicit opioids, including heroin.

CDC's activities in FY 2017 will be conducted in alignment with HHS's opioid initiative, a department-wide effort to advance a coordinated, comprehensive response to the opioid epidemic. For example, in FY 2017, CDC will evaluate HRSA's Rural Opioid Overdose Reversal Grant Program. This program aims to reduce opioid overdose morbidity and mortality in rural communities by increasing access to naloxone and other emergency devices used to rapidly reverse the effects of opioid overdoses, and by training licensed healthcare professionals and emergency responders on their use.

PDO Prevention for States Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	N/A	N/A	16 ²	51	51	0
- New Awards	N/A	N/A	16	TBD	0	-35
- Continuing Award	N/A	N/A	0	TBD	51	+35
Average Award	N/A	N/A	\$0.902	TBD	TBD	TBD
Range of Awards	N/A	N/A	\$0.771-\$0.940	TBD	TBD	TBD
Total Awards	N/A	N/A	\$14.438	TBD	TBD	TBD

¹These funds are not awarded by formula.

²Number of Awards does not include West Virginia, which continues to be funded under Prevention Boost and not under PDO Prevention for States.

Surveillance of Sports- and Recreation-Related Concussions among Youth

A concussion is a type of traumatic brain injury (TBI), which is defined as an injury that disrupts the normal function of the brain. It can be caused by a bump, blow, or jolt to the head or a penetrating head injury. In 2010, in the United States, 2.5 million emergency department visits, hospitalizations, or deaths were associated with TBI, either alone or with other injuries or illnesses. More specifically, in 2009, an estimated 248,000 children (age 20 or younger) were treated in emergency departments for sports- and recreation-related injuries that included a diagnosis of concussion or TBI.

With the proposed increase of \$5,000,000 in FY 2017, CDC will establish and oversee a national surveillance system to accurately determine the incidence of sports-related concussions among youth ages 5-21, making CDC fully responsive to the recommendations issued in a 2013 report by the Institute of Medicine (IOM), entitled [Sports Related Concussions in Youth: Improving the Science Changing the Culture](http://www.iom.edu/Reports/2013/Sports-Related-Concussions-in-Youth-Improving-the-Science-Changing-the-Culture.aspx).³⁵⁶ In planning for and implementing the system, CDC will ensure participation in CDC's Surveillance Strategy and will maximize resources and platforms available through existing mechanisms. The resulting proposed system would capture sports- and recreation-related concussions among 5-21 year olds, including:

- Sports- and recreation-related concussions that are and are not seen by an athletic trainer or healthcare provider
- Sports- and recreation-related concussions, including those that occur in organized sports at the pre-high school and high school level, and it will attempt to integrate data collected at the college level

³⁵⁶ <http://www.iom.edu/Reports/2013/Sports-Related-Concussions-in-Youth-Improving-the-Science-Changing-the-Culture.aspx>.

- Sports- and recreation-related concussions that do not occur as part of organized sports, including among those playing in youth club sports and in competitive and recreational sports outside of an academic setting as well as those experienced on a playground or while bicycling
- The high level of detail requested by the IOM for sports-related concussions, including demographics, concussion history, symptoms, and circumstances surrounding the injury, such as the use of protective equipment and how the injury occurred

Because there is no existing or workable source for youth data exclusively to accurately collect this information on sports- and recreation-related concussions among youth, CDC will work in partnership with youth athletic organizations, schools, and others to test and develop nationally representative, comprehensive surveillance and reporting models for sports-related concussions and develop survey instruments to identify those who have sustained sports- and recreation-related concussions. The survey instrument will query adults both about sports- and recreation-related concussions they might have experienced as well as those sustained by children in their care. The survey instrument(s) may also capture information regarding other concussions in this target population to understand individuals' history of concussions and ensure appropriate categorization/reporting of concussions.

Core Violence and Injury Prevention Program (Core VIPP)

CDC provides funding and technical assistance to states to address violence and injury prevention through its Core Violence and Injury Prevention Program (Core VIPP). The program supports 20 state health departments to strengthen injury surveillance programs and effectively develop, implement, evaluate, and disseminate violence and injury prevention programs and policies based on the best available evidence. These state-based programs protect their residents by putting science into action to save lives and prevent injuries. All 20 currently funded states receive funding for the base integration component. This component allows states to focus on four priority areas selected based on state needs, while also requiring essential activities—such as surveillance and evaluation—to ensure program effectiveness. States receiving base integration component funding also were eligible to compete for additional funding through expanded Core VIPP components. The expanded components described in the table below were effective for the FY 2011-FY 2015 funding cycle and will be revised under the new funding opportunity announcement to be awarded in FY 2016.

Expanded Core VIPP Components FY 2011-2015

Components	Activities Receiving Additional Funding
Falls in older adults ³⁵⁷	Three Core VIPP states receive additional funding to prevent falls in older adults by integrating and linking clinical and community-based programs.
Motor Vehicle Child Injury Prevention ³⁵⁸	Four Core VIPP states receive additional funding for activities to reduce motor vehicle-related injuries among children ³⁵⁹ and teens . ³⁶⁰
Regional Network Leaders	Five Core VIPP states receive additional funding to provide expanded support to both funded and unfunded states within their geographic regions to maximize sharing of information and strategies among states.
Surveillance Quality Improvement	Four Core VIPP states receive additional funding for activities to improve the overall quality of injury data.

³⁵⁷<http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>

³⁵⁸<http://www.cdc.gov/motorvehiclesafety/>

³⁵⁹http://www.cdc.gov/Motorvehiclesafety/Child_Passenger_Safety/index.html

³⁶⁰http://www.cdc.gov/Motorvehiclesafety/Teen_Drivers/index.html

In FY 2016, CDC will begin a new funding cycle for the Core State Violence and Injury Prevention Program (Core SVIPP). The new funding opportunity announcement will focus on implementation, evaluation, and dissemination of injury and violence prevention programs, practices, and policies with the best available research evidence. Core SVIPP will build on the state capacity that was established through the previous iterations of Core VIPP.

Core VIPP supports the implementation of programs and strategies to prevent injuries and violence. For example, in 2010, the Massachusetts Legislature passed a sports concussion law directing the state's department of public health to develop a head injury safety program. The law resulted in the passage of regulations in 2011. Since the regulations passed, the Core VIPP worked with state partners, including schools, to ensure the regulations were implemented. The Core VIPP reviewed school policies to identify areas where schools needed support and devised strategies to improve outreach and technical assistance. The Core VIPP also compiled and analyzed data from school Year End Reports and other information sources to assess awareness and compliance with the regulations. Findings indicated that school reporting from the first year of implementation through 2013-2014 increased by 265% thus indicating an increase in compliance.

In FY 2017, Core SVIPP-funded states will continue implementation of effective state-based injury and violence prevention programs as planned and commenced during the first year of funding. CDC will continue to support Core SVIPP states by providing guidance on injury and violence prevention resources and links to scientists who can guide state prevention efforts.

Core Violence and Injury Prevention Program Grants^{1,2,3}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	20	20	20	TBD	TBD	TBD
- New Awards	0	0	0	TBD	TBD	TBD
- Continuing Award	20	20	20	TBD	TBD	TBD
Average Award	\$0.342	\$0.342	\$0.342	TBD	TBD	TBD
Range of Awards	\$0.150–\$0.803	\$0.150–\$0.803	\$0.150–\$0.803	TBD	TBD	TBD
Total Awards	\$6.835	\$6.835	\$6.835	TBD	TBD	TBD

¹All 20 Core VIPP grantees are funded for the Base Integration Component of Core VIPP. Select states are funded for additional components above the Base Integration Component. See the state table for funding details.

²These funds are not awarded by formula.

³Decisions on number of awards and funding levels for FY 2016 are yet to be determined. A new Core VIPP FOA will be released in FY 2016, beginning a new five-year funding cycle.

Motor Vehicle Injuries and Deaths

[Motor vehicle crashes](#)³⁶¹ are a leading cause of death among those aged 1–54 years. To prevent motor vehicle-related injuries and death, CDC supports and guides state health departments by providing expertise and insight into their motor vehicle injury prevention activities. CDC informs the implementation of effective interventions and program evaluation, helps guide analyses of crash-related injury data, and provides guidance on effective programs such as [alcohol ignition interlocks](#)³⁶² and [graduated drivers licensing systems](#).³⁶³ CDC likewise focuses on targeted interventions to reduce deaths and injuries among certain populations, including teens, older adults, and members of tribal communities.

To inform decision making around public health interventions to reduce deaths and injuries, CDC launched the [Motor Vehicle Prioritizing Interventions and Cost Calculator for States](#) (MV PICCS),³⁶⁴ an interactive online tool that states can use to assess the costs and effectiveness of implementing up to 14 evidence-based interventions designed to prevent crash injuries. One of the interventions included within the MV PICCS tool is the use of ignition interlocks, an intervention to reduce alcohol-impaired driving. Of the people who died in motor vehicle crashes in 2014, 31% were killed in alcohol-impaired crashes. CDC is conducting research to improve the effectiveness of ignition interlock programs to reduce alcohol-impaired driving. Recent accomplishments include the release of publications including the [successful practices for states guide](#)³⁶⁵ on increasing alcohol ignition interlock use, a [Community Guide on Sobriety Checkpoints](#),³⁶⁶ and state-based [fact sheets on alcohol-impaired driving](#).³⁶⁷

CDC's overall strategy to reduce motor vehicle deaths is to focus on intervention areas with high-impact potential:

- Reducing [alcohol-impaired driving](#)³⁶⁸
- Improving proper restraint use, including [seat belt](#)³⁶⁹ and [car seat/booster seat](#)³⁷⁰ use
- Preventing crashes and injuries among vulnerable populations, including [teens](#),³⁷¹ [older adults](#),³⁷² and [American Indians and Alaska Natives](#)³⁷³

³⁶¹<http://www.cdc.gov/motorvehiclesafety/>

³⁶²http://www.cdc.gov/Motorvehiclesafety/Impaired_Driving/index.html

³⁶³<http://www.cdc.gov/ParentsAreTheKey/licensing/index.html>

³⁶⁴<http://www.cdc.gov/motorvehiclesafety/calculator/>

³⁶⁵http://www.cdc.gov/motorvehiclesafety/impaired_driving/ignition_interlock_states.html

³⁶⁶<http://www.thecommunityguide.org/mvoi/AID/sobrietyckpts.html>

³⁶⁷http://www.cdc.gov/motorvehiclesafety/impaired_driving/states.html

³⁶⁸http://www.cdc.gov/Motorvehiclesafety/Impaired_Driving/index.html

³⁶⁹<http://www.cdc.gov/motorvehiclesafety/seatbelts/index.html>

³⁷⁰http://www.cdc.gov/Motorvehiclesafety/Child_Passenger_Safety/index.html

³⁷¹http://www.cdc.gov/Motorvehiclesafety/Teen_Drivers/index.html

³⁷²http://www.cdc.gov/Motorvehiclesafety/Older_Adult_Drivers/index.html

³⁷³<http://www.cdc.gov/Motorvehiclesafety/native/>

Tribal Motor Vehicle Injury Prevention

The Hopi Tribe used CDC funding to improve collaboration with law enforcement to strengthen their existing seat belt law. Also, a successful media campaign raised awareness among tribal members about the importance of buckling up. The campaign, educational efforts, and improved enforcement of the seat belt law led to an increase of 38% (from 42% to 58%) in driver seat belt use and an increase of 63% (from 30% to 49%) in passenger seat belt use between 2011 and 2014. Educational efforts, and improved enforcement of the seat belt law led to an increase of 26% (from 42% to 53%) in driver seat belt use and an increase of 50% (from 30% to 45%) in passenger seat belt use between 2011 and 2014.

In FY 2017, CDC will assist states with the development and implementation of programs to address motor vehicle-related injuries in the key areas listed above. CDC also will focus on improving the safe mobility of older adults by working to better understand the transition from driving to not driving. For instance, CDC is developing a tool for older adults allowing them to quickly assess their current mobility and obtain actionable, tailored feedback on steps they can take to make mobility changes. For tribal motor vehicle injury prevention, CDC is developing a manual of best practices from CDC's successful Tribal Motor Vehicle Injury Prevention Program (TMVIPP), which will be released in early 2016. The manual will serve as a resource to tribes on what works to prevent motor vehicle injuries among American Indians and Alaska Natives, a population that has 1.5 to 3 times higher rates of motor vehicle injury and death than other Americans. Best practices included in the manual may help to inform activities undertaken by tribal communities in coordination with the proposed expansion of the Good Health and Wellness in Indian Country initiative, a primary aim of which is to decrease the incidence of alcohol-related motor vehicle injuries within tribal communities. To further amplify the implementation of TMVIPP practices, CDC is working to increase the reach and impact of the TMVIPP lessons learned by partnering with the FHWA to reach more tribes through FHWA's Tribal Technical Assistance Programs. This partnership will allow CDC to provide technical support, training, and other activities that will reduce motor vehicle-related fatalities and injuries in Indian Country and will reach up to 37% of the 567 federally recognized tribes in the United States.

CDC also will continue to guide states by providing expert feedback on planned activities and implementation strategies through Core VIPP. This work is vital since all 20 Core VIPP states identified motor vehicle injury prevention as a priority area. This guidance will build on previous successes, encourage the use of evidence-based interventions, and help states use data to inform decisions.

Suicide Surveillance, Research, and Prevention

CDC provides national leadership in understanding who commits suicide and why and how to prevent suicide and its risk factors. Suicide is the 10th leading cause of death in the United States among all age groups and is estimated to cost \$41.2 billion in [combined medical and work loss costs](#).³⁷⁴ With FY 2017 funding, CDC will expand efforts to prevent suicide by improving surveillance, research, and the development and evaluation of evidence-based strategies. CDC will continue to expand resources and support for fatal and non-fatal surveillance systems for self-directed violence, including collection of data at the national, state, and local levels, which leads to more relevant information for decision makers at the state and local levels. This important data and research will help CDC determine the effectiveness of strategies to prevent suicidal behavior and expand the number of evidence-based prevention activities.

CDC is continuing efforts to evaluate two interventions—LET's CONNECT and The Senior Connection—to promote and strengthen individual, family, and community connectedness, a key protective factor of interest in suicide prevention. LET's CONNECT links adolescents who are identified as at risk for suicidal behavior with natural (e.g., parent, family member) and community mentors. The Senior Connection seeks to link socially-disconnected seniors with a volunteer peer companion. In FY 2017, outcomes of randomized controlled trials will inform the practice of suicide prevention within these two particularly vulnerable populations.

Mental Health Initiative

Despite our recent significant gains, less than half of children and adults with diagnosable mental health problems receive the treatment they need. To address this, the Administration is proposing a new \$500 million investment to help engage individuals with serious mental illness in care, improve access to care by increasing service capacity and the behavioral health workforce, and ensure that behavioral healthcare systems work for

³⁷⁴<http://www.cdc.gov/injury/wisqars/index.html>

everyone. This effort would increase access to mental health services to protect the health of children and communities, prevent suicide, and promote mental health as a top priority.

Suicide is a serious public health problem that can have lasting harmful effects on individuals, families and communities. Suicide also affects the health of the community, and the medical costs and lost wages associated with suicide take an economic toll on communities.

- Suicides are on the rise, up nearly 20% since 1999.
- In 2014, there were more than 44,000 suicides in the U.S. In the same year, there were 23,000 suicides among persons aged 35-64 years, representing 54% of all suicides.
- Suicide rates among adults ages 35-64 increased 34% between 1999 and 2014.
- Suicides and self-inflicted injuries cost society approximately \$62.7 billion a year in medical and work loss costs combined.

Often suicide prevention efforts focus on people at high-risk. To date, there are few effective, comprehensive prevention programs for public health and mental health practitioners to apply broadly so that population-level decreases in suicide may be realized. Research indicates that programs that integrate suicide prevention strategies at multiple levels are likely to be the most effective. These programs may include strategies such as skills training, screening, education, awareness efforts, behavioral health treatment, and enhancing social support and connectedness. The multi-component nature of these promising programs allows prevention regardless of a person's risk for suicide. Examples of comprehensive prevention programs are the U.S. Air Force Suicide Prevention Program (USAFSPP) and Natural Helpers. Interventions included in a comprehensive prevention program should focus on key risk factors for suicidal behavior including substance abuse referral and treatment and past exposure to violence, increased access to clinical preventive services, and reduced access to lethal means for individuals at greatest risk for harming self and others.

The FY 2017 budget request includes \$30.0 million in mandatory funding to implement and evaluate comprehensive suicide prevention programs in partnership with the Injury Control Research Centers (ICRC), state health departments, and academic institutions promoting connectedness among older adults and adolescents. Interventions will focus on reducing key risk factors by increasing referral and treatment for suicidal behavior including substance abuse and mental illness, enhancing social support and connectedness, reducing stigma associated with seeking help, and identifying and evaluating access to lethal means for individuals at greatest risk for harming self and others.

CDC will coordinate with SAMHSA on these efforts.

Unintentional Injury Prevention Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$8.598	\$8.800	\$8.800	\$0.000

Overview

Unintentional injuries are the leading cause of death for individuals ages 1-44 years in the United States and are projected to cost more than \$81 billion annually in medical costs. CDC's Unintentional Injury program promotes safety by tracking unintentional injuries to identify opportunities for prevention and by developing and evaluating recommendations for effective programs and policies for injury areas including [traumatic brain injury](#)³⁷⁵ and [older adult falls](#).³⁷⁶ Interventions in these areas are implemented at the state level through various mechanisms including Core VIPP.

Budget Request

CDC's FY 2017 request of **\$8,800,000** for Unintentional Injury Prevention is level with the FY 2016 Enacted level. In FY 2017, CDC will conduct surveillance, identify effective interventions, and work toward implementation of strategies to prevent and address injuries including traumatic brain injuries and older adult falls.

Traumatic Brain Injury Prevention

In 2010, an estimated 2.5 million emergency department (ED) visits, hospitalizations, or deaths were associated with traumatic brain injury (TBI)—either as an isolated injury or along with other injuries—in the United States. To reduce TBI, including concussions, CDC conducts surveillance, supports prevention interventions, and develops educational materials and clinical guidelines, and supports prevention interventions. Specifically, strategies to address TBI in the United States include:

- Improving the understanding of the public health burden of TBI
- Reducing the incidence of TBI through primary prevention
- Improving the recognition and management of mild TBI
- Promoting healthy lifestyles and improving health outcomes of persons living with TBI

TBI prevention activities underway within the Core VIPP funded states support CDC's TBI strategic plan.

Activities include:

- Conducting TBI surveillance and developing state-level estimates of TBI
- Providing guidance to ensure TBI-related policies are informed by accurate research
- Supporting the development and dissemination of the latest science on the risk factors, burden, impact, and outcomes associated with TBI

For example, the Minnesota Core Injury Program designed, refined, and implemented a high school sports concussion surveillance system. Launched in 42 high schools across the Twin Cities metropolitan area, the surveillance effort was streamlined to improve functionality and ease of participation among state high school athletic trainers. During the 2014-2015 school year, the program tracked the occurrences of 704 concussions throughout 36 metro area schools resulting from participation in 16 different sports. This voluntary tracking

³⁷⁵<http://www.cdc.gov/traumaticbraininjury/>

³⁷⁶<http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>

system provides insight on the incidence of concussions among high school-age youth and the data derived will be used to guide prevention efforts, which includes informing clinicians about concussion treatment.

To ensure the health and safety of young athletes, CDC developed the HEADS UP campaign to offer information about concussion and other serious brain injury to coaches, parents, school and health professionals, and athletes. The HEADS UP campaign provides important information on preventing, recognizing, and responding to a concussion and celebrated its 10th anniversary in 2013.

HEADS UP accomplishments include:

- More than 215 million media impressions through print media and television public service announcements (PSAs)
- More than six million print materials distributed
- More than three million coaches completed online trainings
- More than 50 HEADS UP products developed
- More than 22,000 Facebook fans, and growing
- More than 85 organizations signed on as participating organizations
- Close to 40 million social media impressions

In FY 2015, the HEADS UP campaign expanded efforts to evaluate the public health impact of the campaign and build momentum for research and efforts focused on changing social norms around concussion.

Additionally, in 2015 CDC released a report to Congress, *Traumatic Brain Injury in the United States: Epidemiology and Rehabilitation*. Released in conjunction with Brain Injury Awareness Day in March 2015, the report provides a comprehensive review of what is known about TBI burden, outcomes, and rehabilitation services within the United States. This report aimed to state what is known on these issues and advance the conversation to address critical gaps and challenges related to these topics.

In FYs 2016 and 2017, CDC will continue to support TBI prevention efforts related to surveillance and program implementation through the Core VIPP program. CDC will also conduct activities, including partnering with provider groups such as the American Academy of Pediatrics, to encourage the widespread dissemination and uptake of the new pediatric mild TBI guidelines to assist in proper diagnosis and management. Together, these activities will help prevent TBI and mitigate their impact if they occur, thus reducing the burden of these potentially fatal and life-altering injuries.

Older Adult Falls

CDC helps older adults stay healthy and independent by using scientific data to identify effective programs and determine optimal strategies to promote widespread adoption of these programs. In addition to studying the public health outcomes from these strategies, CDC is analyzing potential cost-benefits (e.g., reducing medications that may increase fall risk). Older adult falls³⁷⁷ are preventable when modifiable fall risk factors are identified by healthcare providers and appropriate interventions (e.g., prescribing Vitamin D supplements to improve bone quality and muscle strength) are conducted. While providers report being aware their older patients are at risk for falls, they likewise report a lack of awareness on how to assess fall risk.

To address this gap, CDC developed the STEADI ([Stopping Elderly Accidents, Deaths and Injuries](#)) initiative.³⁷⁸ STEADI uses established clinical guidelines and tested interventions to help health care providers address their older patients' fall risk, identify modifiable risk factors, and offer effective interventions. As part of the initiative

³⁷⁷<http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>

³⁷⁸<http://www.cdc.gov/homeandrecreationsafety/Falls/steadi/index.html>

a STEADI toolkit was developed to support the health care provider team. This toolkit gives health care providers the resources they need to screen for fall risk factors, assess modifiable risk factors, such as prescribed medications, and recommend treatment like daily Vitamin D supplements to reduce fall risk. These resources also help providers refer patients to appropriate fall prevention programs, such as exercise-based programs, or to other medical specialists who play a role in reducing an older adult's fall risk. CDC is reinforcing the efficacy of STEADI to the medical community and will introduce a phased approach—STEADI Step One. STEADI Step One is tailored to primary care physicians and consists of three simple steps: 1) screen older adults for fall risk; 2) recommend Vitamin D supplements to support muscle and bone health; and 3) optimize medications for all patients at risk for a fall. To further streamline efforts to incorporate fall prevention within clinical care, CDC is developing online continuing education courses for health care providers and pharmacists, integrating STEADI within electronic health records (EHR) systems using clinical decision support tools, and increasing the level of engagement of and partnership with the medical community. The first in the series of online trainings was released in July 2015 and two EHR vendors are partnering with CDC to add STEADI modules to their provider systems.

Efforts likewise are underway within Core VIPP-funded states to implement STEADI. Sixteen of the 20 Core VIPP states focus on older adult falls prevention strategies, including Oregon, Colorado, and New York. In 2012, 585 Oregonians age 65 and older died and nearly 8,500 were hospitalized due to a fall. Early success indicators, however, show positive outcomes in Oregon's efforts to address older adult falls within the state's borders. In 2013, STEADI was piloted in the Oregon Health & Science University (OHSU) primary care clinics, reaching over 500 patients age 75 years and older. OHSU also modified their EHR system to streamline the process of conducting a fall risk assessment and encouraging providers to screen, assess, treat, and refer patients based on the patient's identified risk. New York also has made progress in implementing and disseminating STEADI in clinical settings. United Health Services (UHS) began integrating STEADI into its primary care practices in 2012. To facilitate uptake, UHS modified its electronic health records (EHR) to incorporate STEADI, providing point-of-care clinical decision support. Since implementation, 17 primary care practices and 74 clinicians are presently using the EHR-based tools. Among practices that have implemented STEADI more than 70% of patients aged 65 years and older were screened for falls. Over 75% of those patients screened also underwent assessments.

In FY 2017, CDC will continue to scale up implementation of STEADI by embarking on STEADI Step Two. In Step Two, CDC will target pharmacists, key members of the health care team. Pharmacists are uniquely positioned to review and optimize older adults' medications to reduce falls. CDC will create new STEADI materials and online training that will improve medication therapy management and communication between pharmacists and primary care providers.

In addition, CDC will use data from the Centers for Medicare and Medicaid Services to better understand the frequency in which healthcare providers conduct fall prevention screening, assessments, and provide follow-up care. CDC will also update the medical cost burden associated with falls and fall related injuries currently estimated to be at \$34 billion annually³⁷⁹ and evaluate the impact STEADI could have on reducing these costs. These data will support CDC efforts to integrate fall prevention into routine clinical care and to improve the overall quality of patient care.

Integration of STEADI within EHRs

CDC is working to integrate STEADI for clinical decision support in GE Centricity EHRs, which is being pilot tested at the University of Oklahoma (OU), the state's largest physician group. Early feedback from physicians and staff in the Family Practice Clinic is positive, specifically regarding the assessment and decision support aspects of the tool. Based on feedback from OU, the tool will be modified and will be made available to GE Centricity users in 2016.

³⁷⁹ <http://injuryprevention.bmjjournals.org/content/12/5/290.full.html>

Injury Control Research Centers Budget Request

(dollars in millions)	Budget Authority	FY 2015	FY 2016	FY 2017 President's Budget	FY 2017 +/- FY 2016
		Final	Enacted	\$9.000	\$0.000

Overview

One person in the United States dies every three minutes from an injury or violent act. Americans under the age of 45 years are more likely to die from violence and injuries than from any other cause. However, not all injuries have evidence-based prevention solutions. CDC's Injury Control Research Centers (ICRCs) are on the front line advancing violence and injury prevention science through cutting-edge, multidisciplinary research on the causes, outcomes, and prevention of violence and injuries. ICRCs research and evaluate cutting edgeways to improve injury prevention practices and determine the health and economic impacts of injury and violence prevention efforts to fill gaps in the evidence base. ICRCs conduct research on priority injury topics, including prescription drug overdose, traumatic brain injury, motor vehicle injuries, sexual violence, child abuse and neglect, and youth sports concussion. The academic institutions that comprise the ICRCs provide a high caliber of scientific competency, regional and national leadership in the field, and training for future injury researchers and the broader public health community. To develop and share interventions, ICRCs collaborate with state and local health agencies (including Core VIPP grantees), community partners, and other non-governmental organizations. Decision makers across the United States rely on ICRC research to shape federal, state, and local programs and policies.

Current ICRC Projects

State	Grantee	Project
Iowa	University of Iowa	Evaluation of Iowa's Anti-bullying Legislation
Maryland	Johns Hopkins University	Housing Characteristics and Child Injury Risks: A New Tool for Researchers and Policymakers
Michigan	University of Michigan	Prescription Opioid Overdose Intervention for At-Risk Urban Opioid Users
New York	Columbia University	Translating a Falls Program to Urban Seniors
New York	Mt. Sinai School of Medicine	Evaluating TBI behavioral interventions among youth
New York	University of Rochester	Structure, Policy, and Suicide Variability across Communities
North Carolina	University of North Carolina	Preventing Injury and Violence by Connecting Interdisciplinary Research to Programs, Policy and Practice
Ohio	Nationwide Children's Hospital	Evaluating the Effectiveness of State Level Concussion Policies
Pennsylvania	University of Pennsylvania, Developmental ICRC	Injuries and Violence Prevention among Low Resourced Populations
West Virginia	West Virginia University	Interaction of Drugs and Alcohol in Opioid Deaths

Budget Request

CDC's FY 2017 request of **\$9,000,000** for Injury Control Research Centers is level with the FY 2016 Enacted level. Currently, CDC supports 10 ICRCs to conduct research and evaluation activities related to health and the economic impact of injury and violence as well as the improvement of injury prevention practices. These include nine comprehensive ICRCs and one developmental ICRC. Comprehensive ICRCs are research centers with established systems and infrastructure to carry out complex and involved injury research while developmental ICRCs are those capable of researching on a more limited scale but are strengthening and expanding their systems and capabilities to better contribute to the field of violence and injury prevention. The West Virginia University Injury Control Research Center (WVU ICRC) was instrumental in the development and implementation of a pilot take-home program for naloxone, a lifesaving medication that can reverse an opioid overdose, in rural communities in West Virginia. The WVU ICRC connected the research community with local practitioners to establish and implement the pilot, modeled on the successful North Carolina program Project Lazarus.

Developmental ICRC awards are designed to build core activities such as administration, management, research development, technical assistance, support services, training and education, and outreach to the community. Research activities for the developmental center are more limited than for the comprehensive centers, but have already demonstrated an impact on the communities served by the ICRC. For example, the University of Pennsylvania Injury Science Center conducted novel research showing that inexpensive repairs to blighted urban land and buildings enhance health and prevent violence against children, adults, and intimate partners. Areas around remediated abandoned buildings in Philadelphia saw reductions of 19% in assaults, 39% in gun assaults, and 16% in nuisance crimes in addition to reports of less stress and more exercise.

In FY 2017, CDC will continue to collaborate with the ICRCs to conduct injury and violence prevention research to fill key gaps in the evidence base for prevention. CDC will provide strategic direction to the ICRCs and to the field of injury prevention research, including priority injury topics such as traumatic brain injury, violence against children and youth, motor vehicle-related injuries, and prescription drug overdose. CDC will share key findings from injury and violence prevention research from the ICRCs to benefit the broader public health community.

Injury Control Research Centers Program Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	11	10	10	10	10	0
- New Awards	0	3	0	0	0	0
- Continuing Award	11	7	10	10	10	0
Average Award	\$0.795	\$0.767	\$0.762	\$0.762	\$0.762	\$0.000
Range of Awards	\$0.790	\$0.450-\$0.802	\$0.450-\$0.802	\$0.450-\$0.802	\$0.450-\$0.802	N/A
Total Awards	\$8.741	\$7.671	\$7.617	\$7.617	\$7.617	\$0.000

¹These funds are not awarded by formula.

State Table: Core State Injury Program^{1,2,3,4}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$0	TBD	TBD	TBD
Alaska	\$0	TBD	TBD	TBD
Arizona	\$180,621	TBD	TBD	TBD
Arkansas	\$0	TBD	TBD	TBD
California	\$0	TBD	TBD	TBD
Colorado	\$803,029 ^{b, c, d}	TBD	TBD	TBD
Connecticut	\$0	TBD	TBD	TBD
Delaware	\$0	TBD	TBD	TBD
Florida	\$250,000	TBD	TBD	TBD
Georgia	\$0	TBD	TBD	TBD
Hawaii	\$150,000	TBD	TBD	TBD
Idaho	\$0	TBD	TBD	TBD
Illinois	\$0	TBD	TBD	TBD
Indiana	\$0	TBD	TBD	TBD
Iowa	\$0	TBD	TBD	TBD
Kansas	\$278,623 ^a	TBD	TBD	TBD
Kentucky	\$247,814	TBD	TBD	TBD
Louisiana	\$0	TBD	TBD	TBD
Maine	\$0	TBD	TBD	TBD
Maryland	\$294,057 ^a	TBD	TBD	TBD
Massachusetts	\$427,388 ^{a, b}	TBD	TBD	TBD
Michigan	\$0	TBD	TBD	TBD
Minnesota	\$246,454	TBD	TBD	TBD
Mississippi	\$0	TBD	TBD	TBD
Missouri	\$0	TBD	TBD	TBD
Montana	\$0	TBD	TBD	TBD
Nebraska	\$299,693 ^d	TBD	TBD	TBD
Nevada	\$0	TBD	TBD	TBD
New Hampshire	\$0	TBD	TBD	TBD
New Jersey	\$0	TBD	TBD	TBD
New Mexico	\$0	TBD	TBD	TBD
New York	\$675,000 ^{c, d}	TBD	TBD	TBD
North Carolina	\$427,989 ^{a, b}	TBD	TBD	TBD
North Dakota	\$0	TBD	TBD	TBD
Ohio	\$250,000	TBD	TBD	TBD
Oklahoma	\$250,000	TBD	TBD	TBD
Oregon	\$525,000 ^c	TBD	TBD	TBD
Pennsylvania	\$250,000	TBD	TBD	TBD
Rhode Island	\$250,000	TBD	TBD	TBD
South Carolina	\$0	TBD	TBD	TBD
South Dakota	\$0	TBD	TBD	TBD
Tennessee	\$247,686	TBD	TBD	TBD
Texas	\$0	TBD	TBD	TBD
Utah	\$332,422 ^b	TBD	TBD	TBD
Vermont	\$0	TBD	TBD	TBD
Virginia	\$0	TBD	TBD	TBD
Washington	\$449,114 ^{a, d}	TBD	TBD	TBD
West Virginia	\$0	TBD	TBD	TBD
Wisconsin	\$0	TBD	TBD	TBD
Wyoming	\$0	TBD	TBD	TBD
Territories				

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
American Samoa	\$0	\$0	\$0	\$0
Guam	\$0	\$0	\$0	\$0
Marshall Islands	\$0	\$0	\$0	\$0
Micronesia	\$0	\$0	\$0	\$0
Northern Mariana Islands	\$0	\$0	\$0	\$0
Puerto Rico	\$0	\$0	\$0	\$0
Republic Of Palau	\$0	\$0	\$0	\$0
Virgin Islands	\$0	\$0	\$0	\$0
Total	\$6,834,890	TBD	TBD	TBD

¹CFDA NUMBER: 93.136 Discretionary

²This state table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>

³All Core VIPP grantees receive funding for the Base Integration Component of the Core VIPP program. A select group of states participating in the Base Integration Component were awarded funding for additional components under the Core VIPP program. These included: a) Regional Network Leaders, b) Surveillance Quality Improvement, c) Older Adult Falls Prevention, and d) Motor Vehicle Injury Prevention. For more information on these additional components please go to <http://www.cdc.gov/injury/stateprograms/index.html>.

⁴Decisions on number of awards and funding levels for FY 2016 and 2017 are yet to be determined. A new Core SVIPP FOA will be released in FY 2016, beginning a new 5-year funding cycle.

State Table: Rape Prevention and Education^{1,2}

	FY 2015 Actual ³	FY 2016 Estimate ³	FY 2017 Estimate ^{3,4}	FY 2017+/- FY 2016
Alabama	\$519,245	\$519,245	\$519,245	\$0
Alaska	\$204,867	\$204,867	\$204,867	\$0
Arizona	\$643,797	\$643,797	\$643,797	\$0
Arkansas	\$375,261	\$375,261	\$375,261	\$0
California	\$3,046,283	\$3,046,283	\$3,046,283	\$0
Colorado	\$530,106	\$530,106	\$530,106	\$0
Connecticut	\$426,107	\$426,107	\$426,107	\$0
Delaware	\$219,367	\$219,367	\$219,367	\$0
District of Columbia	\$196,484	\$196,484	\$196,484	\$0
Florida	\$1,602,442	\$1,602,442	\$1,602,442	\$0
Georgia	\$898,392	\$898,392	\$898,392	\$0
Hawaii	\$255,086	\$255,086	\$255,086	\$0
Idaho	\$271,099	\$271,099	\$271,099	\$0
Illinois	\$1,141,194	\$1,141,194	\$1,141,194	\$0
Indiana	\$650,888	\$650,888	\$650,888	\$0
Iowa	\$385,338	\$385,338	\$385,338	\$0
Kansas	\$370,410	\$370,410	\$370,410	\$0
Kentucky	\$446,111	\$446,111	\$446,111	\$0
Louisiana	\$500,213	\$500,213	\$500,213	\$0
Maine	\$252,619	\$252,619	\$252,619	\$0
Maryland	\$596,019	\$596,019	\$596,019	\$0
Massachusetts	\$655,819	\$655,819	\$655,819	\$0
Michigan	\$913,533	\$913,533	\$913,533	\$0
Minnesota	\$559,740	\$559,740	\$559,740	\$0
Mississippi	\$379,230	\$379,230	\$379,230	\$0
Missouri	\$612,658	\$612,658	\$612,658	\$0
Montana	\$226,434	\$226,434	\$226,434	\$0
Nebraska	\$291,089	\$291,089	\$291,089	\$0
Nevada	\$358,623	\$358,623	\$358,623	\$0
New Hampshire	\$251,700	\$251,700	\$251,700	\$0
New Jersey	\$829,193	\$829,193	\$829,193	\$0
New Mexico	\$309,076	\$309,076	\$309,076	\$0
New York	\$1,647,000	\$1,647,000	\$1,647,000	\$0
North Carolina	\$886,637	\$886,637	\$886,637	\$0
North Dakota	\$201,959	\$201,959	\$201,959	\$0
Ohio	\$1,041,220	\$1,041,220	\$1,041,220	\$0
Oklahoma	\$439,800	\$439,800	\$439,800	\$0
Oregon	\$445,959	\$445,959	\$445,959	\$0
Pennsylvania	\$1,160,477	\$1,160,477	\$1,160,477	\$0
Rhode Island	\$231,313	\$231,313	\$231,313	\$0
South Carolina	\$507,319	\$507,319	\$507,319	\$0
South Dakota	\$212,897	\$212,897	\$212,897	\$0
Tennessee	\$640,250	\$640,250	\$640,250	\$0
Texas	\$2,092,549	\$2,092,549	\$2,092,549	\$0
Utah	\$363,516	\$363,516	\$363,516	\$0
Vermont	\$198,340	\$198,340	\$198,340	\$0
Virginia	\$768,096	\$768,096	\$768,096	\$0
Washington	\$669,485	\$669,485	\$669,485	\$0
West Virginia	\$293,148	\$293,148	\$293,148	\$0
Wisconsin	\$590,208	\$590,208	\$590,208	\$0
Wyoming	\$192,665	\$192,665	\$192,665	\$0

	FY 2015 Actual ³	FY 2016 Estimate ³	FY 2017 Estimate ^{3,4}	FY 2017+/- FY 2016
Territories				
American Samoa	\$0	\$0	\$0	\$0
Guam	\$35,000	\$35,000	\$35,000	\$0
Marshall Islands	\$0	\$0	\$0	\$0
Micronesia	\$0	\$0	\$0	\$0
Northern Mariana Islands	\$35,000	\$35,000	\$35,000	\$0
Puerto Rico	\$437,825	\$437,825	\$437,825	\$0
Republic Of Palau	\$0	\$0	\$0	\$0
Virgin Islands	\$35,000	\$35,000	\$35,000	\$0
Subtotal States	\$31,501,263	\$31,501,263	\$31,501,263	\$0
Subtotal Territories	\$542,825	\$542,825	\$542,825	\$0
Total	\$32,044,088	\$32,044,088	\$32,044,088	\$0

¹CFDA NUMBER: 93.136 Discretionary

²This State Table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>

³Beginning in FY 2014, RPE grantee awards included base funding of \$150,000 for all 50 states, Washington, D.C., and Puerto Rico, and \$35,000 for territories. RPE grantees within the 50 states, Washington, D.C., and Puerto Rico also received additional funds beyond their base funding based on population. The RPE funding formula was revised by the Violence Against Women Reauthorization Act of 2013.

⁴Total awards for FY 2017 do not include additional funding for evaluation activities.

State Table: National Violent Death Reporting System^{1,2}

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Alabama	\$0	TBD	TBD	TBD
Alaska	\$153,000	\$153,000	\$153,000	\$0
Arizona	\$314,098	\$314,098	\$314,098	\$0
Arkansas	\$0	TBD	TBD	TBD
California	\$0	TBD	TBD	TBD
Colorado	\$243,500	\$243,500	\$243,500	\$0
Connecticut	\$185,486	\$185,486	\$185,486	\$0
District of Columbia	\$0	TBD	TBD	TBD
Delaware	\$0	TBD	TBD	TBD
Florida	\$0	TBD	TBD	TBD
Georgia	\$332,000	\$332,000	\$332,000	\$0
Hawaii	\$151,000	\$151,000	\$151,000	\$0
Idaho	\$0	TBD	TBD	TBD
Illinois	\$314,000	\$314,000	\$314,000	\$0
Indiana	\$286,000	\$286,000	\$286,000	\$0
Iowa	\$162,000	\$162,000	\$162,000	\$0
Kansas	\$194,000	\$194,000	\$194,000	\$0
Kentucky	\$230,500	\$230,500	\$230,500	\$0
Louisiana	\$0	TBD	TBD	TBD
Maine	\$194,347*	\$194,347*	\$194,347*	\$0
Maryland	\$303,000	\$303,000	\$303,000	\$0
Massachusetts	\$229,000	\$229,000	\$229,000	\$0
Michigan	\$352,500	\$352,500	\$352,500	\$0
Minnesota	\$216,425	\$216,425	\$216,425	\$0
Mississippi	\$0	TBD	TBD	TBD
Missouri	\$0	TBD	TBD	TBD
Montana	\$0	TBD	TBD	TBD
Nebraska	\$0	TBD	TBD	TBD
Nevada	\$0	TBD	TBD	TBD
New Hampshire	\$141,606	\$141,606	\$141,606	\$0
New Jersey	\$247,000	\$247,000	\$247,000	\$0
New Mexico	\$204,495	\$204,495	\$204,495	\$0
New York	\$427,000	\$427,000	\$427,000	\$0
North Carolina	\$322,000	\$322,000	\$322,000	\$0
North Dakota	\$0	TBD	TBD	TBD
Ohio	\$352,500	\$352,500	\$352,500	\$0
Oklahoma	\$231,000	\$231,000	\$231,000	\$0
Oregon	\$230,000	\$230,000	\$230,000	\$0
Pennsylvania	\$335,000	\$335,000	\$335,000	\$0
Rhode Island	\$135,000	\$135,000	\$135,000	\$0
South Carolina	\$236,000	\$236,000	\$236,000	\$0
South Dakota	\$0	TBD	TBD	TBD
Tennessee	\$0	TBD	TBD	TBD
Texas	\$0	TBD	TBD	TBD
Utah	\$209,000	\$209,000	\$209,000	\$0
Vermont	\$0*	TBD*	TBD	TBD
Virginia	\$291,781	\$291,781	\$291,781	\$0
Washington	\$241,000	\$241,000	\$241,000	\$0
West Virginia	\$0	TBD	TBD	TBD
Wisconsin	\$236,000	\$236,000	\$236,000	\$0

	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate	FY 2017 +/- FY 2016
Wyoming	\$0	TBD	TBD	TBD
Total	\$7,700,426	TBD	TBD	\$0

¹CFDA NUMBER: 93.136 Discretionary.

²This State Table is a snapshot of selected programs that fund states (and in some cases local, tribal, and territorial grantees). For a more comprehensive view of grant and cooperative agreement funding to grantees by jurisdiction, visit <http://www.cdc.gov/Fundingprofiles/FundingProfilesRIA/>,

* Maine and Vermont are funded together, with Maine as the lead state under the award.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
NIOSH Discretionary Total	\$334.863	\$339.121	\$285.621	-\$53.500
Budget Authority	\$334.863	\$339.121	\$213.621	-\$125.500
PHS Evaluation Transfer	\$0.000	\$0.000	\$72.000	+\$72.000
EEOICPA – Mandatory ¹	\$50.099	\$55.358	\$55.358	\$0.000
World Trade Center – Mandatory ^{1,2,3}	\$260.650	\$299.834	\$335.477	+\$35.643
Total	\$645.612	\$694.313	\$676.456	-\$17.857
FTEs	1,122	1,122	1,122	0
Occupational Safety and Health				
- National Occupational Research Agenda	\$114.500	\$115.500	\$90.500	-\$25.000
- Other Occupational Safety and Health ⁴	\$220.363	\$223.621	\$195.121	-\$28.500

¹The FY 2015 reductions from appropriated amount reflect the sequestration of mandatory funds.

²The FY 2017 World Trade Center (WTC) Health Program amount is an estimate that may be revised during FY 2017 planning process.

³Reflects the federal share of WTC Health Program only. These amounts are based on trend analysis and are the best estimates at the time but are subject to change.

⁴The FY 2015 Other OSH structure is comparably adjusted to reflect FY 2016 proposed budget structure.

Summary

CDC's [Occupational Safety and Health](#)³⁸⁰ efforts help protect the nation's 157 million workers³⁸¹ and provide the only dedicated federal investment for research needed to prevent injuries and illnesses that cost the United States \$250 billion annually.³⁸² This work supports CDC's goal to keep Americans safe from environmental and work-related hazards. The National Institute for Occupational Safety and Health (NIOSH) was established by the Occupational Safety and Health Act of 1970 and is the only federal entity responsible for conducting research and making recommendations for the prevention of work-related injury and illness. Research efforts are aligned under the National Occupational Research Agenda (NORA), which partners with industry, labor, government, academia, professional associations, and others to maximize the impact of occupational safety and health research. CDC's Other Occupational Safety and Health activities involve areas such as surveillance, Health Hazard Evaluations, and basic laboratory research. CDC also receives mandatory funding for the Energy Employees Occupational Illness Compensation Program Act and the World Trade Center Health Program.

CDC's FY 2017 request of **\$676,456,000** for NIOSH, including funding from all discretionary and mandatory sources, is \$17,857,000 below the FY 2016 Enacted level. This FY 2017 request includes \$335,477,000 in mandatory funding for the World Trade Center Health Program, maintaining the addition of certain cancers to the list of related conditions and the program inclusion of responders from the Shanksville, Pennsylvania, and Pentagon sites. The FY 2017 request also includes \$55,358,000 in mandatory funding for the Energy Employees Occupational Illness Compensation Program Act. The FY 2017 request of \$283,621,000 in discretionary funds for Occupational Safety and Health is \$53,500,000 below the FY 2016 Enacted level and proposes elimination of funding for the NORA Agriculture, Forestry, and Fishing sector and Education and Research Centers.

³⁸⁰<http://www.cdc.gov/niosh/>

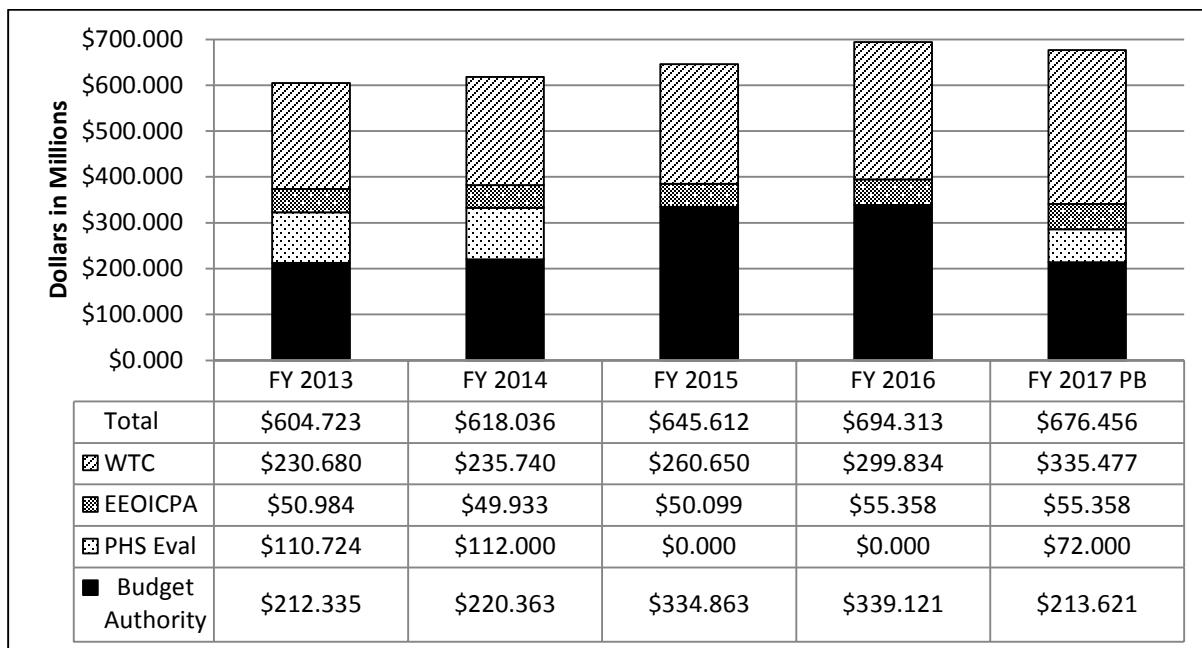
³⁸¹<http://www.bls.gov/news.release/pdf/empsit.pdf>

³⁸²<http://www.bls.gov/news.release/pdf/empsit.pdf>

Performance Highlights

- NIOSH recommendations on proximity detection systems (the ability to detect when an object is near a vehicle) were incorporated into regulation through an MSHA final rule in January 2015. The new regulation requires underground coal mine operators to equip continuous mining machines with proximity detection systems, reducing the risk of pinning, crushing, or striking accidents.
- NIOSH developed methods for testing and rating hearing protector performance and assessing exposure risk that were included in the Department of Defense MIL STD 1474E noise limit criteria acquisition standard promulgated in April 2015. This new standard sets the maximum permissible noise levels for military systems, facilities, and equipment.
- NIOSH conducted a Health Hazard Evaluation study that found a high rate of carpal tunnel syndrome in a poultry processing plant employing workers from an underserved population. The findings received national media attention and helped support OSHA activities, including expanded enforcement and strengthened guidelines for the industry.

National Institute for Occupational Safety and Health (NIOSH) Funding History^{1, 2, 3}



¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

²Reductions in FY 2013 reflect the sequester of both mandatory and discretionary funds, and reductions in FY 2014 and FY 2015 reflect the sequester of mandatory funds.

³All years for World Trade Center (WTC) Health Program represent federal share only.

National Occupational Research Agenda (NORA) Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$114.500	\$115.500	\$18.500	-\$97.000
NORA - Agriculture, Forestry, Fishing (<i>non-add</i>)	\$24.000	\$25.000	\$0.000	-\$25.000
PHS Evaluation Transfer	\$0.000	\$0.000	\$72.000	+\$72.000
Total	\$114.500	\$115.500	\$90.500	-\$25.000

Overview

The [National Occupational Research Agenda](#)³⁸³ (NORA) is a partnership program that stimulates innovative research and improved workplace practices, while also addressing emerging issues. Unveiled in 1996, NORA has become a research framework for NIOSH and the nation. NORA provides guidance to the occupational safety and health community on research priorities within the following industry sectors:

- Agriculture, Forestry, and Fishing (proposed for elimination in FY 2017)
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Oil and Gas Extraction
- Public Safety
- Services
- Transportation, Warehousing, and Utilities
- Wholesale and Retail Trade

All intramural and extramural projects CDC funds under NORA must be consistent with research-to-practice principles. These are projects that have a high probability for short- or long-term impact; bring innovative interventions to the commercial market; transfer knowledge and products to employers, workers, and policymakers; and evaluate programs using qualitative or quantitative data.

NORA research identifies health and safety risks and recommends prevention measures. Recent accomplishments include:

- The NIOSH Alert, “Preventing Occupational Exposures to Antineoplastic and Other Hazardous Drugs in Health Care Settings” was updated on September 2014. Approximately 8 million U.S. healthcare workers are potentially exposed to hazardous drugs. The update adds 27 drugs and provides guidance on personal protective equipment and engineering controls for various scenarios that may be encountered when handling hazardous drugs.
- In July 2015, NIOSH released a [guidance document](#)³⁸⁴ for employers whose workers are exposed to diacetyl. This resource recommends best practices such as engineering controls and exposure monitoring to help reduce workers’ exposures to the organic compound, which is commonly used as an artificial butter flavoring.

³⁸³<http://www.cdc.gov/niosh/nora/>

³⁸⁴<http://www.cdc.gov/niosh/docs/2015-197/pdfs/2015-197.pdf>

- A free [smartphone application for ladder safety](http://www.cdc.gov/niosh/updates/upd-06-17-13.html)³⁸⁵ was downloaded 49,362 times between June 2013 and October 2015. This smartphone app was integrated into the joint CDC and Occupational Safety and Health Administration (OSHA) national campaign to prevent falls in construction.
- During May 4-15, OSHA, along with CDC and other stakeholders, worked together on the [National Safety Stand-Down to Prevent Falls in Construction](https://www.osha.gov/StopFallsStandDown/index.html)³⁸⁶. The Stand-Down is part of a broader prevention campaign and is a voluntary event for construction-related employers to speak directly to employees about fall hazards and reinforce the importance of fall prevention requirements. Approximately four million construction workers have been involved in stand-down activities since 2014.
- More than 14,518 healthcare workers completed the free NIOSH online [violence recognition course](http://www.cdc.gov/niosh/topics/violence/training_nurses.html)³⁸⁷ between August 2013 and November 2015, obtaining continuing education credit. This course was built upon research illustrating that nurses were infrequently trained on their risk for workplace violence and prevention measures, despite the risk violence poses to healthcare workers.

Budget Request

CDC's FY 2017 request of **\$90,500,000** for NORA is \$25,000,000 below the FY 2016 Enacted level and reflects elimination of the Agriculture, Forestry and Fishing (AgFF) program. AgFF is one of ten NORA industry sectors. Although this program has made positive contributions, given the relation to CDC's mission and the ability to have a national impact on improved outcomes, the AgFF has been proposed for elimination in a limited-resource environment. CDC will use FY 2017 funds to address high priority occupational hazards in the other nine industry sectors, as well as emerging issues that may require new approaches to prevention, such as nanotechnology. Examples of high-priority occupational hazards include mining hazards (see "Mine Safety" below); chemicals used or generated in healthcare establishments; noise in manufacturing; and stress in police officers, firefighters, and other public safety occupations.

Mine Safety and Health

CDC funding supports the NORA mining sector to address key areas such as disaster prevention and response, respiratory-dust hazards, communication and tracking, oxygen supply, refuge alternatives, and training. CDC's Mining Research program also collaborates with partners in industry, labor, academia, and government to conduct research on health hazards, safety hazards, and disaster prevention in mining.

In April 2014, the U.S. Department of Labor's Mine Safety and Health Administration announced the release of a final rule to lower miners' exposure to respirable coal mine dust in all underground and surface coal mines. The rule went into effect on August 1, 2014 and reduces the overall dust standard from 2.0 to 1.5 milligrams per cubic meter of air and cuts in half the standard from 1.0 to 0.5 for certain mine entries and miners with pneumoconiosis. FY 2017 funding will be used to continue the expansion of CDC's Coal Worker's Health Surveillance Program to include surface coal miners and to provide a lung function test called spirometry as a part of the health surveillance that is offered to coal miners, as required by the rule.

Safer Mines

CDC has partnered with a machining manufacturer to develop and test a stand-alone respirable coal mine dust collector through a contract that fulfills the MINER Act technology mandate. This is a new technology to reduce worker respirable dust exposures in an effort to eliminate coal workers pneumoconiosis.

³⁸⁵<http://www.cdc.gov/niosh/updates/upd-06-17-13.html>

³⁸⁶<https://www.osha.gov/StopFallsStandDown/index.html>

³⁸⁷http://www.cdc.gov/niosh/topics/violence/training_nurses.html

In FY 2017, CDC will continue to implement its new Spokane Mining Research Division (SMRD) in Spokane, Washington. The formation of SMRD was announced in the Federal Register in March 2015 (80 FR 12821). SMRD will provide leadership for the prevention of work-related illness, injury, and death in the extractive industries with an emphasis on the special needs of these industries in western United States. Special areas of emphasis will be to better understand the causes of catastrophic failures in underground metal/nonmetal mines that may lead to multiple injuries and fatalities and to develop new design practices and tools, control technologies, and work practices to reduce the risk of these global and local ground failures in underground metal/nonmetal mines. SMRD will also conduct studies and field investigations to understand the problems of ventilating deep and multilevel underground mines. This includes developing improved design approaches and engineering controls to reduce the concentration of toxic substances in the mine air.

A six-year history of NIOSH mining research funding and FTE by type of mine research, in particular the proportion of resources dedicated to coal and metal/non-metal research, is presented below.

Mine Research Funding (in millions) and FTEs¹

Fiscal Year	Total Mining		Coal		Metal/Non-Metal		Stone, Sand, & Gravel	
	Funding	FTE	Funding	FTE	Funding	FTE	Funding	FTE
2010	\$53.705	235	\$30.323	132	\$14.248	62	\$9.134	41
2011	\$52.687	237	\$26.702	126	\$14.523	59	\$11.462	52
2012	\$52.360	220	\$26.719	122	\$14.962	56	\$10.679	42
2013	\$49.638	208	\$21.701	110	\$15.115	57	\$12.822	41
2014	\$51.657	201	\$22.710	97	\$16.446	63	\$12.501	41
2015	\$51.857	197	\$22.702	93	\$16.605	65	\$12.550	39

¹CDC Investment in the mining sector is driven by demand factors, including surveillance and injury data and the sector population.

Nanotechnology

As a part of the manufacturing sector program, CDC provides national and international leadership on evaluating and controlling worker exposure to nanoparticles and nanomaterials. Nanotechnology is the manipulation of matter on a near-atomic scale to produce new structures, materials and devices. The technology promises scientific advancement in many sectors such as medicine, consumer products, energy, materials and manufacturing. Nanomaterials are defined as materials that have a length scale between 1 and 100 nanometers. Workers within nanotechnology-related industries have the potential to be exposed to uniquely engineered materials with novel sizes, shapes, and physical and chemical properties. Because of their distinctive physical and chemical properties, little is known about what possible health effects these properties may have on workers.

In FY 2017 CDC will invest \$11,000,000 in a complete research program that will help businesses and government agencies develop effective nanotechnology risk-management programs. CDC's Nanotechnology Research Center will continue to work with private sector partners to conduct field investigations. These investigations will provide evidence of effective interventions to control worker exposure, with specific prevention recommendations for employers that will support responsible development of the technology, resulting in sustainable economic growth and job creation through increased investments in nanotechnology. These activities build on advancements achieved to date under the CDC nanotechnology research program. Critical issues still to be addressed include predictive hazard assessment, worker surveillance, and risk management.

Examples of recent nanotechnology safety research activities include:

- Providing new recommended exposure limits and risk management practices to control work-related exposures to carbon nanotubes and carbon nanofibers to reduce certain work-related lung effects
- Developing guidance on [General Safe Practices for Working with Engineered Nanomaterials in Research Laboratories](#)³⁸⁸ and developing partnerships with private companies to evaluate manufacturing process controls
- Publishing [Current Strategies for Engineering Controls in Nanomaterial Production and Downstream Handling Processes](#),³⁸⁹ which discusses approaches and strategies to protect workers from potentially harmful exposures during nanomaterial manufacturing, use, and handling processes. This resource is intended to be used as a reference by plant managers and owners who are responsible for making decisions regarding capital allocations, as well as health and safety professionals, engineers, and industrial hygienists who are specifically charged with protecting worker health in this new and growing field.

NORA Grant Funding

CDC funds occupational safety and health research grants that address a wide range of NORA topics, including hazards for home healthcare workers and fall protection for construction workers. CDC uses a competitive, peer-reviewed process to award grants. Grantees are typically located in academic settings. These grants add to the occupational safety and health scientific evidence base and contribute to translating research into practice to prevent injury, disease, and death in the workplace. The reduction in the number of grants after FY 2016 reflects the proposed elimination of the Agriculture, Forestry and Fishing grants.

NORA Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	113	111	69	71	42	-29
- New Awards	25	19	13	15	15	0
- Continuing Awards	88	92	56	56	27	-29
Average Award	\$0.51	\$0.50	\$0.533	\$0.528	\$0.376	\$0.152
Range of Awards	\$0.057-\$5.750	\$0.020-\$5.750	\$0.074-\$3.750	\$0.074-\$3.750	\$0.024-\$3.750	N/A
Total Awards	\$57.490	\$54.994	\$36.795	\$37.545	\$15.760	\$-21.785

¹These funds are not awarded by formula.

³⁸⁸ <http://www.cdc.gov/niosh/docs/2012-147/pdfs/2012-147.pdf>

³⁸⁹ <http://www.cdc.gov/niosh/docs/2014-102/>

Other Occupational Safety and Health Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017 +/- FY 2016
Budget Authority ¹	\$220.363	\$223.621	\$195.121	-\$28.500
- Education and Research Centers (non-add)	\$27.445	\$28.500	\$0.000	-\$28.500

¹The FY 2015 Other OSH structure is comparably adjusted to reflect FY 2016 proposed budget structure.

Overview

CDC's Other Occupational Safety and Health activities cut across NORA industry sectors, providing tools for state-based occupational safety and health programs. These activities include the Health Hazard Evaluation (HHE) program and the Personal Protective Technology (PPT) Program.

The [HHE program](#)³⁹⁰ responds to requests to determine if workers are exposed to workplace hazards, and CDC's efforts to conduct and support occupational safety and health surveillance. A recent HHE program accomplishment was the finding of a high rate of carpal tunnel syndrome in a poultry processing plant, which received national media attention and helped support OSHA activities, including expanded enforcement and updated guidelines for the industry.

The PPT Program activities support PPT research and respirator certification activities. An estimated 20 million workers who use Personal Protective Equipment (PPE) will benefit from CDC's research on respirators and other personal protective technologies. Through audits and certified respirator decisions, CDC improves the quality and inventory of respiratory protection for workers in multiple industries. In FY 2015, CDC completed 364 certified respirator decisions, including 733 new approvals, and 173 complete respirator audits.

CDC has led the national effort to support the use of PPE in the Ebola response by completing testing on PPE ensembles used in West Africa to provide additional heat stress mitigation guidance. CDC also evaluated and is developing the scientific basis for test methods used to evaluate isolation gowns.

A six-year history of the funding and FTEs supported by Other Occupational Safety and Health Research, broken down by industry and location, is presented below.

³⁹⁰<http://www.cdc.gov/niosh/hhe/HHEprogram.html>

Research for Other Occupational Safety and Health, by Industry and Location
(Dollars in Millions)

Industry	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014 ¹	FY 2015	Primary Location of Work in FY 2014	FTEs ²
Construction	\$3.120	\$3.840	\$4.100	\$4.120	\$4.290	\$4.790	GA, OH, WDC, WV	24
Healthcare and Social Assistance	\$3.170	\$3.030	\$3.040	\$2.720	\$5.090	\$5.090	GA, OH, PA, WV	12
Manufacturing	\$6.790	\$7.460	\$9.650	\$8.830	\$8.710	\$8.980	GA, OH, PA, WV	48
Mining	\$2.140	\$2.220	\$1.370	\$1.470	\$2.340	\$2.230	GA, WA, WV	5
Oil and Gas	\$0.260	\$0.270	\$0.390	\$0.360	\$0.340	\$1.020	CO, OH, WV	2
Public Safety	\$3.540	\$3.330	\$3.200	\$3.840	\$5.930	\$5.930	GA, OH, PA, WV	14
Services	\$4.430	\$5.140	\$3.550	\$2.590	\$2.410	\$3.305	GA, OH, WV	12
Transportation, Warehousing and Utilities	\$2.200	\$2.400	\$2.640	\$2.390	\$1.910	\$1.493	AK, GA, OH, WV	5
Wholesale and Retail Trades	\$1.270	\$1.230	\$1.230	\$0.920	\$0.770	\$1.523	GA, OH, WV	4
Cross-cutting or multiple Sectors	\$53.750	\$51.410	\$52.400	\$50.640	\$64.710	\$64.010	AK, CO, GA, OH, PA, WDC, WV	302
Total	\$84.710	\$83.840	\$82.520	\$78.400	\$96.500	\$92.741	AK, CO, GA, OH, PA, WDC, WV	428

¹ In FY 2014, the Personal Protective Technology disease line was moved to a non-add under Other Occupational Safety and Health disease line.

² FTEs are based upon FY 2015 employees.

Budget Request

CDC's FY 2017 request of **\$195,121,000** for Other Occupational Safety and Health is \$28,500,000 below FY 2016 Enacted level and eliminates funding for the Education and Research Centers (ERCs). Originally created almost 40 years ago, the ERC program addressed the limited number of academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The ERCs' reach and impact have grown substantially across the nation since the program's inception, increasing awareness of the importance of coursework specializing in these areas. Although the FY 2016 request does not include funding for the federal portion of these grants, CDC will continue to provide scientific and programmatic expertise to the ERCs as requested.

CDC will use FY 2017 funding to support the Total Worker Health™ (TWH™) Program. This program supports ground-breaking research in the area of workplace safety, health, and well-being within the context of a changing economy and shifting workplace and population demographics. The TWH Program advocates for integration of all organizational policies, programs, and practices that contribute to worker safety, health, and well-being, including those relevant to the control of hazards and exposures, the organization of compensation and benefits, work-life management, and a health-supporting built environment. The TWH™ Program includes an intramural component and an extramural component, the latter comprised of four Centers of Excellence to Promote a Healthier Workforce. The Centers have created evidence-based guidance documents. These include [Harvard's Safewell guidance](#)³⁹¹ and HealthandSafe@Work from Center for the Promotion of Health in the New England Workplace, and over 50 practice-based planning and implementation tools and resources aimed for

³⁹¹ <http://www.centerforworkhealth.sph.harvard.edu/resources/safewell-resources>

employers, supervisors and professionals responsible for worker safety and health reaching over 100,000 followers via virtual media. Through courses, workshops, webinars, and other activities, the Centers have trained over 3,000 workplace safety and health professionals on the integration of workplace safety, health, and well-being.

Over the past decade, the TWH Program has strengthened long-standing and developed novel, innovative partnerships to safeguard workers and expand their health and well-being. Since 2011, more than 15,000 workplace safety and health professionals participated in TWH trainings via in-person workshops, meetings, webinars, consultations, and other live forums. The Total Worker Health in Action! E-newsletter reaches more than 60,000 quarterly. In 2014, a NIOSH TWH Affiliate Program was established to extend the impact and elevate the visibility of worker safety and health priorities and now includes over 17 partners advocating for a holistic approach to advance worker safety and health. Collaborating with stakeholders, the program will publish a National TWH Agenda to highlight priority research, practice, policy, and capacity building goals for the decade ahead.

The FY 2017 request supports public health tools, such as state-based surveillance, Health Hazard Evaluations, and exposure assessment research. CDC will continue providing funding and expertise necessary for states to understand and prevent work-related risks. CDC will fund 26 states to build state health department capacity to conduct occupational safety and health surveillance and to develop intervention and prevention programs. These investments will also support seven state surveillance programs that track and target interventions for state-specific priorities, such as occupational fatalities, silicosis, and hospital worker injuries.

Since falls are the leading cause of death in the construction industry, CDC and its partners re-launched the [National Campaign to Prevent Falls in Construction](#)³⁹² in FY 2013. As part of the campaign, the National Falls Prevention Safety Stand-down is annual event that raises awareness surrounding the severity of fall hazards in construction and the importance of preventing them. The 2015 stand-down occurred May 4-15. Below are some recent highlights from four of the eight state grantees.

State Based Grantee Highlights—Campaign to Prevent Falls in Construction

Grantee	Highlights
California Department of Public Health	Published new Fall Prevention Tailgate Training Materials ³⁹³ (16 bilingual cards) and a new web topic page ' Preventing Worker Injuries and Deaths from Falls '. ³⁹⁴ Two of the award winning digital stories (Preventing Falls through Skylights, Preventing Falls in the Solar Industry) continue to be highlighted on the joint OSHA and NIOSH Fall Prevention Campaign at www.osha.gov/stopfalls/ .
Kentucky Occupational Safety and Health Surveillance Program University of Kentucky, College of Public Health	The Kentucky FACE Report entitled " Hispanic Laborer Killed when Struck by Falling Plywood on a Commercial Construction Site " ³⁹⁵ resulted in the employer implementing the following safety policies: 1) required net use to catch falling debris; 2) required use of toe boards on all jobs; and 3) no work performed while workers are laboring above. Over 4,100 Kentucky employees participated in the Stand-Down. Kentucky also developed Fall Prevention Campaign postcards that were mailed to approximately 2,000 employers across the state.

³⁹²<http://www.cdc.gov/niosh/construction/stopfalls.html>

³⁹³<http://www.cdph.ca.gov/programs/ohb-face/Pages/Tailgate.aspx>

³⁹⁴<http://www.cdph.ca.gov/programs/ohb/Pages/Falls.aspx>

³⁹⁵<http://www.cdc.gov/niosh/face/pdfs/14KY008.pdf>

Grantee	Highlights
Massachusetts Occupational Health and Safety Surveillance Program	Massachusetts FACE supported the campaign by conducting a combination of e-mail and in-person outreach. E-mails explaining the national campaign were disseminated to all Massachusetts municipalities, approved course providers for Massachusetts construction licenses, and Massachusetts vocational school superintendents and principals.
New York State	Staff completed a news piece "Construction Falls Kill Workers-Join the National Safety Stand-Down to Prevent Falls in Construction (May 4-15)." The information was published in the May issue of the Injury Prevention News—a monthly electronic newsletter published by the Bureau of Occupational Health and Injury Prevention. The newsletter is disseminated to 550 local public health and safety professionals.

With funds requested for FY 2017, CDC will respond to requests for assistance through the [Health Hazard Evaluation program](#)³⁹⁶ to determine if workers are being exposed to hazardous materials or harmful conditions and if these exposures are affecting worker health. In FY 2014, CDC conducted 225 workplace evaluations through the Health Hazard Evaluation program. This is the nation's sentinel program for identifying emerging or previously unrecognized occupational health threats. CDC will evaluate workplace environments and employee health by reviewing records and conducting on-site environmental sampling, performing epidemiologic surveys and medical testing, and making recommendations to reduce workplace hazards.

Reporting exposure results to individuals and industry quickly and inexpensively—without compromising scientific quality—is essential. Toward that end, CDC will conduct intramural and extramural research to develop direct reading instruments and techniques that can be deployed readily in the field or easily read without further sample processing. These direct-reading methods allow for faster identification of hazards and more rapid intervention to protect the safety and health of workers. CDC will develop new methods to measure dusts, gases and vapors, aerosols, noise, radiation, and other hazards in the workplace. These methods provide occupational health professionals with fundamental tools that produce reliable, replicable results.

In FY 2017, CDC will provide funding for [Personal Protective Technology](#)³⁹⁷ (PPT) Program activities that support PPT research, conformity assessment, and respirator certification activities. Funding will also support evaluation of product performance for personal protective equipment used by 20 million workers in all industry sectors to protect them from job hazards. CDC will conduct intramural and extramural research on PPT, including research to advance state-of-the-art technology to understand and improve protection, usability, comfort, fit, and user acceptance, with an emphasis on personal protective equipment for fire fighters and healthcare workers, as well as escape technology for miners. CDC will develop PPT standards and test methods and will pursue continuous improvement of the respirator certification program to support new requirements and requirements under development. These new standards refine the agency's requirements for testing and certification of respiratory protective devices to keep workers safe.

CDC funds grants for occupational safety and health activities that provide research and tools for public health professionals and other partners. CDC also funds state-based grants to build occupational safety and health capacity. Examples of other grants in this category include statistical method development for analyzing industrial hygiene data and analysis of work-related injury, disease, and death surveillance data from U.S. workers. CDC uses a competitive, peer-reviewed process to award grants. Grantees are typically located in academic settings or state health departments. The reduced awards and funding in FY 2017 reflect the elimination of the Educational Research Center grants.

³⁹⁶<http://www.cdc.gov/niosh/hhe/HHEprogram.html>

³⁹⁷<http://www.cdc.gov/niosh/programs/ppt/>

Other Occupational Safety and Health Grants¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	65	56	108	112	94	-18
- New Awards	12	7	27	29	29	0
- Continuing Awards	53	49	81	83	60	-18
Average Award	\$0.580	\$0.678	\$0.543	\$0.534	\$0.332	\$0.000
Range of Awards	\$0.020-\$1.746	\$0.037-\$1.755	\$0.020-\$1.755	\$0.020-\$1.467	\$0.020-\$1.467	N/A
Total Awards	\$33.400	\$37.952	\$58.674	\$59.729	\$31.229	-\$28.500

¹These funds are not awarded by formula.

Energy Employees Occupational Illness Compensation Program Act (EEOICPA) Budget Request¹

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
EEOICPA – Mandatory	\$50.099	\$55.358	\$55.358	\$0.000

¹The FY 2015 reduction from appropriated amount reflects the sequestration of mandatory funds.

Overview

The Energy Employees Occupational Illness Compensation Program Act (EEOICPA) is a mandatory federal program that provides compensation to U.S. Department of Energy employees or survivors of employees who have been diagnosed with a radiation-related cancer, beryllium-related disease, or chronic silicosis because of their work in producing or testing nuclear weapons. CDC conducts dose reconstructions to estimate an employee's occupational radiation exposure for certain cancer cases, considers and issues determinations on petitions for adding classes of workers to the Special Exposure Cohort, and provides administrative support to the Advisory Board on Radiation and Worker Health (Advisory Board). The U.S. Department of Labor uses CDC's estimates in making compensation determinations. In FY 2015, CDC:

- Completed 2,100 dose reconstructions
- Received eight Special Exposure Cohort petitions
- Supported 31 meetings of the Advisory Board, its Subcommittees, and Work Groups
- Informed recommendations of the Advisory Board, which prompted the HHS Secretary to add 115 classes of employees to the Special Exposure Cohort as of September 30, 2015

Budget Request

CDC's FY 2017 estimate of **\$55,358,000** in mandatory funding for EEOICPA is level with the FY 2016 Enacted level. As mandated by EEOICPA, CDC will use this funding to:

- Estimate 2,100 radiation dose reconstructions to support the U.S. Department of Labor's adjudication of claims
- Evaluate an estimated 10 petitions to add classes of employees to the Special Exposure Cohort
- Provide administrative and technical support for the Advisory Board as it reviews technical documents and procedures used for dose reconstruction
- Publicize—to the extent possible—acquired information related to radiation exposure at facilities involved with nuclear weapons production, testing, and disposal
- Support health effects research using these data

In accordance with EEOICPA, in FY 2017, CDC will complete radiation dose reconstructions for all claims requiring such information to permit final adjudication of the claim. CDC will use radiation monitoring information provided by the U.S. Department of Energy and any relevant information provided by claimants to develop a dose reconstruction report. CDC expects the number of dose reconstructions completed each year to decrease to 2,100 in FY 2017 as claims are adjudicated or as claimants receive compensation as members of the Special Exposure Cohort.

CDC will also evaluate petitions to add classes of employees to the Special Exposure Cohort and to present the evaluation reports to the Advisory Board, which makes recommendations to the HHS Secretary concerning whether a class of employees should be added to the Special Exposure Cohort. CDC determines whether a petition qualifies for evaluation and, if so, develops an evaluation report. SEC-related work has increased in

response to the need to conduct more long-term evaluations, consider multiple classes of workers included in an individual petition, and re-evaluate previous petitions/reports as new information becomes available. CDC will engage the Advisory Board to assist in reviewing Special Exposure Cohort evaluation reports and the scientific validity and quality of dose reconstruction efforts.

World Trade Center Health Program Budget Request^{1,2,3}

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
World Trade Center – Mandatory	\$260.650	\$299.834	\$335.477	+\$35.643

¹The FY 2015 reductions from appropriated amount reflect the sequestration of mandatory funds.

²The FY 2017 WTCHP amount is an estimate that may be revised during FY17 planning process.

³Reflects the federal share of WTC Health Program only.

Overview

The September 11, 2001 terrorist attacks in New York City, at the Pentagon in Arlington, Virginia, and in Shanksville, Pennsylvania required extensive response, recovery, and cleanup activities. Thousands of responders and survivors were exposed to toxic smoke, dust, debris, and psychological trauma. The James Zadroga 9/11 Health and Compensation Act of 2010 ([P.L. 111-347](#))³⁹⁸ created the [World Trade Center \(WTC\) Health Program](#)³⁹⁹ to provide healthcare benefits to eligible responders and survivors beginning on July 1, 2011.

On December 18, 2015, President Obama signed the James Zadroga 9/11 Health and Compensation Reauthorization Act which extends the WTC Health Program through 2090. Pursuant to this statute, the WTC Health Program provides monitoring and treatment benefits to eligible responders and survivors, conducts research on WTC-related health conditions, and maintains a health registry to collect data on victims of the September 11, 2001, terrorist attacks. By September 30, 2015, the WTC Health Program had enrolled 73,199 eligible responders and survivors. In FY 2015, the WTC Health Program paid claims for eligible treatment, including medication, for more than 22,100 of these responders and survivors.

WTC Health Program Enrollment

	Sept. 30, 2014	Dec. 31, 2014	March 31, 2015	June 30, 2015	Sept. 30, 2015
New Members since July 2011 ¹	8,660	9,908	10,405	11,167	11,979
Total Members²	69,878	70,952	71,515	72,395	73,199

¹New members enrolled under the Zadroga Act requirements (adjustments are made each quarter to account for member records changes), including Pentagon and Shanksville, PA responders who are counted with Nationwide Members if they live outside of the New York City metropolitan area.

²New members and members enrolled prior to 7/1/2011 (adjustments are made each quarter to account for member records changes).

³⁹⁸ <http://www.gpo.gov/fdsys/pkg/PLAW-111publ347/pdf/PLAW-111publ347.pdf>

³⁹⁹ <http://www.cdc.gov/wtc/index.html>

WTC Health Program Paid Claims

Healthcare Services¹	Sept. 30, 2014	Dec. 31, 2014	March 31, 2015	June 30, 2015	Sept. 30, 2015
Members who had monitoring or screening exams	22,363	20,850	19,113	19,302	24,996
Members who had diagnostic evaluations ²	17,016	17,191	17,605	15,859	16,996
Members who had out-patient treatment	16,721	16,177	16,238	15,764	16,925
Members who had in-patient treatment	318	364	375	438	474
Members who received medications	17,612	18,097	18,431	19,004	19,313

¹Based on claims for services that were paid during the previous 12-month period (numbers fluctuate between quarterly updates due to annual submitted claims).

²For determining if a member has a WTC condition and for certifying that health condition.

Budget Request

CDC's FY 2017 estimate of \$335,477,000 in mandatory Federal share funding for the WTC Health Program is \$35,643,000 above the FY 2016 Enacted level. Funds support the treatment of WTC-covered health conditions for enrolled responders and survivors. The increase reflects growing treatment costs due to the addition of cancers to the list of covered conditions, as well as an increase in enrollment. Including New York City's required contribution of \$37,275,000, a total of \$372,752,000 in resources will support the WTC Health Program in FY 2017. As of November 2015, the WTC Health Program has certified over 5,300 cancer cases, which is an increase of 1,800 cases in the past year. In FY 2015, more than 2,660 members received cancer care compared to 1,200 in FY 2014. The WTC Health Program provides quality care to the responders and other individuals affected by the events of September 11, 2001.

Mandatory funding will support:

- Monitoring and treatment services, including services for certain types of cancer, for responders and survivors in the WTC Health Program
- Infrastructure for the Clinical Centers of Excellence (CCEs) and the Nationwide Provider Network (NPN) to support clinical activities
- Infrastructure for data centers
- Extramural research projects
- Outreach and education projects
- WTC Health Registry activities
- WTC Health Program Scientific/Technical Advisory Committee

The WTC Health Program provides monitoring and treatment services via a fee-for-service model of delivery. These services are provided at no cost to the WTC Health Program members. Where applicable, the WTC Health Program recoups money from workers' compensation for work-related health conditions. Similarly, the WTC Health Program seeks to coordinate benefits with public and private health insurance plans for treatment provided for WTC-related health conditions that are not work-related. In FY 2017, CDC will continue contracts with seven CCEs and the NPN to provide administrative and member services that support the provision of health care benefits, and three contracts with data centers to provide data collection and analysis. CDC will also renew the interagency agreement with the Centers for Medicare and Medicaid Services (CMS) to reimburse the CCEs and the NPN for clinical services provided to the WTC Health Program members. The WTC Health Program provides healthcare benefits through CCEs, which work as a clinical consortium, and through the NPN according to standardized medical monitoring protocols and programmatic policies and procedures across the clinical

sites. This standardization and the fee-for-service model enable the WTC Health Program to track claims-level data for monitoring and treatment, analyze the data for program compliance, and report on spending at a more detailed level across the WTC Health Program. The WTC Health Program also engages with labor representatives and members of the New York City community to ensure awareness of emerging issues.

CDC will use FY 2017 funds to continue research projects and epidemiologic studies to help answer critical questions about physical and mental health conditions related to the September 11, 2001, terrorist attacks. Additionally, a portion of the FY 2017 funds will continue the cooperative agreement with the New York City Department of Health and Mental Hygiene for the WTC Health Registry activities. The WTC Health Registry will continue to provide a database to help assess health effects among persons impacted by exposures to the WTC disaster.

Funds will also support the WTC Health Program Scientific/Technical Advisory Committee (Advisory Committee). Upon request from the WTC Program Administrator, the Advisory Committee will make recommendations regarding additional eligibility criteria, the addition of new health conditions to the list of covered conditions, and research priorities. The Advisory Committee plays a critical role in the WTC Health Program, as evidenced by the addition of cancers to the List of WTC-Related Health Conditions in October 2012.

GLOBAL HEALTH

(dollars in millions)	FY 2015 Final ¹	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Total Request	\$446.517	\$427.121	\$442.121	+\$15.000
FTEs	1,077	1,077	1,077	0
Global HIV/AIDS	\$128.421	\$128.421	\$128.421	\$0.000
Global Immunization	\$208.608	\$219.000	\$224.000	+\$5.000
-Polio Eradication	\$158.774	\$169.000	\$174.000	+\$5.000
-Measles and Other Vaccine-Preventable Diseases	\$49.834	\$50.000	\$50.000	\$0.000
Parasitic Diseases and Malaria	\$24.369	\$24.500	\$24.500	\$0.000
Global Health Protection	\$55.119	\$55.200	\$65.200	+\$10.000
CR Ebola Funding (PL 113-164)	\$30.000	\$0.000	\$0.000	\$0.000

¹FY 2015 includes \$30 million for CR Ebola Funding (PL 113-164).

Summary

CDC [engages internationally](#)⁴⁰⁰ to protect the health of the American people and save lives worldwide. CDC supports efforts around the globe to detect epidemic threats earlier, respond more effectively, and prevent avoidable catastrophes, supporting CDC's overarching goal of ensuring global disease protection. With scientists and health experts embedded in countries around the globe, CDC works with partners to adapt scientific evidence into policies and public health actions—strengthening public health capacity and improving health outcomes in partner countries.

CDC's FY 2017 request of **\$442,121,000** for Global Health is an increase of \$15,000,000 above the FY 2016 Enacted level. CDC proposes an increase of \$5,000,000 to the Global Immunization line to support CDC's efforts to eradicate polio worldwide, specifically to coordinate the switch from oral polio vaccine to inactivated polio vaccine and enhance surveillance. The FY 2017 request also includes an increase of \$10,000,000 to the Global Health Protection line. Of the \$10,000,000 increase, \$5,000,000 is to support country's institutional and organizational capacity through programs such as Global Disease Detection, Field Epidemiology Training Programs, and other capacity-building programs. The remaining \$5,000,000 is to expand implementation of the Global Health Security Agenda in selected U.S. Government-identified Phase 2 countries.

CDC's request for Global Health aligns with national and international strategic goals:

- [The Global Health Security Agenda](#)⁴⁰¹
- [The U.S. Government's National Security Strategy](#)⁴⁰²
- [President's Emergency Plan for AIDS Relief](#)⁴⁰³
- [President's Malaria Initiative](#)⁴⁰⁴
- [National Strategy for Countering Biological Threats](#)⁴⁰⁵
- [The HHS Global Health Strategy](#)⁴⁰⁶

⁴⁰⁰<http://www.cdc.gov/globalhealth/index.html>

⁴⁰¹<http://www.cdc.gov/globalhealth/security/ghsagenda.htm>

⁴⁰²http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf

⁴⁰³<http://www.pepfar.gov/>

⁴⁰⁴<http://www.pmi.gov>

⁴⁰⁵http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Countering_BioThreats.pdf

⁴⁰⁶<http://www.globalhealth.gov/global-programs-and-initiatives/global-health-strategy/>

- [Global Polio Eradication Initiative](#)⁴⁰⁷
- [Measles & Rubella Initiative \(measles elimination\)](#)⁴⁰⁸
- [The U.S. Government TB Strategy](#)⁴⁰⁹

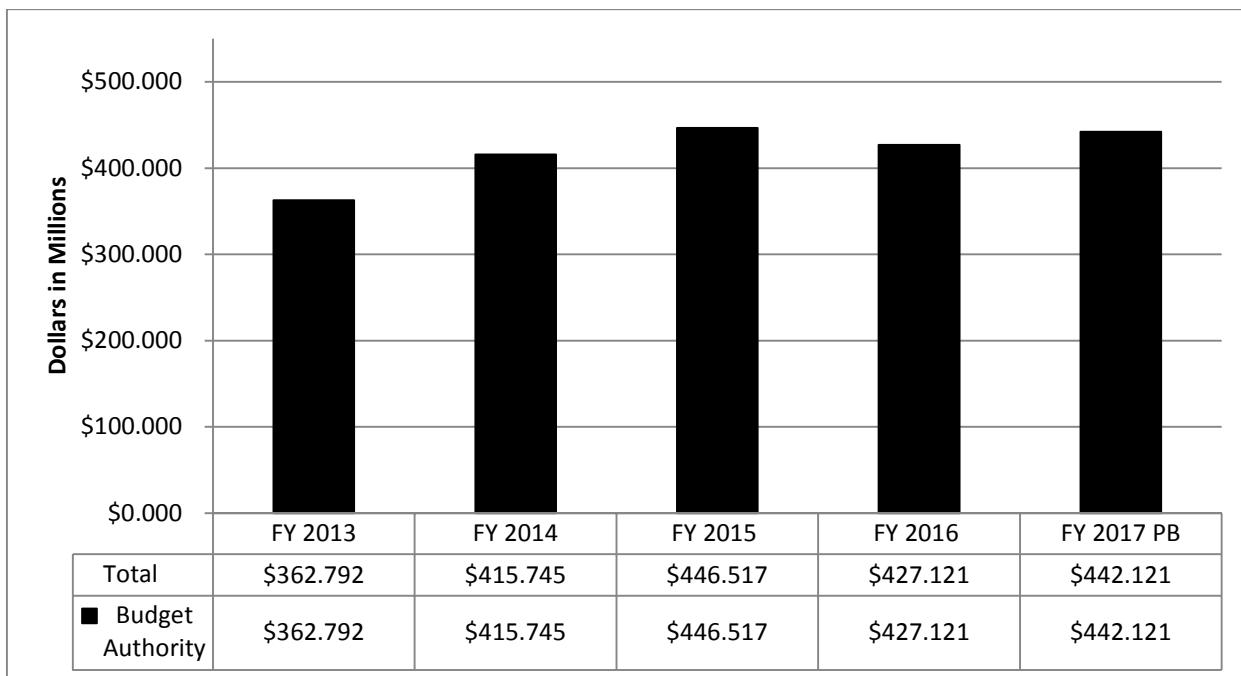
Performance Highlights

- CDC's direct technical assistance to PEPFAR-supported countries significantly contributed to 9.1 million voluntary medical male circumcision procedures performed in 14 PEPFAR countries in 2014. This represents a 22% increase in procedures from 2013 and a 750% increase from 2010. This one-time intervention has a lifelong benefit of reducing the risk of HIV infection to uninfected men.
- In 2014, CDC's analysis of the prevalence of malaria and purchase of subsidized artemisinin-based combination therapy (ACT), the recommended malaria treatment, prompted the Global Fund and the Tanzania government to change policies around subsidized ACTs. CDC found more than 70% of ACT treatments went to clients who did not have malaria, and less than a third of clients who had the disease bought the medication. The policy changes helped increase access to rapid diagnostic tests and subsidized treatment for people with malaria.
- CDC recently completed a Phase III vaccine trial of the RTS,S malaria vaccine in Kenya. RTS,S is the most clinically advanced malaria vaccine candidate in the world. The final results showed that vaccination with RTS,S, followed by a booster dose of RTS,S after 18 months decreased the number of malaria cases in children by 36% and young infants by 26% over a period of four years across all trial sites.

⁴⁰⁷<http://www.polioeradication.org/>

⁴⁰⁸<http://www.measlesrubellainitiative.org/learn/about-us/>

⁴⁰⁹<http://www.usaid.gov/sites/default/files/documents/1864/Reach-Cure-Prevent-2015-2019-TBStrategy.pdf>

Global Health Funding History^{1,2,3}

¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

²FY 2013 and FY 2014 amounts are comparable to FY 2015 to account for the Center for Global Health reorganization.

³FY 2015 includes \$30 million for CR Ebola Funding (PL 113-164).

Global HIV/AIDS Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$128.421	\$128.421	\$128.421	\$0.000

Overview

CDC plays an [essential role in implementing](#)⁴¹⁰ the [U.S. President's Emergency Plan for AIDS Relief \(PEPFAR\)](#).⁴¹¹ CDC helps countries build strong, sustainable national programs and public health systems that can effectively respond to these epidemics as well as to other global health threats. CDC uses its expertise in public health science, long-standing partnerships with ministries of health (MOH) and other global partners to establish country-driven programs and systems, with a focus on ensuring high-quality HIV monitoring and evaluation. CDC provides HIV/AIDS [scientific and programmatic support](#)⁴¹² and mentoring through its headquarters in Atlanta and its 44 PEPFAR program offices in Africa, Asia, Central America, South America, and the Caribbean.

The U.S. government support of life-saving antiretroviral therapy (ART) treatment and large-scale implementation of combination prevention programs saves lives, prevents new infections, improves health, and protects families and communities.

- Through its work with PEPFAR, CDC helped reach the United Nations' Millennium Development Goal of starting 15 million people on life-saving HIV treatment by 2015—nine months ahead of schedule (UNAIDS, July 2015).
- Due to the global response to HIV, since 2000, CDC helped avert 30 million new HIV infections and 7.8 million AIDS-related deaths (UNAIDS, 2015).

Despite these tremendous achievements, HIV/AIDS remains a leading cause of death in many countries and continues to be a leading cause of mortality among women of reproductive age.

CDC's Global HIV/AIDS priorities are to:

- Scale-up high impact core interventions proven to dramatically reduce transmission of HIV
- Scale-up the provision of lifelong antiretroviral treatment for all people with confirmed HIV, including pregnant and breastfeeding women, regardless of the clinical stage of their disease
- Double the number of HIV-infected children receiving antiretroviral treatment in at least nine high HIV-burden countries over the next two years
- Expand implementation of comprehensive services to prevent, detect, and treat TB among HIV positive persons
- Expand and strengthen laboratory capacity to support the scale-up of testing to determine the amount of HIV in patients' blood (a measure of treatment effectiveness), incorporate innovative testing approaches tailored to low-resource settings, and ensure the accuracy of HIV and TB rapid testing

⁴¹⁰<http://www.cdc.gov/globalaids/global-hiv-aids-at-cdc/default.html>

⁴¹¹<http://www.pepfar.gov/>

⁴¹²<http://www.cdc.gov/globalaids/>

Budget Request

CDC's FY 2017 request of **\$128,421,000** for Global HIV/AIDS is level with the FY 2016 Enacted level. Requested funds allow CDC to accelerate progress toward achieving an AIDS-free generation and create a lasting infrastructure that allows partner countries to respond to a range of health challenges and threats. CDC also receives interagency funding transfers from the U.S. Department of State's Global Health Programs appropriation to implement PEPFAR. In FY 2017, CDC will work with partners to scale-up HIV prevention and treatment services where needed most; ensure high-quality HIV/AIDS services through monitoring clinical sites; and strengthen laboratory, strategic information, and other systems essential for detecting, managing, and responding to the HIV epidemic.

HIV Prevention and Treatment Services

CDC uses the most effective, scientifically proven strategies and tools to prevent new infections and reduce AIDS-related deaths. In FY 2017, CDC will use its scientific and technical expertise to scale-up core interventions—antiretroviral treatment for HIV-positive people, prevention of mother-to-child HIV transmission, voluntary medical male circumcision, and availability of quality HIV diagnostics including testing to determine the amount of HIV in a person's blood (viral load; a measure of treatment effectiveness). CDC will maximize its investments by using epidemiological, program, and financial data to identify the highest HIV-burden geographic areas and the populations at highest risk for HIV, with a focus on community-level testing, treatment, retention in care, and monitoring to ensure treatment effectiveness.

Data-Driven Methods to Ensure Quality and Impact

CDC has been at the forefront of developing innovative methods to ensure high-quality services and the most efficient use of scarce resources. CDC developed the methods for conducting expenditure analyses linked to actual results, which have become a cornerstone of PEPFAR's plan to accelerate program efficiency, impact, and transparency. CDC also developed the prototype, Site Monitoring System, for PEPFAR's new Site Improvement through Monitoring System (SIMS), which expands quality assessment and improvement approaches to community service delivery sites as well as to national, regional, and district health offices. In addition, CDC leads PEPFAR's Population-based HIV Impact Assessments that will provide the data needed to measure the impact of programs on each country's HIV epidemic. CDC also provides leadership and support to PEPFAR's Interagency Collaborative for Program Improvement to enhance the collection, analysis and use of data to track progress and for performance-based decision-making.

In FY 2017, CDC will continue to support building host country capacity to monitor and continually improve the quality of HIV programs towards long-term sustainability.

Essential Public Health Platforms

Strong public health platforms are critical for controlling disease, especially when responding to emerging public health threats such as Ebola. CDC works with MOH to establish strong platforms that include high-quality laboratory services and networks, modern disease-tracking systems, and health information systems. In Uganda, CDC's country office worked with the MOH to use its Emergency Operations Center (EOC)—established with the help of CDC—to track the expansion of Option B+, an initiative providing lifelong ART to all HIV-infected pregnant women. The on-the-spot data generated by the EOC enabled Uganda to make programmatic course corrections in real time, maximizing program effectiveness and allowed the EOC to practice for a national emergency by engaging in a health issue of national significance without the pressure of an outbreak.

In FY 2017, CDC will help countries establish robust surveillance and health information systems that provide the high-quality data needed for effective patient management and rigorous monitoring and evaluation of programs to increase their health impact, transparency, and efficiency. CDC will also work with countries to build high-

quality laboratory systems and services to provide higher standards of quality-assured diagnostics, care, and treatment, and expand quality assurance programs for HIV rapid tests and HIV-related point-of-care testing. CDC is also an integral part of the U.S. Government's efforts to address global TB through PEPFAR, the Global Health Security Agenda, and the National Action Plan to Combat Multidrug-Resistant TB, in partnership with other U.S. Government agencies. CDC works directly with Ministries of Health (MOH) in 24 priority countries to address these global challenges and strengthen TB control programs to find, cure, and prevent TB, HIV-associated TB, and drug-resistant TB.

CDC's Global TB priorities are to:

- Strengthen national TB programs and core disease surveillance and laboratory systems in high-burden countries through technical support and training
- Scale-up programs to screen people living with HIV for TB and increase ART uptake for those diagnosed with TB
- Develop improved strategies to find and cure all persons with TB, HIV-associated TB, and drug-resistant TB and to prevent new infections
- Turn research into practice by informing and developing national and international TB control guidelines and policy
- Validate and implement rapid diagnostics and better treatment regimens

To increase CDC's impact on these urgent global challenges, CDC has consolidated most of its global TB activities within the Center for Global Health. These activities are supported in funding from the HIV, Viral Hepatitis, STI, and TB Prevention account. The synergies created by combining the majority of CDC's global TB activities in a single TB program will enhance coordination of resources needed to maximize CDC's impact in the United States and abroad. The new organizational home will:

- Ensure prioritization of global health programming and resources are coordinated and focused on activities that yield the greatest impact
- Better leverage existing and new resources focused on global TB activities
- Serve as a common interface at CDC for partners and global stakeholders

The consolidation of CDC's global TB activities within CDC's division responsible for the President's Emergency Plan for AIDS Relief (PEPFAR) provides a direct link to established global resources—including CDC country office platforms as well as with longstanding relationships with dozens of Ministries of Health and other key in-country partners. Building upon existing CDC expertise in HIV control, CDC's global TB program will enhance control of HIV-associated TB cases. Also, through PEPFAR, CDC has developed expertise working with Ministries of Health and other partners to develop the laboratory systems needed to effectively identify and treat HIV. These experiences in developing laboratory capacity, existing relationships, and in some cases lab systems, can be leveraged to strengthen TB lab capacity as well.

In FY 2017, CDC will work to build strong national TB programs in 24 priority countries to strengthen TB control programs, increase laboratory capacity, improve TB and TB/HIV surveillance systems, implement TB infection-control practices in health facilities, and conduct research aimed at improving diagnostic and treatment strategies for all forms of TB.

Global Immunization Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Global Immunization	\$208.608	\$219.000	\$224.000	+\$5.000
-Polio Eradication	\$158.774	\$169.000	\$174.000	+\$5.000
-Measles and other vaccine-preventable diseases	\$49.834	\$50.000	\$50.000	\$0.000

Overview

CDC's [global immunization program](#)⁴¹³ protects the health of Americans through achievement of global immunization goals. CDC works closely with partners in countries, including multilateral and bilateral partners, as well as nongovernmental leaders. In part due to the introduction of new and underused vaccines and strengthened vaccine delivery mechanisms, the number of children dying each year fell below 8.8 million in 2013 for the first time in documented history. Since 1988, polio cases have dropped by more than 99% and 80% of the world's population now lives in polio-free regions. Measles deaths have decreased 79% as compared to 2000, preventing nearly 15.6 million deaths between 2000 and 2013. CDC's work in vaccine preventable diseases has contributed to the 52% decline in global mortality for children under five, from 90 to 43 deaths per 1,000 live births between 1990 and 2015.⁴¹⁴ CDC is committed to building on the successes of the [Global Polio Eradication Initiative](#)⁴¹⁵ and [Measles and Rubella Initiative](#)⁴¹⁶ to achieve global polio eradication, to reach measles elimination, and to sustain the gains made by these programs for the introduction of new and underused vaccines.

CDC and Global Immunization Initiatives

What CDC Provides	Goals and Aims				
	Eradicating polio	Reducing global deaths from measles and rubella	Ending epidemic meningitis in Sub-Saharan Africa	Accelerating the introduction of pneumococcal and rotavirus vaccines and region-specific vaccines such as cholera and typhoid	Strengthening immunization systems in priority countries through technical assistance, monitoring and evaluation, social mobilization, and vaccine management
Epidemiological and laboratory surveillance expertise for vaccine-preventable disease	✓	✓	✓	✓	✓
Expertise for immunization policy development	✓	✓	✓	✓	✓
Immunization campaign planning, implementation, monitoring, and evaluation	✓	✓	✓	✓	✓

⁴¹³<http://www.cdc.gov/globalhealth/immunization/>

⁴¹⁴<http://www.undp.org/content/undp/en/home/librarypage/mdg/the-millennium-development-goals-report-2015.html>

⁴¹⁵<http://www.polioeradication.org>

⁴¹⁶<http://www.measlesrubellainitiative.org>

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	Eradicating polio	Reducing global deaths from measles and rubella	Ending epidemic meningitis in Sub-Saharan Africa	Accelerating the introduction of pneumococcal and rotavirus vaccines and region-specific vaccines such as cholera and typhoid	Strengthening immunization systems in priority countries through technical assistance, monitoring and evaluation, social mobilization, and vaccine management
Outbreak risk assessment, preparedness, and response for vaccine-preventable disease	✓	✓	✓	✓	✓
Immunization system strengthening	✓	✓	✓	✓	✓
Expertise for introducing new vaccines	✓	✓	✓	✓	✓
Training to improve the host country's ability to address vaccine preventable diseases	✓	✓	✓	✓	✓

Vaccines are one of the most cost effective and lifesaving public health interventions. CDC's global immunization activities focus on children, adolescents, and adults in developing countries who are at the highest risk for illness and death from polio, measles, and other vaccine-preventable diseases. CDC's global immunization program also protects Americans at home by building public health infrastructure and capacity globally, responding to vaccine-preventable diseases where they occur and preventing importations. Although strong immunization programs in the United States have reduced the domestic disease burden, the nation remains at risk from vaccine-preventable health threats that are only a plane ride away. Preventing diseases where they are circulating is the only way to truly protect American lives.

Immunizations also save money by preventing costly diseases. For example, an outbreak of imported measles in Utah in 2011 with only nine cases cost nearly \$300,000 for treatment and response. Furthermore, global polio eradication is expected to [save up to \\$50 billion by 2035](#)⁴¹⁷ in treatment costs, immunization program costs, and costs associated with lost productivity.

CDC's Global Immunization priorities are to:

- Finish the job to eradicate polio
- Scale-up support for measles and rubella elimination goals in all WHO regions
- Support the introduction of new and underused vaccines
- Sustain the gains made by successful global immunization efforts in strengthening immunization systems

Local, Rapid Response

In Nigeria, CDC helped create district-level response teams and trained officials how to use real-time data for decision-making. As a result, when Ebola arrived in Lagos, the polio infrastructure in place rapidly shifted to Ebola response and stopped the outbreak at 19 cases.

⁴¹⁷<http://www.sciencedirect.com/science/article/pii/S0264410X10014957>

Budget Request

CDC's FY 2017 request of **\$224,000,000** for Global Immunization is \$5,000,000 above the FY 2016 Enacted level. In FY 2017, the proposed increase will support CDC's efforts to eradicate polio worldwide. With the \$5,000,000 increase, CDC will lead the global switch from oral polio vaccine to inactivated polio vaccine, which carries no risk of vaccine-derived polio cases. The increase will also support expanded surveillance of polio viruses to ensure prompt detection that will prevent potential outbreaks of paralytic polio disease. To achieve and maintain worldwide polio eradication, CDC and its partners must minimize the risk of poliovirus reintroduction to areas declared polio free through dedicated, ongoing surveillance.

Polio Eradication

CDC is the U.S. lead scientific agency⁴¹⁸ in the global effort to eradicate polio. CDC contributed substantially to the more than 99% decline in global polio cases from more than 350,000 cases reported in 1988 to 60 cases reported as of early December 2015, by providing scientific and programmatic expertise, improving national ownership and accountability, expanding the successful [Stop Transmission of Polio](#)⁴¹⁹ (STOP) program, sustaining environmental surveillance, and guiding the development and execution of the polio eradication endgame strategy.

The polio eradication program achieved two major milestones in 2015. First, the African continent is free of wild poliovirus for 12 months for the first time in recorded history. This milestone was achieved in September when Nigeria was removed from the list of endemic countries. Second, the Global Commission for the Certification of Poliomyelitis Eradication (GCC) certified wild poliovirus type 2 (WPV2) eradicated worldwide. Recently, CDC reported that no type 3 wild poliovirus infections have been detected globally since November 2012, suggesting that transmission has likely been interrupted in the remaining two endemic countries, Afghanistan and Pakistan; thus, it is believed that only type 1 wild poliovirus is circulating.

Worldwide polio eradication is within reach, but doing so requires working in challenging environments. Conflict and increasing insecurity in Afghanistan and Pakistan make it difficult to reach all children with the needed vaccines. Yet the effort continues to show progress. In Pakistan, over 1,850 health camps have been set up by the government of Pakistan with help from CDC and other polio partners, providing health services for nearly 500,000 people, including 10,000 children who had never previously received polio vaccine. While Pakistan's polio circulation remains widespread and accounts for 72% of the global case count as of December 2015, CDC is working with partner organizations as well as donor governments and the U.S. Department of State to assist Pakistan with the establishment of polio Emergency Operations Centers as well as implementation of other program improvements that proved effective in Nigeria. Nigeria's success shows that eradication is possible even in the most challenging circumstances.

In 2015, cases of circulating vaccine-derived polio (cVDPV) have been reported in Ukraine, Guinea, Madagascar, Cambodia, Myanmar, Mali, and South Sudan, a risk we face in places where community vaccination rates are too low. The emergency committee of the International Health Regulations (IHR) met for the seventh time in November 2015 and assessed that the international spread of polio continues to constitute a Public Health Emergency of International Concern (PHEIC). They also expanded the temporary recommendations to outbreaks of circulating vaccine derived poliovirus, due to the importance of stopping all types of poliovirus as we near the finish line of polio eradication.⁴²⁰ CDC's efforts to improve immunization systems in these and other countries is critical for successful eradication of the virus.

⁴¹⁸<http://www.cdc.gov/polio/why/>

⁴¹⁹<http://www.cdc.gov/polio/stop/>

⁴²⁰<http://www.who.int/mediacentre/news/statements/2015/ihr-ec-poliovirus/en/>

CDC will continue to collaborate closely with WHO, The United Nations Children's Fund (UNICEF), Rotary International, Bill and Melinda Gates Foundation, other U.S. government agencies, and MOH in FY 2017 to achieve polio goals. CDC and its partners must:

- Detect and track the spread of polio through environmental and clinical-based surveillance methods
- Improve the quality of supplemental immunization activities
- Strengthen routine immunization services in high risk countries
- Close immunity gaps in high risk areas around the world
- Respond to, and aggressively stop, all polio outbreaks
- Begin extensive laboratory biocontainment procedures of wild and vaccine-derived poliovirus samples worldwide
- Introduce inactivated poliovirus vaccine (IPV) into routine immunization schedules worldwide
- Help countries plan for the transition of polio assets for immunization systems strengthening
- Verify data used to certify polio eradication in all WHO regions

Providing Scientific and Programmatic Expertise

CDC provides epidemiologic, laboratory, and programmatic support to countries, WHO, and UNICEF to develop, monitor, and evaluate programs and strengthen national level surveillance. CDC's Global Reference Lab for polio will continue to play a significant role formulating the standards for laboratory containment of poliovirus stocks and samples worldwide. CDC scientists have led efforts to coordinate the switch from trivalent oral polio vaccine to bivalent vaccine, scheduled to occur in April 2016. At the same time, CDC is working with partners to help all countries introduce one dose of inactivated polio vaccine to their routine schedules by the first quarter of FY 2017. CDC's expanded efforts to support this transition will include: strengthening of surveillance for polioviruses, rapid deployment in response to any detection of the types of polioviruses included in discontinued oral polio vaccines, efforts to ensure that populations are not exposed to the types of polioviruses included in discontinued oral polio vaccines, and laying the logistic and epidemiologic groundwork for the complete cessation of use of all oral polio vaccines. CDC will continue to provide expertise in virology, diagnostics, and laboratory procedures in FY 2017. In addition, CDC will provide quality assurance, diagnostic confirmation, and genomic sequencing of samples obtained worldwide.

Global Polio Vaccine Switch

Over the course of two weeks in April 2016, all countries using oral polio vaccine will switch from using trivalent vaccine (containing all three serotypes of polio) to bivalent vaccine (containing only polio types 1 and 3). CDC scientists have led the preparation for this unprecedented global event made possible by the certification of wild poliovirus type 2's eradication in 2015.

Improving National Ownership, Oversight, and Accountability

In FY 2017, CDC scientists will continue to work with local health officials and community leaders to develop and implement strategies to interrupt circulation of wild poliovirus. Based on best practices developed in India and Nigeria, CDC established several important benchmarks to improve the performance of polio programs and to achieve greater efficiency. These benchmarks streamline decision making for program officials, by making clear who is accountable for achieving results while empowering program officials to respond rapidly to events on the ground. CDC also worked with donors to provide grants that required greater investment of national resources. These grants encourage greater accountability for results because they will become loans if performance benchmarks are not met. Finally, establishment of EOCs to guide use of CDC-developed dashboards through the country and state levels have produced the dramatic turnaround in quality in Nigeria and Pakistan, and CDC plans to implement similar measures in Afghanistan as appropriate to meet polio eradication goals.

Building on the Success of STOP

Together with WHO, CDC coordinates the STOP program. STOP trains and deploys public health professionals to improve vaccine-preventable disease surveillance and to help plan, implement, and evaluate vaccination campaigns. STOP places staff resources in countries of higher-risk for poliovirus transmission to support critical national immunization functions. STOP has trained and deployed more than 2,000 public health professionals to work on polio surveillance, data management, campaign planning and implementation, program management, and communications in high-risk countries. The STOP model has been adapted for use in global measles and rubella elimination efforts as well as to build national capacity in immunization as a pilot program in South Sudan's Ministry of Health. In FY 2017, CDC will train more than 250 public health professionals through STOP.

Building Local Capacity

CDC's National STOP program for Nigeria trained over 100 staff at the Local Governing Area level in the highest risk states, playing a key role in interrupting transmission of wild polio. Nigeria's polio legacy planning will transition those workers to build lasting improvements in Nigeria's immunization system.

Sustaining the Environmental Surveillance Strategy

In FY 2017, expanded sewage sampling activities established in 2015-2016 will continue in the Middle East, Nigeria, and across Central, East, and West Africa. Environmental surveillance was instrumental in alerting officials in 2013 to the circulation of poliovirus in these regions before any paralysis symptoms occurred. This surveillance also detected wild poliovirus in Brazil immediately before the 2014 Fédération Internationale de Football Association World Cup. The detection allowed a full-scale response by Brazil before any paralytic cases of polio occurred. Sewage sampling will continue to document that viruses caused by oral polio vaccine are disappearing—a key step to polio eradication—as oral polio vaccine is gradually replaced by the injectable vaccine.

Ensuring the Successful Preservation of the Polio Eradication Legacy

The polio program legacy includes millions of vaccinators, communicators, and technical staff; laboratory and disease surveillance capabilities, outbreak preparedness and response operations. This support has been critical in Africa, where the Global Polio Eradication Initiative (GPEI) funds 90% of the more than 1,000 personnel working on immunization and vaccine development out of WHO's African Regional office.

As a key objective in the Polio Eradication & Endgame Strategic Plan 2013-2018,⁴²¹ legacy transition planning ensures that key polio functions, including immunization, surveillance, outbreak response and biocontainment, will be in place post-eradication for some time. Furthermore, transition planning makes sure that the investments made to end polio continue protecting and improving health after eradication. Presently, the polio eradication staff is the single largest source of external technical assistance for immunization and surveillance in low-income countries, and polio eradication efforts are responsible for reaching the world's most vulnerable children with vaccines and other health interventions. Even after polio has been certified as eradicated, there will be ongoing expenses around biocontainment of the thousands of samples of wild poliovirus in laboratories worldwide, stockpiles of vaccines in case wild poliovirus is reintroduced by accident during biocontainment activities, and maintaining eradication-quality disease surveillance as outlined in the polio legacy planning process.

Careful planning is key to guarantee this infrastructure continues benefitting future global health priorities. CDC, working with partners, has begun to raise awareness of the importance and urgency of transition planning among donors, country governments and other stakeholders with the goal of ensuring that all countries that

⁴²¹ <http://www.polioeradication.org/resourcelibrary/strategyandwork.aspx>

have been polio-free for 12 months have established transition plans by the end of FY 2017. The legacy process started in earnest during FY 2015 and will continue in FY 2017, focusing on three key components:

- Maintaining and mainstreaming polio functions such as disease surveillance, outbreak preparedness, response, and biosafety and biocontainment as ongoing public health functions
- Ensuring that the knowledge generated and lessons learned from polio eradication activities are shared with other public health initiatives
- Transitioning polio functions and capabilities to improve child health where feasible, desirable, and appropriate

CDC will lead efforts to develop a greater understanding of technical models, costs and financing mechanisms for successful transitions, and begin to rigorously capture the lessons learned from the polio eradication efforts. Priority countries selected for these efforts based on the amount of polio assets in the country include: Afghanistan, Angola, Bangladesh, Cameroon, Chad, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Myanmar, Nepal, Nigeria, Pakistan, Somalia, Sudan, and South Sudan.

Guiding the Polio Eradication Endgame Strategy

As the world nears polio eradication, CDC is critical in the execution of the comprehensive [Polio Eradication Endgame Strategy for 2013–2018](#).⁴²² From January 2015 through December 2016, CDC's Director holds the Chair of the Polio Oversight Board, which consists of the heads of agency for the implementing partners of the Global Polio Eradication Initiative and provides strategic direction and managerial oversight for the global program. In FY 2017, CDC will work within the Global Polio Eradication Initiative partnership to reach several benchmarks:

- Interruption of wild poliovirus in endemic countries
- Introduction of inactivated poliovirus vaccine into the routine childhood vaccination schedule in every country worldwide
- Certification-standard surveillance down to the first subnational level in all countries
- Implementation of bio-containment safeguards for all wild polioviruses

Measles and Rubella Elimination, New Vaccine Introduction, and Immunization System Strengthening

An essential component of ensuring that polio assets are not lost is an increasing focus on building public health and health systems infrastructure and capacity, strengthening immunization systems in low and middle income countries, using progress on measles and rubella elimination as a key indicator. CDC provides funding and on-the-ground expertise to reduce global deaths from measles, reduce the number of rubella infections and babies born with congenital rubella syndrome, introduce new vaccines such as rotavirus, pneumococcal, human papilloma virus (HPV), and hepatitis B, and strengthen immunization systems in low to middle income-countries. Since 2000, there has been a 79% reduction in estimated measles deaths. During the same time frame, an estimated 17 million deaths were prevented by measles vaccination, a number equivalent to nearly four times the total number of children born in the United States each year. In addition, supplemental, disease-specific immunization campaigns—such as for polio, measles, and rubella—improve immunization delivery systems for all recommended vaccines.

Despite significant progress in reducing global measles deaths, measles vaccination coverage has been stagnant since 2010, reflecting broader global challenges in achieving equity in access to immunization and other primary health services. The stagnation and resulting measles outbreaks have shown that without strengthening the entire routine immunization system, increased vulnerability resulting from a poor routine immunization system will inevitably result in periodic outbreaks affecting thousands of children. Until all regions of the world achieve high two-dose measles-containing vaccine coverage, the United States will be at risk for importation of measles

⁴²²<http://www.polioeradication.org/resourcelibrary/strategyandwork.aspx>

cases similar to the outbreak in 2014 when 668 people from 27 states in the United States were reported as having measles—the greatest number of indigenous measles cases reported in the United States since measles was declared eliminated in 2000. This outbreak continued into 2015 with 189 cases of measles in 24 states and Washington, D.C., as of January 2, 2016, including one death in Washington state in July 2015.⁴²³

In 2015, as West Africa brought Ebola under control, Ebola-affected countries faced a massive measles outbreak after vaccination rates plummeted. CDC's outbreak response teams helped bring an outbreak of nearly 1,000 cases in Liberia under control.

A recent resurgence in measles outbreaks around the world serves as a reminder that measles anywhere means the threat of measles everywhere. Measles is highly infectious and strong; sustained efforts are needed to maintain the current level of control. Together with changes in policies and practices in high-burden countries, vaccination and surveillance efforts need to be funded, maintained and strengthened.

Guiding United States and Global Efforts

CDC is the [U.S. lead scientific agency](#)⁴²⁴ for the Measles and Rubella Initiative. Immunization campaigns have been a core component for delivering these vaccines and have served as a platform that is leveraged for providing other public health interventions in combination with the delivery of immunizations. Since 2001, in addition to targeting these two infections, the initiative supported distribution of more than:

- 41 million insecticide-treated bed nets for malaria prevention
- 144 million doses of de-worming medicine
- 207 million doses of polio vaccine
- 289 million doses of vitamin A

Strengthening Disease Surveillance Capabilities

CDC's approach to disease surveillance has two components: laboratory capacity and epidemiologic information for action. CDC's Global Measles Reference Laboratory serves as the leading worldwide reference laboratory for measles and rubella. The reference laboratory provide specimen confirmation and testing as well as training for country and regional labs, conducts essential measles and rubella research, and supports expansion of environmental surveillance capabilities in the field. CDC help provides public health laboratories access to sophisticated RNA analysis called real-time polymerase chain reaction (RT-PCR) for molecular detection and tracking. In FY 2014, the CDC global reference laboratory provided support for molecular testing, global molecular proficiency testing, and training to 65 countries.

CDC supports development, implementation, quality, and use of VPD epidemiology. CDC works with partners to achieve the goal of measles elimination adopted by World Health Organization (WHO) regions by monitoring measles incidence and risk through developing and analyzing high quality surveillance data and risk estimates, estimating burden of disease and death, and verifying elimination. CDC also works with partners to monitor rubella and congenital rubella syndrome incidence and risk through seroprevalence surveys. Finally, CDC works to ensure quality surveillance systems to achieve measles elimination and rubella control goals at all levels.

Responding to Health System Collapse

A sustained measles outbreak in West Africa threatened to kill even more people than Ebola. With much of the existing health system resources exhausted and focused on the Ebola outbreak, CDC responders initiated an emergency response vaccination campaign to bring the measles outbreak under control.

⁴²³ <http://www.doh.wa.gov/Newsroom/2015NewsReleases/15119WAMeaslesRelatedDeath>

⁴²⁴ <http://www.measlesrubellainitiative.org/learn/about-us>

In FY 2017, CDC will train laboratorians and healthcare workers, as well as purchase laboratory supplies and measles-containing vaccine for countries in Africa and Southeast Asia to increase national immunization coverage and reverse the increase in measles deaths experienced since 2013. CDC will develop disease burden estimates needed to guide the introduction of rubella-containing vaccine into immunization programs and define and evaluate use of typhoid and cholera vaccines in outbreak settings.

Providing Scientific and Programmatic Expertise

CDC provides scientific expertise and consultation to WHO, UNICEF, and Ministries of Health to strengthen immunization systems, develop integrated surveillance systems for vaccine-preventable diseases, build the evidence base for global immunization policy, and enhance the introduction of new vaccines. CDC funds WHO and UNICEF to carry out essential country-support functions for vaccine-preventable diseases including direct technical oversight of these activities by assigning personnel to partner offices to fill critical strategic needs in support of regional vaccine-preventable disease elimination and control goals. Through mentorship and training, these personnel strengthen capacity of regional partners and ministries of health to transition to country ownership of programs.

In FY 2017, CDC will continue integrating interventions with immunization activities. CDC also will work with countries to support appropriate use of vaccines in outbreak settings, remove systemic barriers to increase vaccine coverage, and use risk assessment tools to predict and manage outbreak risk.

Ensuring High Vaccination Coverage

As a partner of the Measles & Rubella Initiative, CDC remains committed—along with WHO, UNICEF, American Red Cross, United Nations Foundation—to reducing the global disease burden of measles, rubella, and congenital rubella syndrome. Achieving the goal of reducing global measles-related deaths from 114,900 in CY 2014 to 37,100 in CY 2016 will require a rapid expansion of high levels of population immunity. The WHO Region of the Americas reached another milestone with the elimination of endemic transmission of rubella, building on the feat of elimination of all native strains of measles transmission in 2000. CDC's research activities to drive continuous innovation, as seen in the polio eradication program, will be essential to reaching this challenging goal.

In FY 2017, CDC will support this goal by ensuring high vaccination coverage with two doses of measles- and rubella-containing vaccines. As part of this work, CDC will guide planning for the introduction of a second dose of measles- and rubella-containing vaccines in countries working toward this goal. CDC will also monitor disease trends using laboratory-based surveillance and will evaluate programmatic efforts to develop and maintain plans for outbreaks and case management. CDC will build public support for these vaccines through demand generation and will conduct research needed to support cost-effective and improved vaccination and diagnostic tools.

Global Immunization Cooperative Agreements

CDC's global immunization cooperative agreements enable UN agencies to direct polio eradication efforts, reduce measles and rubella mortality, and strengthen immunization systems overall. The FY 2015 partners were WHO, UNICEF, UN Foundation, Pan American Health Organization (PAHO), African Field Epidemiology Network (AFENET), Eastern Mediterranean Public Health Network (EMPHNET), and Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). In FY 2017, CDC will focus on providing key scientific analysis and laboratory support while funding seven awards through cooperative agreements for the current partners, assuming their continued ability to plan and execute program objectives in high-risk countries where polio, measles, and other high impact vaccine-preventable diseases remain endemic or a threat. CDC expects to increase the number of cooperative agreements between FY 2016 and FY 2017 to provide greater focus on developing best practices for the transition of country polio assets to broader public health use.

Global Immunizations Cooperative Agreements¹

(dollars in millions)	FY 2013 Actual	FY 2014 Actual	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	5	4	7	7	9	+2
- New Awards	2	0	1	2	2	0
- Continuing Award	3	4	6	5	7	+2
Average Award	\$16.896	\$25.800	\$27.285	\$28.285	\$28.285	\$0.000
Range of Awards	\$0.400- \$36.058	\$0.400- \$36.058	\$0.280– \$70.000	\$2.000– \$70.000	\$0.500– \$70.000	N/A
Total Awards	\$84.480	\$103.200	\$134.780	\$140.780	\$140.78	\$0.000

¹These funds are not awarded by formula.

Parasitic Diseases and Malaria Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$24.369	\$24.500	\$24.500	\$0.000

Overview

Parasitic infections cause a tremendous burden of disease globally. Among these, malaria is the leading killer. Nearly half of the world's population—3.4 billion people—live in areas at risk of malaria transmission. In 2015, there were an estimated 438,000 malaria deaths, with most of these occurring in young children in sub-Saharan Africa. The Neglected Tropical Diseases (NTDs), which have suffered from a lack of attention, include parasitic diseases such as lymphatic filariasis, onchocerciasis, and Guinea worm disease. Globally, NTDs affect more than one billion people, largely in rural areas of low-income countries, and kill an estimated 534,000 people every year. Parasitic infections also affect persons living in developed countries, including the United States.

CDC supports prevention, control, diagnosis, treatment, and where feasible, elimination of a wide range of parasitic diseases that threaten the health of individuals in the United States and globally. CDC's parasitic diseases and malaria program draws on the expertise of highly trained medical officers, epidemiologists, public health advisors/analysts, statisticians, health scientists, entomologists, and laboratory scientists based at CDC headquarters and in the field. These public health professionals provide reference diagnostic services, advise on case management of parasitic disease, perform laboratory and epidemiological research, and assist ministries of health with program monitoring and evaluation.

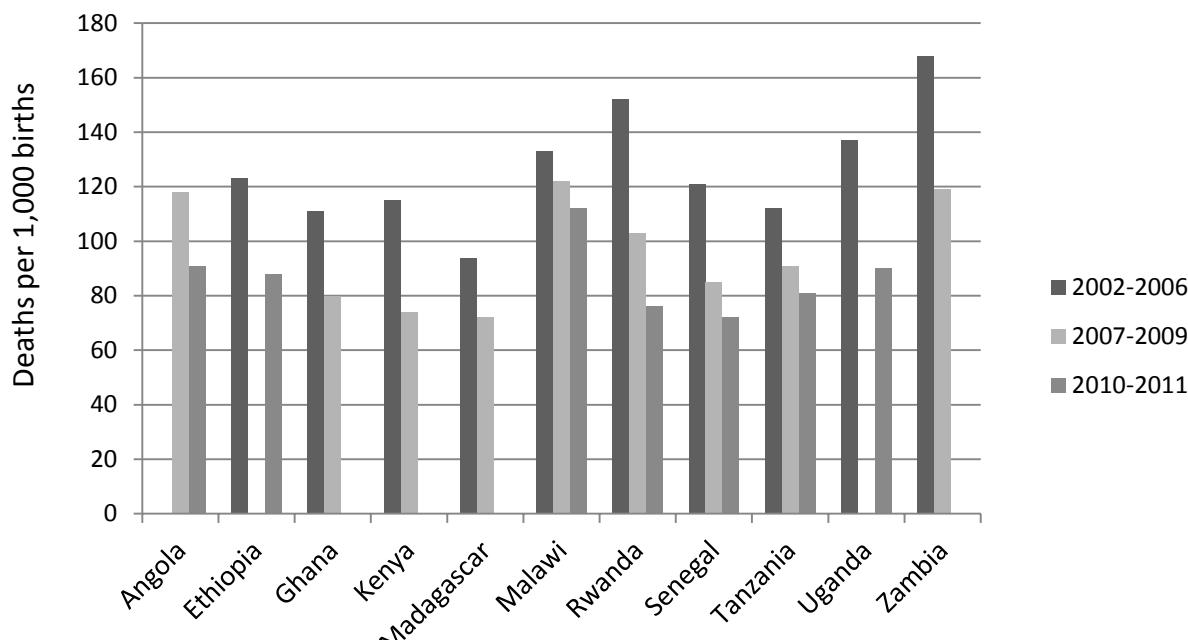
CDC's Parasitic Diseases and Malaria priorities are to:

- Reduce death, illness, and disability from parasitic diseases in the United States
- Eliminate the global burden of [malaria](#) and [targeted neglected tropical diseases](#) (NTDs)
- Advance research to detect, prevent, and eliminate parasitic diseases

Key areas of focus include:

- Supporting the elimination of malaria and of the targeted NTDs in countries and strategic regions
- Providing epidemiological, diagnostic, and clinical assistance to states and health-care providers, and increasing awareness of parasitic diseases in the United States, including the [neglected parasitic infections](#) (NPIs)
- Developing critical strategic information (surveillance, monitoring and evaluation, and research) and expanding the evidence base needed to support effective control and elimination of these diseases

**Deaths Among Children Less Than Five Years Of Age Decreased by 16–50%
in The President's Malaria Initiative Countries Surveyed**



Budget Request

CDC's FY 2017 request of **\$24,500,000** for Parasitic Diseases is level with the FY 2016 Enacted level. In addition to funding requested through direct appropriation, CDC will leverage funds it receives from the United States Agency for International Development (USAID), the Bill and Melinda Gates Foundation, and other non-federal sources for the prevention and control of parasitic diseases and malaria. Requested funds are needed for CDC to continue providing vital scientific leadership in the United States and around the world to prevent, control, and eliminate parasitic diseases and malaria.

Parasitic Diseases in the United States

CDC detects, helps to treat, and prevents sickness and death in the [United States from parasitic infections](#).⁴²⁵ CDC maintains the national parasitic disease reference laboratories, including an online, [interactive diagnostic resource](#),⁴²⁶ and coordinates the national surveillance system for notifiable parasitic diseases. Because diagnostic capacity for parasitic disease detection at the state-level has declined in recent years, states and counties rely on these CDC systems to monitor, accurately diagnose, and treat parasitic diseases. CDC also provides 24/7 expert consultation to health departments, physicians, hospitals, and laboratories that treat or diagnose infected people. CDC releases lifesaving medications that are not available commercially to treat certain serious parasitic infections.

Providing Real-Time Assistance

CDC added video capability to its parasitic disease consultation system to allow scientists at CDC to view glass slides via electronic images from microscopes in other countries. This improves real-time assistance to physicians and healthcare providers.

⁴²⁵ <http://www.cdc.gov/parasites/npi.html>

⁴²⁶ <http://www.cdc.gov/dpdx/>

In 2014, CDC national reference labs tested approximately 8,000 specimens from U.S. residents and government overseas staff for parasitic diseases and responded to 464 tele-diagnosis inquiries. CDC also responded to 18,690 requests for reference diagnostic assistance via e-mail, phone, or mail. CDC expects the demand for its reference laboratory and consultation services to continue in FY 2017 due to increases in global interconnectedness (e.g., travel, imports), domestic parasitic infections, and declining state laboratory capacity.

CDC prevents, treats, and monitors malaria among U.S. travelers and visitors. The agency responded to over 7,800 inquiries via its 24/7 hotline in 2014, many of them urgent requests related to life-saving consultations, diagnosis, and treatment. CDC also develops parasitic disease and malaria prevention guidelines published in the [Health Information for International Travel](#)⁴²⁷—an annual reference guide for U.S. citizens traveling overseas.

The recent Ebola epidemic posed challenges regarding appropriate diagnosis and treatment of malaria, as symptoms of malaria overlap considerably with symptoms of Ebola, sometimes leading to misclassification of infection. Malaria was the most commonly identified cause of illness among persons under investigation following arrival in the United States from the Ebola affected countries. In response, CDC published Guidance for Malaria Diagnosis in Patients Suspected of Ebola Infection in the United States.

In FY 2017, CDC will continue identifying Americans most at risk for parasitic infections, provide diagnostic support, and provide otherwise unavailable life-saving drugs for treatment to healthcare providers. CDC will also improve awareness, prevention, and control of parasitic diseases, including issuing alerts on malaria prevention for travelers, and providing guidance on how to prevent transmission of parasitic diseases.

Global Malaria

CDC is a [global leader](#)⁴²⁸ in preventing and treating malaria. CDC provides scientific expertise to 34 endemic countries to improve laboratory systems, case management, diagnostics, prevention programming, and data collection. CDC also jointly implements the [President's Malaria Initiative](#)⁴²⁹ with USAID in 19 African focus countries and the six country Greater Mekong sub-Region.

Working with Ministries of Health and Local Partners

CDC works with MOH and other partners to prevent and control malaria and other parasitic diseases. In FY 2017, CDC will help MOH and partner countries conduct laboratory-based research and epidemiological evaluations in support of malaria control interventions. These interventions include insecticides and insecticide-treated nets, indoor residual spraying, durable wall linings, preventive treatment of pregnant women, novel drugs, vaccines, and delivery systems. Other areas of focus for CDC include studying how malaria cases are diagnosed and treated and developing new prevention approaches that can be adopted by WHO, MOH, and other partners. CDC will also develop and evaluate new rapid and simple field methods to test the quality of antimalarial drugs.

Maintaining a Global Reference Insectary

CDC maintains a [global reference insectary](#)⁴³⁰ to support progress in controlling parasitic diseases, including malaria. The insectary allows CDC researchers to increase understanding of how mosquitos and other insect vectors transmit disease, informs how to manage and mitigate insecticide resistance, and facilitates successful field implementation of vector-control interventions. In FY 2017, CDC will continue testing of long-lasting insecticide-treated mosquito nets for durability and retention of insecticidal effectiveness, monitor levels of

⁴²⁷<http://wwwnc.cdc.gov/travel/page/yellowbook-home-2014>

⁴²⁸http://www.cdc.gov/malaria/malaria_worldwide/cdc_activities/index.html

⁴²⁹http://www.cdc.gov/malaria/malaria_worldwide/cdc_activities/pmi.html

⁴³⁰http://www.cdc.gov/malaria/tools_for_tomorrow/research_resources.html

insecticide resistance among mosquitoes in President's Malaria Initiative countries, and assess new vector control methods and insecticides.

Implementing and Providing Scientific Leadership to President's Malaria Initiative

CDC provides scientific leadership and advice to the U.S. Global Malaria Coordinator and is a co-implementer of the President's Malaria Initiative with primary responsibility for monitoring and evaluation, surveillance, and operations research activities in the 19 focus countries in Africa, as well as in the Greater Mekong Sub-Region (i.e., Cambodia, Laos, Myanmar, Thailand, Vietnam, and China's Yunnan Province). In 2015, CDC through the President's Malaria Initiative, conducted a study documenting the impact of the Ebola epidemic on malaria control. The study showed that disruptions in malaria care delivery resulted in at least 25-30% fewer malaria cases being identified and effectively treated in Guinea. An independent mathematical model suggested that across the three affected countries the Ebola epidemic resulted in 3.5 million cases of malaria going untreated and at least 10,000 excess malaria deaths in 2014 alone.

In FY 2017, CDC experts will provide scientific evidence and evaluation to help implement the next five-year plan for the President's Malaria Initiative. Central to this effort is continuing development of the evidence on insecticide and antimalarial resistance, and effectiveness of additional malaria control efforts, such as mass screening and treatment. CDC will also help improve country capacity to collect and use surveillance information to guide programs and assist at least five countries to meet WHO criteria for pre-elimination. With CDC assistance, these national malaria prevention and control programs will continue to scale up and implement cost-effective interventions, such as intermittent preventive treatment in pregnancy, insecticide-treated bed nets, indoor residual spraying, and artemisinin combination therapy (the use of two or more drugs with different modes of action in combination is now recommended to provide adequate cure rate and delay development of resistance). CDC's efforts help accelerate progress towards President's Malaria Initiative targets related to intervention coverage and reductions in malaria-related mortality. CDC also provides technical leadership for malaria related surveillance, laboratory strengthening and public health capacity development efforts under the Global Health Security Agenda. In addition, CDC subject matter experts enhance the technical capacity of multilateral partnerships including the World Health Organization and the Global Fund to Fight HIV/ AIDS, Tuberculosis, and Malaria.

Cutting-Edge Malaria Research

CDC is a global leader in malaria research and technical innovation. CDC's malaria program engages in strategic and applied research to accelerate global malaria control and elimination. Malaria remains endemic in many regions and countries. The parasites that cause malaria continue to evolve and change making it more difficult to successfully treat the disease. Also, with large scale implementation of prevention strategies, there is a critical need to develop efficiency in program delivery, improve intervention tools, and ensure that new technologies developed in the lab are quickly adapted for use in the field.

Since the early 1990s CDC has been a global leader in documenting the burden of malaria in pregnancy and developing the evidence base for effective interventions to mitigate it. CDC researchers along with partners in Kenya and Malawi demonstrated the impact of tools like intermittent preventive treatment in pregnancy (IPTp) and insecticide treated bednets for reducing malaria in pregnancy and improving the health of mothers and infants. Substantial progress rolling out these interventions in the past decade has contributed to saving millions of lives.

Reducing Malaria in Pregnancy

CDC investigators have led studies to explore alternative diagnostic and treatment tools to improve the prevention of malaria in pregnancy. This work has contributed to new global recommendations to increase coverage of malaria prevention for pregnant women in Africa. This change is expected to simplify the delivery of preventative treatment so that more women and infants can benefit from it.

CDC's malaria laboratories conduct extensive evaluations on the performance of commercial rapid diagnostic tests. Understanding the performance limitations of the current generation of rapid tests can help in deciding how to deploy these tests most efficiently and will provide experience and evidence that can shape the next generation of diagnostic tools.

Faced with emerging challenges of drug resistance, CDC's laboratories play a critical role in collecting, analyzing and archiving drug-resistant malaria parasites to identify biological markers of resistance. CDC investigators are developing novel tools and surveillance networks in Africa, South America, and Southeast Asia to monitor for drug resistance. CDC's malaria program offers training to scientists in malaria endemic countries on how to detect and track these drug-resistant parasites.

There is a need for even greater research and development and innovative strategies due to lack of scientific understanding of the molecular complexity of malaria. CDC scientists are engaged in efforts to overcome major challenges in the development of an effective malaria vaccine by leading efforts to better understand the genetic diversity of the malaria parasite and how a person's genetic factors influence the development of malaria.

Neglected Tropical Diseases

CDC conducts activities to reduce illness, disability, and disfigurement caused by [neglected tropical diseases \(NTDs\)](#).⁴³¹ CDC focuses on the control or elimination of lymphatic filariasis (elephantiasis is the end-stage disease), onchocerciasis (river blindness), blinding trachoma, schistosomiasis (bilharzia), and three soil-transmitted helminthes (intestinal worms), as well as the eradication of Guinea worm. CDC provides expertise in surveillance, diagnostics, monitoring, and evaluation to U.S. government agencies, MOH programs, and global partners—including assisting WHO on development of policy and guidelines and in verifying elimination of disease transmission within targeted geographic areas. CDC also conducts operational research to improve program delivery. For example, CDC and partners developed methods to assess whether lymphatic filariasis infection levels are below the threshold to sustain transmission. CDC developed a standardized Transmission Assessment Survey (TAS) training curriculum, which WHO adopted as the global curriculum. CDC facilitated nine TAS trainings to participants from over 51 countries assisting them to make critical program decisions about stopping mass drug administration. In addition to the TAS, CDC has been instrumental in the development, implementation, and operational research for post-treatment surveillance, the next step towards documenting elimination of diseases as countries prepare for WHO verification.

CDC conducts operational research to improve measurement of program impact. For example, in FY 2015 CDC implemented integrated surveys assessing the impact of mass drug administration across multiple NTDs and other diseases of public health interest. One critical tool for integrated surveys was CDC's development and validation of a highly sensitive multiplex immunoassay that detects antibodies for more than 35 viral, bacterial, and parasitic diseases as well as assessment of vaccination coverage, using a single small blood sample.

Progress Toward Guinea Worm Eradication

Progress continues toward eradication of Guinea worm disease with only 15 cases reported January-August 2015, decreasing from 75 during the same time in 2014. Only 126 cases were reported in 2014. CDC continues to provide morphological and genetic testing of specimens and conducts biologic, environmental, and epidemiologic investigations with partners to support the global Guinea Worm Eradication Program.

⁴³¹<http://www.cdc.gov/globalhealth/ntd/diseases/index.html>

CDC plays a critical role in the development and validation of improved diagnostics for NTDs. CDC's diagnostic tool development for NTDs focuses on affordable, sensitive, specific, user-friendly, rapid, and equipment-free tests that are easily delivered to those who need it. In FY 2015, CDC collaborated with partners to validate a more accurate, easier to run, cheaper test for onchocerciasis, lymphatic filariasis and trachoma.

In FY 2017, CDC will assist countries in Africa, Asia, and the Americas to conduct transmission assessment surveys for lymphatic filariasis and other NTDs, assist MOH to implement efficient methodologies that assess progress towards elimination, control, or management of NTDs and associated long-term disability, and develop and evaluate new diagnostic tools and methods for demonstrating interruption of NTD transmission.

Global Health Protection Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$55.119	\$55.200	\$65.200	+\$10.000

Overview

Outbreaks over the last decade are a reminder of how costly infectious disease threats can be, both from lives lost and economic impacts. In 2004, SARS cost the global economy \$40 billion.⁴³² The outbreak infected 8,100 people, killed 774, and reached more than two dozen countries. Based on the lessons learned from SARS, the WHO (and all countries of the world) revised the International Health Regulations (IHR) in 2005⁴³³ to help build core competencies in countries for early detection and prevention of infectious diseases and other health threats. A decade later, two-thirds of countries still are not able to report that they can detect, assess, report and respond to public health events under IHR. The 2014-2015 Ebola epidemic in West Africa resulted from a lack of public health infrastructure in the three affected countries and caused more than 28,000 cases and more than 11,000 deaths.⁴³⁴ While the full direct and indirect impacts of this epidemic on the economies and health systems of these nations are not yet known, Guinea, Liberia, and Sierra Leone are forever changed as a result of this loss of life; and their economies will struggle. The Ebola outbreak in West Africa underscores that the global lack of preparedness leaves all nations vulnerable to the next disease threat, as we saw with importation of Ebola cases to the United States and other countries.

CDC works with countries at all stages of public health capacity development—from working to build basic national public health capabilities to collaborating with global public health leaders to address shared threats. Through all levels of engagement, the end goals are the same—protecting Americans at home from threats that emerge overseas while also building a coalition for a broader response to global health threats. Components of this strategy include, but are not limited to: Global Health Security Agenda (GHSA) Programs, Global Disease Detection Centers, and National Public Health Institutes. While the aim of CDC’s Global Health Protection portfolio is development of national and regional competencies and systems as well as support for sustainable, independent public health organizations, Global Health Protection resources also are used to develop and maintain CDC’s core leadership in emergency response. The objectives of CDC’s Global Health Protection activities are:

- Assisting countries in meeting their requirements in compliance with International Health Regulations
- Reaching the targets outlined by the Global Health Security Agenda⁴³⁵
- Providing assistance to countries during public health emergencies

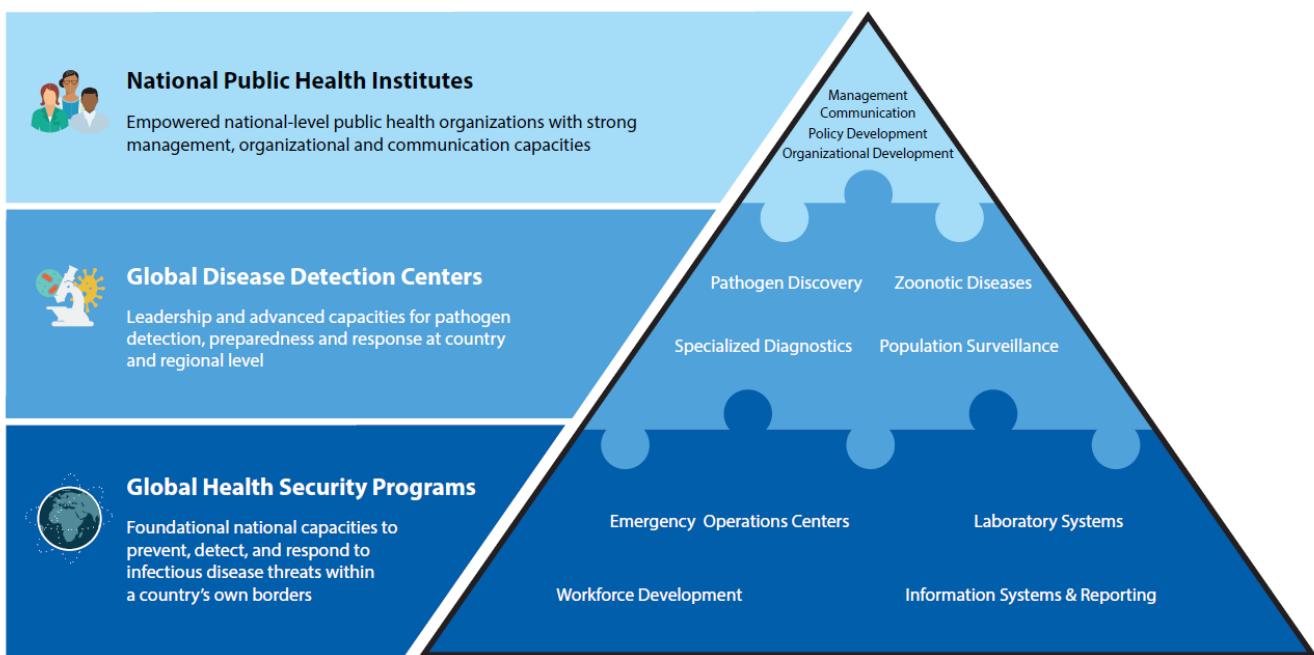
⁴³² <http://www.ncbi.nlm.nih.gov/books/NBK92473/>

⁴³³ <http://www.who.int/ihr/9789241596664/en/>

⁴³⁴ <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/>

⁴³⁵ <http://www.cdc.gov/globalhealth/security/index.htm>

CDC Global Health Protection Programs Build Capacity



CDC works with countries to build core technical and organizational public health capacities with the goal of protecting Americans at home from threats that emerge overseas while also building a coalition for a broader response to global health threats.

To address these goals, CDC has a multi-faceted approach. First, CDC is working with countries to implement the [Global Health Security Agenda](#) (GHSA). CDC's GHSA work focuses on developing the capabilities and systems a country needs to prevent, detect, and respond to infectious disease threats within its own borders. Second, recognizing the need to move beyond development of foundational national capacities, CDC also supports the development of regional leadership and advanced capabilities through the Global Disease Detection (GDD) program. Third, because the United States benefits from the presence of well-organized, self-reliant public health organizations in other countries, CDC dedicates support to developing high-functioning, independent, and sustainable, public health institutions through the National Public Health Institutes program.

Budget Request

CDC's FY 2017 request of **\$67,200,000** for Global Health Protection is \$10,000,000 above the FY 2016 Enacted level. Of the \$10,000,000 increase, \$5,000,000 is to support countries' institutional and organizational capacity through programs such as Global Disease Detection, Field Epidemiology Training Programs, and other capacity-building programs. The remaining \$5,000,000 is to support expand the Global Health Security Agenda in selected U.S. Government-identified Phase 2 countries: Cambodia, Democratic Republic of Congo, Georgia, Ghana, Haiti, Jordan, Kazakhstan, Laos, Mozambique, Peru, Rwanda, Thailand, and Ukraine. In addition, CDC plans to partner with the Caribbean Community (CARICOM) to strengthen regional capacity.

Within the Global Health Protection portfolio, CDC is working to develop the capacity of nations to address infectious disease threats and also is investing in developing regional leaders and more global partners capable of responding within and outside of their borders. At present, there remains a large gap in world-wide capacity, and CDC's FY 2017 request includes \$5 million to help fill these gaps. As a global leader, CDC will continue to answer the call for support from national counterparts at all levels of capacity development—as the agency has recently done by responding to Ebola in West Africa, and through its work with the government of South Korea to address an importation and outbreak of MERS in 2015.

For example, CDC's Field Epidemiology Training Program (FETP) combines classroom training with extended periods of on-the-job experience and mentoring. Through FETP, CDC has a 30 year history of workforce development overseas that includes a two year, comprehensive program focused on data collection, analysis, and interpretation for action. More recently, CDC has introduced basic and intermediate programs focusing on fundamentals for those working at local and district levels. These trained epidemiologists are the "boots on the ground" in the effort to identify and contain infectious disease threats. The requested increase of \$5 million for Global Health protection would expand FETP and other capacity building programs ability to work worldwide with countries at all levels of development.

Global Health Security Agenda (GHSA)

Launched February 13, 2014, the GHSA brings the United States and partners around the world together to protect populations from pandemic threats, economic loss, instability, and loss of life. CDC already has a number of success [stories](#).

	Global Health Agenda Accomplishments
PREVENT avoidable outbreaks	Thailand: Established a pilot antimicrobial resistance surveillance system that will allow monitoring on a population-basis for 5 of 7 priority AMR pathogens as well as creation of surveillance indicators that can better measure disease incidences and trends.
	Vietnam: Established a regional animal zoonotic disease station to serve all animal rabies surveillance activities in the Phu Tho province.
	South Africa: Conducted a bioterror and vulnerability assessment at the biobank/laboratory in Skukuza to identify opportunities for biosafety and biosecurity upgrades in FY 2015.
DETECT threats early	Thailand: Strengthened molecular diagnostic capacity for Zika and Chikungunya through training and follow-up activities to enhance communication and support between laboratory and surveillance systems.
	India: Provided microbiological laboratory training for detection of selected priority enteric pathogen and implemented interventions to improve cholera diagnostics.
	Jordan: Provided training on MERS-CoV to 102 healthcare workers and infection control practitioners to enhance hospital capacity for containment of MERS-CoV infection.
RESPOND rapidly and effectively	Vietnam: CDC and FBI instructors completed Joint Chemical, Biological, Radiological, Nuclear and Explosive (CBRNe) Response and Investigations Workshops for the Ministry of Public Security, Ministry of National Defense, and MOH to increase inter-sectoral (public health and law enforcement) collaboration for the response to CBRNe incidents and investigations . This workshop led to the three ministries planning to increase communication and cooperation and to share protocols.
	Jordan: Incident Command Systems (ICS) and Standard Operating Procedures (SOPs) training was provided to 12 MOH EOC surge staff.

The \$5 million increase in FY 2017 will expand support to the Phase 2 Countries to further the goals of the GHSA to prevent, detect, and respond to infectious disease threats and to address on-going epidemics. This builds off approximately \$50 million in base activities to support these GHSA capacities. Epidemic threats to national security arise at unpredictable intervals and from unexpected sources. Because these threats do not recognize national borders, the health of people overseas directly affects America's safety and prosperity, with far reaching implications for economic security, trade, the stability of foreign governments, and the well-being of U.S. citizens at home. If we are to save lives and protect U.S. health security, CDC must accelerate efforts to build out the systems and workforce needed to better respond to and manage a range of disease threats.

For Americans and the entire world to be protected from infectious disease threats, all countries require the basic capacity to detect and respond to an outbreak within their own borders. With only 30% of countries reporting that they are currently in compliance with the International Health Regulations (IHRs), gaps in national public health emergency response capabilities remain a serious vulnerability for the entire world. In FY 2015, CDC received \$597 million in emergency funding to [implement the 12 GHSA targets](#) in the Phase one countries towards a world safe and secure from infectious disease threats, and address urgent gaps in capacity. The Phase one countries are: Bangladesh, Burkina Faso, Cameroon, Cote d'Ivoire, Ethiopia, Guinea, India, Indonesia, Kenya, Liberia, Mali, Pakistan, Senegal, Sierra Leone, Tanzania, Uganda, and Vietnam. These efforts support the Administration's Global Health Security Agenda. The capabilities that are proven to reduce vulnerability include a trained workforce and functioning laboratory, information, and emergency response systems at the national level. Building these capacities also assists countries in meeting reporting responsibilities under IHR. Lack of these baseline national capacities led to the widespread Ebola disease outbreak in Guinea, Sierra Leone, and Liberia, threatened the stability of those countries, posed a risk to the region, and also presented a risk to the United States and other countries from the importation of Ebola.

Building a Trained Workforce

To strengthen the public health workforce within a country, CDC prepares a cadre of disease detectives using principles of applied epidemiology focusing on field work and hands-on training.

By using the FETP model for in-country training based on CDC's own Epidemic Intelligence Service, CDC's approach is helping meet the GHS goal of establishing a skilled public health workforce that includes at least one epidemiologist for every 200,000 people. CDC estimates that up to 29,000 additional epidemiologists are needed worldwide in order to meet this goal.

In August 2015, CDC completed a shortened, five-week Field Epidemiology Training Program in Mali, training surveillance officers in high-risk districts to identify and respond to infectious disease outbreaks. A month later, a 19-month-old child was diagnosed with vaccine-derived polio, having traveled to Mali after consulting a traditional healer in Guinea. Drawing on his training, the FETP graduate led the surveillance and investigation in the affected district. CDC also trained staff to increase monitoring at the border and supported the Ministry of Health to launch an emergency vaccination campaign.

Emergency Operations

Countries need public health emergency operations centers with trained staff capable of activating a coordinated emergency response, and these centers need to be linked to systems that provide real-time data about outbreaks. CDC is working with GHS countries to train and maintain functioning, multi-sector rapid response teams linked to real time biosurveillance and laboratory response networks. The importance of an established functioning emergency operations center prior to an outbreak is critical as the world saw with the arrival of Ebola to Lagos, Nigeria in 2014.

Laboratory

As the public health workforce identifies and monitors outbreak trends, complementary laboratory networks must be in place to characterize disease threats and identify whether outbreaks are from common diseases already present in a country or if they represent a new risk. CDC works with countries to establish laboratory networks with the goal of improving identification and diagnosis of diseases. Effective laboratory networks ensure that specimens from anywhere within a country can be safely collected and transported to laboratory facilities to be confirmed and transported to more advanced labs when necessary to characterize new disease risks.

CDC's longstanding relationship with the Uganda Virus Research Institute (UVRI) has improved the Institute's ability to rapidly confirm identification of dangerous pathogens. In the last 15 years, the time to confirm an Ebola case at UVRI has decreased from more than a month, to one to two days. Faster lab confirmation of Ebola cases leads to faster response, and ultimately fewer total cases and deaths.

Epidemiology and Surveillance

Collecting and appropriately sharing information on disease outbreaks allows for coordinated response and containment before outbreaks turn into epidemics, and before diseases spread across national borders. Emergency response staff need data about outbreaks to appropriately allocate and track response resources, ensuring that the response matches the threats and that in-country response partners can effectively coordinate efforts. Through GHS, CDC is working with countries to improve public health surveillance and to develop reporting and information sharing systems that link public health data sources in districts to central information hubs.

Global Disease Detection

Started in 2004, the Global Disease Detection (GDD) program works with other nations to support regional leadership in disease detection and response and to develop the more advanced capacities needed for pathogen discovery. CDC's investment in GDD centers lessens the U.S. burden to respond to global public health emergencies by creating a network of centers with regional response capabilities. These centers work with the countries in their regions to support national-level capacity building. CDC supported GDD centers also promote scientific discovery in partnership with host countries and participate in network-based projects as part of CDC's global multi-site infectious surveillance and research system. The GDD network also is utilized by programs across CDC for syndrome-specific surveillance. Since its inception, GDD centers have identified 60 pathogens new to respective regions and five pathogens new to the world.

GDD Thailand is an example of a center that provides both national and regional leadership. Established in 2004 to address zoonosis and advanced laboratory capacity strengthening, the center partners with other countries in the region including Cambodia, Laos, and Myanmar. GDD Thailand has led efforts to collect and analyze public health data to make the case for increased use of influenza vaccine in the country. As a result, Thailand has invested almost \$100 million into its own influenza program. During the past year, the center in Thailand also has been instrumental in working with countries in the region to develop Ebola response plans—resulting in countries, and a region, better prepared for possible importation of Ebola or another infectious disease threat.

Global Disease Detection and Emergency Response Cooperative Agreements¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	36	33	33	38	38	0
- New Awards	8	3	6	2	0	-2
- Continuing Award	28	30	27	36	38	+2
Average Award	\$0.328	\$0.332	\$0.332	\$0.281	\$0.281	\$0.000
Range of Awards	\$0.002-\$2.008	\$0.002-\$2.008	\$0.002-\$2.008	\$0.002-\$2.008	\$0.002-\$2.008	N/A
Total Awards	\$11.796	\$10.958	\$10.958	\$10.958	\$10.958	\$0.000

¹These funds are not awarded by formula.

National Public Health Institutes

Empowered national-level public health organizations with strong management, organizational and communication capacities, invested with the proper legal authorities, are key for a country's ability to sustain independent prevention, detection, and response to infectious disease threats and for carrying out other essential public health functions. To support development of independent and sustainable national public health organizations, CDC makes catalytic investments and provides technical assistance to countries through the National Public Health Institutes (NPHI) Program. The program emphasizes high impact, transformative investments to address disease threats, health mandates, policy development, and public health research for a country. NPHIs are the "CDC" equivalent in other countries. They carry out essential public health functions while also improving accountability and efficiency. With organizational and technical support from CDC's NPHI program, partner countries are better equipped to collect and use public health data, implement and monitor evidence-based public health programs, and, ultimately, save lives, money, and improve protection against public health threats. With increased efficiency, capacity to conduct research, and improved understanding of the disease burden within their countries, the goal is for these institutions to be less reliant on donor support as they work to protect the health of their populations. Over time, countries with strong NPHIs are better positioned to become regional and global leaders in improving health and contributing to global responses.

Core Capacity for International Emergency Response

Public health threats can emerge anywhere at any time and CDC must be ready to support other nations when help is needed. CDC's International Emergency Response program brings public health and epidemiologic principles to the aid of populations affected by emergencies around the world. CDC is prepared to respond to natural disasters, complex humanitarian emergencies, and infectious disease outbreaks. CDC responds to disasters by deploying expert staff and resources to provide rapid health and nutrition assessments, public health surveillance, epidemic investigations, disease prevention and control, and improve sanitation and hygiene. For refugee situations and natural disasters in developing countries, it is critical to ensure that infectious disease epidemics do not compound already difficult conditions. As the number, scale, and intensity of emergencies rise, the need for CDC to respond quickly to support outbreak response activities increases.

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$1,352.551	\$1,405.000	\$1,402.166	-\$2.834
Total Request	\$1,352.551	\$1,405.000	\$1,402.166	-\$2.834
FTEs	625	625	625	0
- State and Local Preparedness and Response Capability	\$661.042	\$668.200	\$660.000	-\$8.200
- Public Health Emergency Preparedness Cooperative Agreement	\$643.609	\$660.000	\$660.000	\$0.000
- Academic Centers for Public Health Preparedness	\$8.018	\$8.200	\$0.000	-\$8.200
- All Other State and Local Capacity	\$9.415	\$0.000	\$0.000	\$0.000
- CDC Preparedness and Response Capability	\$157.166	\$161.800	\$167.166	+\$5.366
- Strategic National Stockpile	\$534.343	\$575.000	\$575.000	\$0.000

Summary

CDC's Public Health Preparedness and Response activity works 24/7 to protect the safety, security, and health of the United States from public health threats, foreign and domestic, intentional and naturally occurring. CDC provides life-saving responses to chemical, biological, radiological, and nuclear threats, as well as other disasters, outbreaks, and epidemics. These activities are essential to CDC's goal to protect Americans' health and safety by:

- Supporting state and local health department preparedness activities
- Responding to public health emergencies
- Ensuring an available supply of medical countermeasures
- Overseeing and regulating laboratories that import and possess the most deadly pathogens and toxins
- Providing comprehensive situational awareness
- Working 24/7 to respond to calls from medical professionals and the general public
- Building international Emergency Operation Center capacity and enhancing global health security

CDC's FY 2017 request of **\$1,402,166,000** for Public Health Preparedness and Response is \$2,834,000 below the FY 2016 Enacted level. This request includes a \$5,366,000 increase for the federal select agent program. This funding increase will improve training of inspectors, increase the frequency and number of inspections, and increase assistance to registered entities to prevent accidental or intentional release of select agents. At this level, CDC will not be able to replace all medical countermeasures scheduled to expire in FY 2017. The FY 2017 Budget proposes elimination of the Academic Centers for Public Health Preparedness. CDC will continue to support research and training for public health preparedness through the public health preparedness and response agenda.

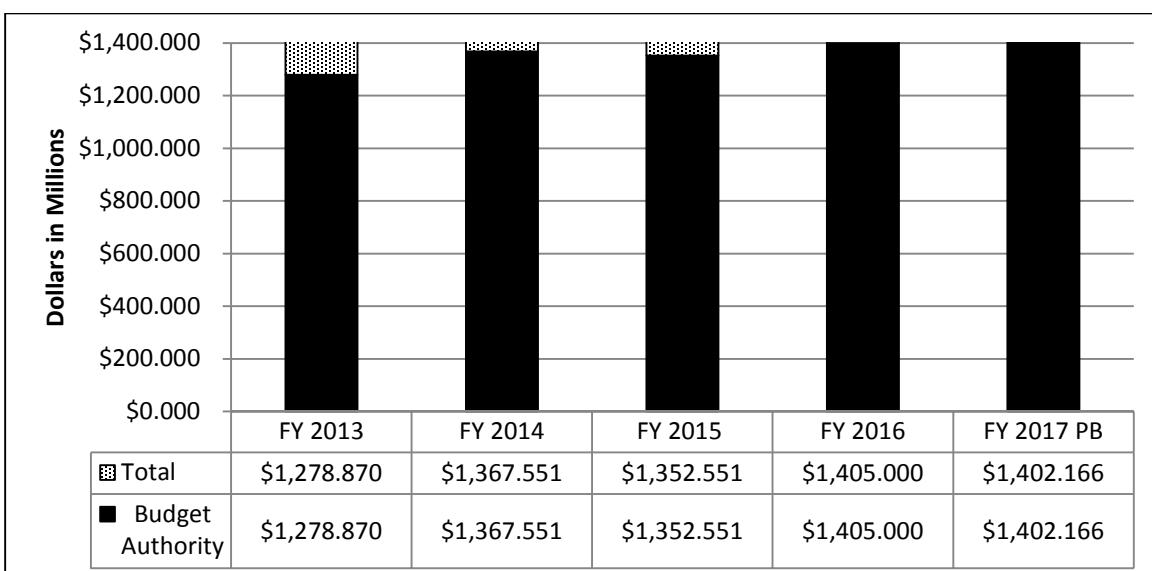
Performance Highlights

- CDC collaborated with the Department of Defense (DOD) to expand the number of Laboratory Response Network (LRN) laboratories that could quickly and accurately test for the Ebola virus. By November 1, 2015, 57 LRN public health laboratories (PHLs) completed proficiency testing with the DOD Ebola assay. Prior to the current outbreak, only two LRN National laboratories were capable of performing an Ebola test.
- CDC's Public Health Emergency Preparedness (PHEP) resources and guidance enabled the establishment of active monitoring procedures in only 10 days for the Ebola outbreak. From October 2014 through

September 20, 2015, PHEP awardees have actively monitored more than 26,000 travelers from countries in West Africa with widespread Ebola cases.

- In April 2015, CDC deployed 50 vials of botulinum antitoxin to the Ohio Department of Health in just over 10 hours for the treatment of 18 cases of botulism reported in an outbreak of the foodborne illness. Ohio state epidemiology, surveillance, and medical countermeasure planning staff worked together to quickly and safely distribute the antitoxin to several hospitals within the region where patients were transferred; resulting in timely treatment of exposed individuals.
- In June 2015, CDC supported a medical countermeasure dispensing exercise by a Costco warehouse in Potomac Mills, VA and the Prince William County, VA, Health Department. The exercise involved 200 volunteers moving through dispensing stations in the warehouse manned by regional Costco pharmacy staff. This exercise in Virginia serves as proof that private-sector partners can provide rapidly scalable resources to support local public health in meeting the challenges of mass medical countermeasure dispensing.

Public Health Preparedness and Response Funding History¹



¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

Strategic National Stockpile 10-Year Funding History

Fiscal Year	Dollars (in millions)
2007	\$496.348
2008	\$551.509
2009	\$570.307
2010	\$595.661
2011	\$591.001
2012	\$533.792
2013	\$477.577
2014	\$549.343
2015	\$534.343
2016	\$575.000

State and Local Preparedness and Response Capability Budget Request

(dollars in millions)		FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
	Total	\$661.042	\$668.200	\$660.000	-\$8.200
- Public Health Emergency Preparedness Cooperative Agreement		\$643.609	\$660.000	\$660.000	\$0.000
- Academic Centers for Public Health Preparedness		\$8.018	\$8.200	\$0.000	-\$8.200
- All Other State and Local Capacity		\$9.415	\$0.000	\$0.000	\$0.000

Overview

CDC advances the health security of the United States by helping communities prepare for, respond to, and recover from all hazards, including chemical, biological, radiological, and nuclear threats; as well as natural disasters, outbreaks, and epidemics. Whether the hazard is naturally occurring (Ebola, Middle Eastern Respiratory Syndrome), accidental (West Virginia chemical spill) or intentional (Boston, Massachusetts, bombing), effective public health emergency response depends on maintaining and constantly improving the preparedness capability of state and local health departments. As directed by [Presidential Policy Directive \(PPD\) 8: National Preparedness](#),⁴³⁶ [PPD 2: National Strategy for Countering Biological Threats](#),⁴³⁷ and the [Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 \(PAHPRA\)](#),⁴³⁸

CDC's State and Local Preparedness and Response Capability supports national readiness by investing in state, local, and territorial public health systems. CDC, through its [Public Health Emergency Preparedness \(PHEP\) cooperative agreement](#),⁴³⁹ advances public health system capability development and strengthens public health emergency management and response programs within state, local, and territorial public health agencies. This enables the public health agencies to respond to public health threats and build resilient communities. CDC investments have funded:

- The purchase and development of nearly 75% of state, local, and territorial electronic disease surveillance systems (EDS)
- An estimated 81% of the cost to develop state, local, and territorial public health emergency management capability (such as establishing local emergency operations centers)
- More than 80% of the cost to develop state, local, and territorial public health risk communication capability

CDC established and sustains robust, organized, and capable public health emergency management and response programs within state, local, and territorial public health agencies. CDC, working through the PHEP cooperative agreement funding, resources, and technical assistance, supports critical public health capabilities necessary for effective state, local, and territorial emergency planning and response. Strong state and local public health emergency management expertise have improved public health's coordination with other

More than 26,000 persons in the United States at risk of exposure to Ebola were monitored through [active and direct active monitoring](#) in 50 states, Chicago, Los Angeles County, New York City, Washington, D.C., and eight territories from November 2014, to September 20, 2015.

⁴³⁶ <http://www.dhs.gov/presidential-policy-directive-8-national-preparedness>

⁴³⁷ <http://fas.org/irp/offdocs/ppd/ppd-2.pdf>

⁴³⁸ <http://beta.congress.gov/bill/113th-congress/house-bill/307?q=%7B%22search%22%3A%5B%22113-5%22%5D%7D>

⁴³⁹ <http://www.cdc.gov/phpr/coopagreement.htm>

healthcare and emergency management response partners, minimizing the public health consequences of emergencies and protecting the health security of Americans.

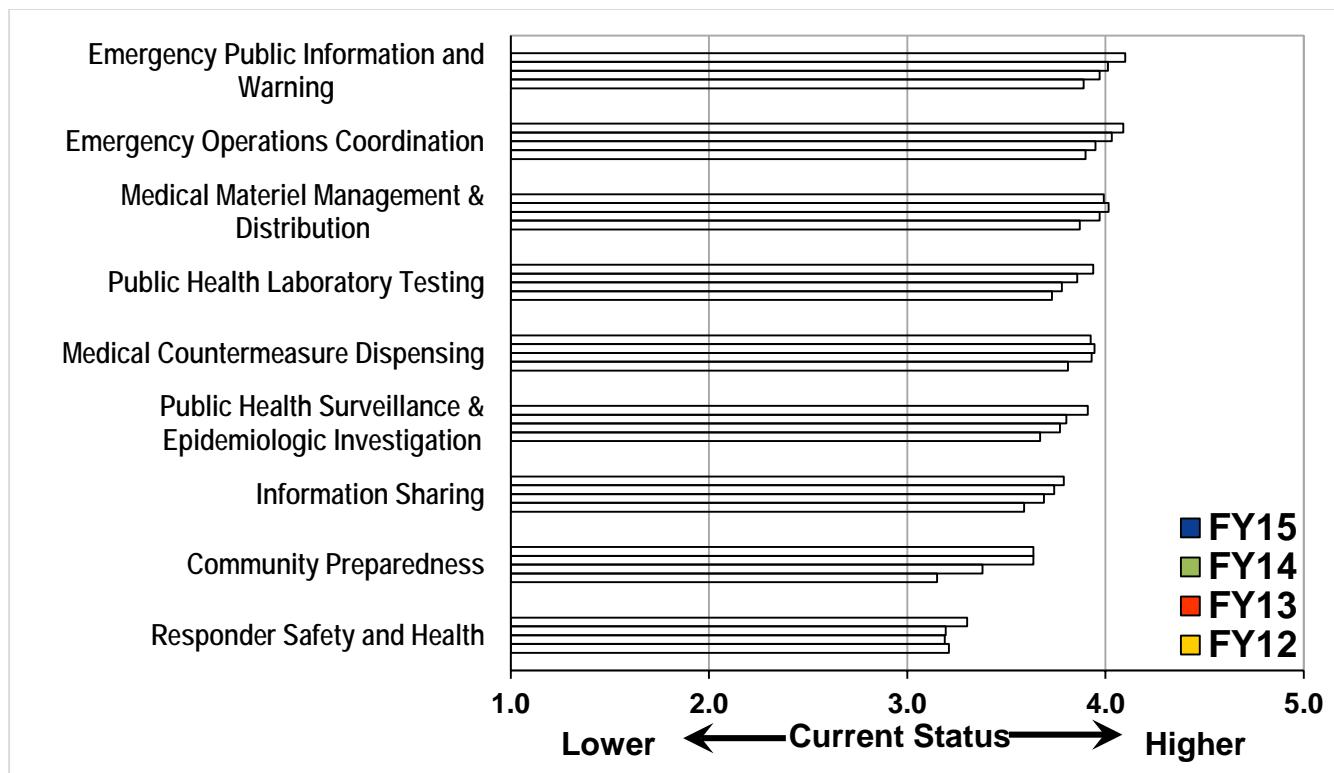
Since 2002, CDC's PHEP cooperative agreements provided nearly \$11 billion to public health departments across the nation to develop and upgrade their capacity to effectively respond to a range of public health threats. State and local health departments use PHEP funding to build and sustain public health preparedness capabilities that enable them to effectively manage public health emergencies that threaten the health and safety of their communities. Since the events of 9/11, CDC's PHEP program has:

- Integrated public health into emergency responses and now leads and coordinates the public health and health care sectors, in collaboration with other response partners
- Instituted public health emergency management structures in all 50 states and select local and territorial public health departments capable of leading or supporting public health responses
- Developed a nationwide system capable of rapidly distributing and dispensing lifesaving medications and emergency medical supplies to the public
- Developed nationwide laboratory and epidemiologic surveillance systems capable of faster detection and identification of public health threats
- Strengthened the ability of our nation's communities to prepare for, withstand, and recover from public health threats
- Established state and local public health emergency management expertise capable of mitigating the health effects of public health threats
- Ensured a trained, operationally ready public health workforce prepared to provide a quick response to life-threatening emergencies in their communities
- Supported state and local public health infrastructure needed to conduct routine public health functions that can be mobilized during a public health emergency such as Ebola
- Built and sustained state, local, and territorial public health preparedness capabilities according to standards that meet or exceed Public Health Accreditation Board standards and measures for preparedness

Trends in public health preparedness capabilities of PHEP awardees demonstrate how CDC investments have measurable impact. CDC's PHEP cooperative agreement supports 15 key public health preparedness capabilities identified in [Public Health Preparedness Capabilities: National Standards for State and Local Planning](#).⁴⁴⁰ Divided into two tiers, the 15 capabilities serve as a framework for state and local public health preparedness. The chart below shows how over the past four years, PHEP awardees improved capacity in nearly all Tier 1 public health preparedness capabilities. CDC subject matter experts assist PHEP awardees in their efforts to improve performance by sharing useful practices and lessons learned—along with providing tools and resources needed to advance, sustain, develop, measure preparedness capability, and identify gaps.

⁴⁴⁰http://www.cdc.gov/phpr/capabilities/DSLR_capabilities_July.pdf

Tier 1 Public Health Preparedness Capabilities: Four-Year Trends



In addition to supporting the PHEP cooperative agreement, CDC State and Local Preparedness and Response Capability funding supports activities that uniformly improve public health emergency preparedness across PHEP's 62 jurisdictions, including:

- Providing programmatic oversight for CDC's PHEP cooperative agreement awardees to ensure accountability of funds, including development and maintenance of information technology solutions to monitor performance
- Working with state and local health agencies to provide guidance regarding program implementation activities to build and sustain a cohesive nationwide approach to public health preparedness as addressed by the 15 public health preparedness capabilities
- Working with ASPR's Hospital Preparedness Program (HPP) to develop guidance and tools to improve healthcare system preparedness and response
- Working to advance planning and operational readiness to successfully execute large-scale responses requiring distribution and dispensing of medical countermeasures
- Strengthening public health preparedness, response, and recovery through science and evaluation
- Developing metrics that evaluate the effectiveness and impact of the PHEP program
- Enhancing the public health preparedness of state, local, and territorial health departments through assignment of field-based staff, including [Career Epidemiology Field Officers \(CEFOs\)](#), Preparedness Field Assignees (PFAs), Public Health Advisors, and Medical Countermeasure Subject Matter Experts
- Providing support to national partners (ASTHO, NACCHO, APHL, CSTE, PIHOA, NEMA and NGA) who advise, assist, and provide situational awareness, particularly during emergency responses

Budget Request

CDC's FY 2017 request of **\$660,000,000** for State and Local Preparedness and Response Capability is \$8,200,000 below the FY 2016 Enacted level and reflects elimination of the Academic Centers for Public Health Preparedness. CDC will continue to support research and training for public health preparedness through the research agenda of the OPHPR Science Office.

In FY 2017, CDC is scheduled to begin a new five-year project period for the aligned HPP-PHEP cooperative agreement. The current joint five-year project period for the PHEP cooperative agreement managed by CDC, and the Hospital Preparedness Program (HPP) cooperative agreement managed by HHS' Office of the Assistant Secretary for Preparedness and Response (ASPR), is set to close in June 2017. FY 2016 marks the conclusion of the first aligned cooperative agreement between CDC and HHS Office of the Secretary award program. CDC and ASPR successfully aligned administrative and programmatic aspects of the two federal preparedness programs. This enabled states and communities to more easily, efficiently, and effectively conduct joint planning, exercising, and program operations to better prepare their communities to respond to and recover from public health emergencies and reduced administrative burden on awardees.

Planning currently is underway to develop specific program requirements and metrics for the new HPP-PHEP funding opportunity announcement (FOA) scheduled to be released in the first quarter of 2017. This includes requirements that PHEP awardees continue to conduct jurisdictional risk assessments to identify potential hazards, vulnerabilities, and risks within the community that specifically relate to the public health, medical, and behavioral health systems and the functional needs of at-risk individuals. CDC recommends that awardees use the results of these risk assessments to help determine their gaps within each of the 15 public health preparedness capabilities and to prioritize their PHEP investments. CDC also is developing new PHEP guidance to advance informatics and health information sharing technologies at the state and local levels and to support CDC surveillance strategy metrics. The FY 2017 new FOA will include an informatics fellowship of approximately \$1 - 2 million and will incentivize accreditation by providing additional competitive points to accredited Public Health Departments, similar to other CDC workforce programs.

In FY 2016, CDC will establish a two-year pilot program to promote state and local public health informatics workforce development in conjunction with the CDC Surveillance Strategy. This will inform the FY 2017 set-aside for informatics. The aim of the pilot is to support public health information technology systems that improve mandatory disease reporting, electronic death records, syndromic surveillance, and electronic laboratory reporting. CDC will fund the placement of up to three informatics field assignees (IFA) in select Public Health Emergency Preparedness (PHEP) awardee jurisdictions to determine how PHEP awardees can best build informatics capacity, building on work done with existing fellowships with current CDC state and local partners. In particular, CDC expects that the IFA pilot will help advance implementation of syndromic surveillance and CDC's National Notifiable Diseases Surveillance System (NNDSS) modernization initiatives. The pilot is expected to include two-year placements of up to three IFAs as well as an evaluation of the pilot program to determine impact and recommendations to improve the approach moving forward. CDC will spend approximately \$1,000,000 over the two-year period testing the demand for informatics expertise and the benefit for state and local public health jurisdictions. Combining other planned informatics activities may result in spending over \$1,000,000. The first year of the pilot, three fellows will be hired, and depending on success and qualified applicants available in year two, the goal is three-six. The pilot is expected to be implemented using CDC's current cooperative agreement with critical national partners, one of which will be selected to help PHEP awardees best positioned to leverage IFA support to implement syndromic surveillance and NNDSS modernization initiative activities.

In FY 2017, CDC plans to advance FY 2016 activities implemented as a result of its PHEP program review. CDC's PHEP program review was conducted to assure the program is maximizing its public health impact and to consider new areas for program development. The program review generated several recommendations

intended to strengthen the day-to-day public health impact of the PHEP program; improve how the impact of PHEP is measured and communicated; strengthen core public health capabilities that are necessary during a public health emergency; and identify opportunities for continued program improvement. For example, CDC will develop solutions to strengthen readiness components at all levels of the public health enterprise by:

- Developing specific guidance, targets, program requirements, and deliverables that enhance core public health preparedness capabilities for environmental health, laboratory, infectious disease reporting, and epidemiological surveillance
- Requiring all States to allocate funds based on a risk assessment at the State and local level
- Advancing laboratory capability, including updating equipment and technology for state biological and chemical reference level laboratories (Laboratory Response Network-Biological [LRN-B] and Laboratory Response Network-Chemical [LRN-C])
- Establishing an informatics workforce set-aside which will incentivize accreditation by providing additional competitive points to accredited Public Health Departments, similar to other CDC workforce programs.
- Requiring PHEP awardees to meet new LRN-B requirements for standard and advanced reference laboratories
- Advancing state and local health intelligence information sharing through targeted informatics investments related to enhancing the information technology workforce, improving information sharing processes, improving existing information technology systems, and incorporating updated information technology systems
- Collaborating with the Association of Public Health Laboratories (APHL) and Centers across CDC to implement an action plan for improving public health laboratory systems response
- Working with ASPR to develop and implement an action plan for improving infection prevention within the public health and healthcare sectors
- Using lessons learned during Ebola and other public health responses to improve communication between CDC and key stakeholders by identifying additional information that can be shared to improve outcomes during public health emergencies

The Ebola response highlighted the need to improve infection prevention and fostered a new partnership between state and local public health preparedness programs and healthcare-associated infection (HAI) control programs in their jurisdictions. Future collaborative efforts include:

- Developing common processes for management of persons under investigation
- Developing and sharing protocols for notification and response to cases of emerging or re-emerging, highly contagious diseases in healthcare facilities
- Identifying opportunities to develop and integrate uniform screening processes for high risk patients
- Fostering cross-discipline coordination and communication to improve infectious disease preparedness planning across the public health and healthcare systems

FY 2017 activities to improve informatics and health information technology focus largely on electronic death registration, CDC's National Syndromic Surveillance Program (previously known as BioSense), and disease surveillance enhancements. Steps include:

- Establishing requirements for state and local electronic death registration
- Sustaining and improving jurisdictional disease surveillance activities, including implementation of new case message mapping guides, electronic laboratory reporting, and electronic case reporting
- Improving syndromic surveillance systems and infrastructure
- Placing informatics field assignees (IFA) in state and local public health departments to enhance the informatics workforce and advance informatics and health information sharing technologies

Development of Outcome-Oriented Performance Measures

In FY 2014-2015, CDC successfully developed, piloted, and evaluated the next generation medical countermeasure evaluation tool for assessing state and local operational readiness. The medical countermeasure operational readiness review, or MCM ORR, process is designed to improve state and local operational capabilities, and identify gaps in their ability to effectively distribute and dispense medical countermeasures in a large-scale event. Following the FY 2014-2015 evaluation, CDC refined the MCM ORR data collection tool and, in FY 2016, will collect baseline data on MCM operational readiness for all 62 PHEP awardees and all Cities Readiness Initiative local planning jurisdictions to determine their operational readiness status. The MCM ORR defines a continuum of operational readiness within four phases of readiness: "Early," "Intermediate," "Established," and "Advanced." CDC's goal is for all 62 PHEP jurisdictions to have "Established" medical countermeasure programs by June 2022. The MCM ORR replaces the TAR (technical assistance review) as CDC transitions from assessing medical countermeasure planning to measuring medical countermeasure operational readiness. State and local operational readiness status will not be known until baseline data are collected and analyzed after FY 2016.

In FY 2017, public health departments will determine their jurisdictional priorities for public health preparedness capability sustainment through use of the HHS Capabilities Planning Guide, risk assessment tools, and opportunities for improvement identified through exercises, site visits, and performance measurement findings. In addition, PHEP awardees will address gaps in pandemic influenza operational readiness identified by CDC's pandemic influenza readiness assessment conducted in July 2015. CDC will develop specific guidance, targets, and targeted assistance designed to help awardees resolve identified gaps in any of seven priority pandemic preparedness planning areas:

- Vaccination planning
- Epidemiology and laboratory
- Medical care and countermeasures
- Healthcare systems
- Community mitigation
- Public information and communication
- State coordination

Public Health Emergency Preparedness (PHEP) Cooperative Agreements

Data from FY 2015 PHEP funding applications indicate that:

- Awardees planned to allocate approximately 33.5% of FY 2015 funding to local health agencies and tribal entities
- 40 awardees planned to allocate FY 2015 PHEP funds to local health agencies
- 22 awardees planned to allocate FY 2015 PHEP funds to tribal entities

Current CDC guidance requires awardees to review their preparedness status annually. This annual review identifies gaps and strategic priorities that require additional funding or CDC support to address, such as developing improvement strategies, providing best practices, identifying resources, and conducting training exercises. These reviews compile information from a variety of sources including:

- Jurisdictional risk assessments
- Incident after-action reports and improvement plans
- CDC site visit observations
- Other jurisdictional priorities and strategies

Collectively, this information allows state and local awardees to prioritize their preparedness investments, ensuring federal preparedness funds are invested effectively to strengthen preparedness and response systems nationwide, and to maximize public health impact.

Public Health Emergency Preparedness Awards (All PHEP awards combined)^{1,2,3}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	62	62	62	62	62	0
- New Awards	0	0	0	0	62	+62
- Continuing Awards	62	62	62	62	0	-62
Average Award	\$9.431	\$9.867	\$9.867	\$9.947	\$9.947	\$0.000
Range of Awards	\$0.323- \$39.704	\$0.325- \$42.354	\$0.324- \$42.364	\$0.324- \$42.990	\$0.324- \$42.990	N/A
Total Awards	\$584.697	\$611.750	\$611.750	\$616.750	\$616.750	\$0

¹Individual awardee funding levels may change depending on programmatic decisions made when calculating funding for the Cities Readiness Initiative, LRN-C Level 1 funding, and other programs funded through the PHEP cooperative agreement.

²FY 2016 and FY 2017 estimates are based on currently anticipated funding. Recalculations may be necessary based on additional strategic planning for future years.

³These funds are awarded by formula.

CDC PHEP awards encompass three areas: Base-plus population funding, Cities Readiness Initiative (CRI), and Level 1 Laboratory Response Network Chemical Laboratories (LRN-C).

PHEP Award Areas

Funding	Activity
Base	Funding to 62 public health awardees (50 states, 8 territories, and 4 directly funded localities) to improve jurisdictional preparedness capability according to 15 nationally recognized standards contained within Public Health Preparedness Capabilities: National Standards for State and Local Planning . ⁴⁴¹
Cities Readiness Initiative (CRI)	Funding to build and sustain medical countermeasure dispensing and distribution capability for 72 high-population metropolitan statistical areas deemed at greater risk for public health threats and containing nearly 60% of the population of the United States.
Laboratory Response Network Level 1 Chemical Laboratories (LRN-C)	Funding for 10 Level 1 (most advanced) chemical laboratories that function as surge capacity laboratories for CDC and are capable of rapidly detecting and characterizing chemical threat agents.

PHEP Base

PHEP base funding is intended to:

- Strengthen the day-to-day public health capabilities necessary for emergency response, including epidemiology, surveillance, laboratory testing, and risk communication
- Build sufficient surge capacity to meet jurisdictional response needs

⁴⁴¹ http://www.cdc.gov/phpr/capabilities/DSLR_capabilities_July.pdf

- Build a public health emergency management and response program capable of responding to public health events and emergencies

As mandated by Section 319C-1 of the Public Health Service (PHS) Act, CDC allocates funding to 62 awardees according to a base-plus-population formula, which includes a guaranteed minimum amount. In FY 2017, CDC PHEP base funding supports preparedness activities targeted specifically to support the [National Response Framework \(NRF\)](#),⁴⁴² which guides how the nation responds to infectious disease outbreaks; natural disasters; biological, chemical, and radiological incidents; and acts of terrorism, and specific preparedness goals of the [Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 \(PAHPRA\)](#). These goals include:

- Integrating public health and public and private medical capabilities with other first responder systems
- Developing and sustaining federal, state, local, and tribal essential public health security capabilities
- Planning for the public health and medical needs of at-risk individuals, including the unique needs and considerations of individuals with disabilities, in the event of a public health emergency
- Minimizing duplication of, and ensuring coordination between, federal, state, local, and tribal planning, preparedness, and response activities
- Maintaining vital public health and medical services to allow for optimal federal, state, local, and tribal operations in the event of a public health emergency

PHEP awardees allocate base funding to support:

- Laboratorians, epidemiologists, and other preparedness staff
- Redundant (more resilient) communication systems and agile, interoperable information technology systems
- Coordinated regional training and preparedness exercise programs
- Development and sustainment of public health preparedness capabilities
- Disease monitoring and laboratory testing systems
- Development of all-hazards response plans
- Information sharing protocols and risk communication messages
- Systems to store, distribute, and dispense lifesaving medications to the public

The program demonstrates increased preparedness using performance measures and related evaluation and assessment data, as well as evidence-based benchmarks. CDC also aligned all preparedness standards with the Public Health Accreditation Board (PHAB), ensuring that funds invested in achieving the [Public Health Preparedness Capabilities: National Standards for State and Local Planning](#) support PHAB preparedness-related standards. In FY 2015, CDC provided technical guidance and programmatic support to states interested in pursuing accreditation. FY 2016 and 2017 guidance to PHEP awardees will include CDC's standard language regarding accreditation, which allows awardees to work with CDC to determine how award funds can support appropriate accreditation activities while still meeting the objectives of the award.

⁴⁴² http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf

Public Health Emergency Preparedness Awards (Base Funding Subtotal) ^{1,2,3,4}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	62	62	62	62	62	0
- New Awards	0	0	0	0	62	+62
- Continuing Awards	62	62	62	62	0	-62
Average Award	\$8.444	\$8.842	\$8.821	\$8.902	\$8.902	\$0
Range of Awards	\$0.323-	\$0.325-	\$0.324-	\$0.325-	\$0.325-	
	\$39.704	\$36.934	\$35.999	\$36.438	\$36.438	N/A
Total Awards	\$523.510	\$548.182	\$546.941	\$551.941	\$551.941	\$0

¹Individual awardee funding levels may change depending on programmatic decisions made when calculating funding for the Cities Readiness Initiative, LRN-C Level 1 funding, and other programs funded through the PHEP cooperative agreement.

²These amounts are included in 'All PHEP awards combined' award table.

³FY 2016 and FY 2017 estimates are based on currently anticipated funding. Recalculations may be necessary based on additional strategic planning for future years.

⁴These funds are awarded by formula.

Cities Readiness Initiative (CRI)

The Cities Readiness Initiative (CRI) supports local medical countermeasure (MCM) distribution and dispensing planning in the nation's 72 largest metropolitan statistical areas (MSA), which contain nearly 60% of the U.S. population. This capability for large metropolitan public health departments to respond to a large-scale event requiring distribution and dispensing of MCMs is essential, and CDC prioritizes this PHEP funding allocation. CDC will fund MSAs in all 50 states using a population-based formula to strengthen their ability to quickly and effectively distribute and dispense MCMs from the Strategic National Stockpile in response to emergencies.

Public Health Emergency Preparedness Awards (CRI Subtotal) ^{1,2,3,4}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	54	54	54	54	54	0
- New Awards	0	0	0	0	54	+54
- Continuing Awards	54	54	54	54	0	-54
Average Award	\$0.942	\$0.986	\$0.986	\$0.986	\$0.986	\$0.000
Range of Awards	\$0.170-	\$0.170-	\$0.169-	\$0.167-	\$0.167-	
	\$5.159	\$5.368	\$5.368	\$5.368	\$5.368	N/A
Total Awards	\$50.842	\$53.222	\$53.222	\$53.222	\$53.222	\$0.000

¹Individual awardee funding levels may change depending on programmatic decisions made when calculating funding for the Cities Readiness Initiative, LRN-C Level 1 funding, and other programs funded through the PHEP cooperative agreement.

²These amounts are included in 'All PHEP awards combined' award table.

³FY 2016 and FY2017 estimates are based on currently anticipated funding. Recalculations may be necessary based on additional strategic planning for future years.

⁴These funds are awarded by formula.

Laboratory Response Network Level 1 Chemical Laboratories (LRN-C)

The Laboratory Response Network (LRN) (Laboratory Response Network-Biological [LRN-B] and Laboratory Response Network-Chemical [LRN-C]) is a coordinated network of public health and other laboratories that provide timely, reliable laboratory tests on biological and chemical threats—whether natural, intentional, or unintentional. Public health officials use results from LRN tests to make critical decisions that protect the public from harm. LRN-C laboratories are designated Level 1, 2, or 3 depending on laboratory capabilities.

LRN-B and LRN-C laboratories are both supported by base funding; however, CDC reserves a specific amount of funding to support the specialized equipment, reagents, and methodologies required for surge capacity testing in the most advanced LRN-C labs.

LRN-C Laboratory Capabilities

Designation	Capabilities
Level 1	These laboratories, which serve as surge-capacity laboratories for CDC, are able to detect not only the toxic chemical agents that Level 2 laboratories can detect but also can detect exposure to an expanded number of chemicals, including mustard agents, nerve agents, and other toxic industrial chemicals.
Level 2	Chemists in these laboratories are trained to detect exposure to toxic chemical agents. Analysis of cyanide, nerve agents, and toxic metals in human samples are examples of Level 2 activities.
Level 3	These laboratories work with hospitals and other first responders within their jurisdictions to maintain competency in clinical specimen collection, storage, and shipment.

In FY 2017, the PHEP cooperative agreement will directly fund 10 Level 1 LRN-C laboratories that will improve states' ability to detect and respond to toxic chemical agents, including mustard agents, nerve agents, and other dangerous industrial chemicals. With this support, states allocate funding to staff and equip laboratories; maintain critical instrumentation; train staff and conduct proficiency testing; and support participation in local, state, and national exercises. Level-1 chemical laboratories serve as a resource for other local and state laboratories and provide national surge capacity for CDC during major public health security incidents.

Public Health Emergency Preparedness Awards (LRN-C Subtotal)^{1,2,3,4}

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	10	10	10	10	10	0
- New Awards	0	0	0	0	10	+10
- Continuing Awards	10	10	10	10	0	-10
Average Award	\$1.035	\$1.035	\$1.159	\$1.159	\$1.159	\$0.000
Range of Awards	\$0.808-	\$0.808-	\$1.603-\$1.445	\$0.932-\$1.445	\$0.932-\$1.445	N/A
Total Awards	\$10.345	\$10.345	\$11.586	\$11.586	\$11.586	\$0.000

¹Individual awardee funding levels may change depending on programmatic decisions made when calculating funding for the Cities Readiness Initiative, LRN-C Level 1 funding, and other programs funded through the PHEP cooperative agreement.

²These amounts are included in 'All PHEP awards combined' award table.

³FY 2016 and FY 2017 estimates are based on currently anticipated funding. Recalculations may be necessary based on additional strategic planning for future years.

⁴These funds are awarded by formula.

PHEP Highlights

Jurisdiction	Highlight
Georgia, Massachusetts, and Indiana	PHEP programs in Georgia, Massachusetts, and Indiana supported domestic contact investigations of individuals potentially exposed to the Middle East Respiratory Syndrome Corona Virus (MERS-CoV) while traveling on international and domestic commercial aircrafts. These state health departments, in partnership with CDC, followed

Jurisdiction	Highlight
Indiana	<p>up with approximately 265 passengers who had contact with the first two imported cases of MERS-CoV to ensure that further transmission had not occurred.</p>
Montana	<p>In February 2015, Indiana activated its emergency operations center to investigate and respond to an outbreak of HIV and hepatitis C infections in a rural county. Previous planning and exercising required by the PHEP cooperative agreement enabled the state health department to rapidly establish an Incident Command System (ICS) structure to support the Indiana HIV outbreak response. The state used its Emergency Management Assistance Compact (EMAC) mutual aid agreements to bring disease intervention specialists from other states to help support the investigation. The ICS structure also facilitated involvement of other state agencies to address transportation needs, Medicaid issues, and other healthcare concerns. The awardee is leveraging PHEP direct assistance resources to request a Career Epidemiology Field Officer to provide epidemiological expertise for HIV and other infectious diseases and support the health department's routine and emergency preparedness needs.</p>
Montana	<p>Obtaining accurate information in a timely manner is essential for public health authorities to respond effectively following public health emergencies. CDC's community assessment for public health emergency response (CASPER) tool is designed to provide decision-makers with representative information about a population in a defined geographical area in less than 48 hours following a public health emergency. Recognizing the importance of having the CASPER available as a tool in Montana, the Montana Career Epidemiology Career Officer (CEFO) worked with CDC, state, and county personnel to develop the state's first CASPER as a demonstration and exercise. The CASPER was performed in a frontier community affected by a rapid population expansion associated with the oil and natural gas industries. In less than 48 hours, the CEFO led a team of five staff and 20 volunteers in the collection, analysis, and reporting of household-based data representative of 9,200 persons. The data was used to determine the health status and basic needs of the community which allows public health and emergency managers to prioritize their responses and to make informed planning decisions regarding the distribution of resources. Performing a CASPER in a frontier county allowed Montana to better understand how to modify the CASPER for use in sparsely populated areas, becoming a model for rural and frontier states with similar demographics.</p>
Texas	<p>The first confirmed case of Ebola in the United States was in Dallas County, Texas. The Texas Department of State Health Services responded by establishing state and county emergency planners partnerships, implementing an emergency medical services transportation plan for known or suspected Ebola patients, and training 160 healthcare workers on personal protective equipment use and infection control practices appropriate for caring for Ebola patients.</p>
West Virginia	<p>In February 2015, a CSX train carrying approximately three million gallons of Bakken crude oil derailed in West Virginia, leaking oil onto the banks of the Kanawha River and Armstrong Creek and causing fires, explosions, and potentially contaminating the area's primary water source. PHEP funds directly contributed to the response, with 10 PHEP-funded public health staff members responding to the emergency and PHEP-funded laboratory services IT, communications, and emergency operations infrastructure supporting response operations. This included the staffing and instrumentation used to conduct lab testing; the Public Health Alert System to notify response staff and share critical information with response partners and affected residents, hospital patients, and staff; and the Health Command Operations Center and equipment. This PHEP-supported public health emergency management structure enabled the health department to manage the response effectively and to provide the 2,000 affected residents with clean</p>

Jurisdiction	Highlight
	alternative sources of water and information needed to appropriately treat the water once the water system was restarted.

PHEP Budget Allocation by Public Health Preparedness Capability

Capability-specific allocations do not account for total CDC funding. PHEP awardees can allocate their annual budgets to capability-specific activities, program administration, and subawardee contracts to local health departments, tribal entities, and other subrecipients. The following table includes capability-specific allocations per fiscal year.

Funding Allocated by Public Health Preparedness Capability by Fiscal Year

Public Health Preparedness Capability	FY 2013	FY 2014	FY 2015
Public Health Laboratory Testing	66,249,638	71,228,049	73,114,182
Public Health Surveillance and Epidemiological Investigation	68,985,849	66,935,288	68,269,438
Community Preparedness	44,908,249	52,853,498	46,230,324
Information Sharing	23,873,410	27,601,382	28,594,958
Emergency Operations Center	27,264,021	28,760,485	26,860,090
Medical Countermeasure Dispensing	29,101,061	24,849,442	23,478,461
Medical Materiel Management and Distribution	17,215,181	18,368,433	17,360,695
Emergency Public Information & Warning	15,043,586	12,169,644	10,979,823
Volunteer Management	5,918,474	10,286,199	9,484,944
Community Recovery	5,676,472	7,288,844	5,813,960
Mass Care	5,004,276	5,202,875	5,173,483
Responder Safety and Health	4,369,358	5,116,396	4,605,484
Medical Surge	7,261,673	6,101,742	3,857,873
Non-Pharmaceutical Interventions	2,115,461	3,165,000	3,264,890
Fatality Management	1,962,461	4,172,050	2,655,263
Total Amount Allocated By Budget Period	\$324,949,170	\$344,099,327	\$329,743,868
Program Administration and Subawardee Contracts	\$260,050,830	\$267,650,673	\$282,006,132
Total PHEP Award	\$585,000,000	\$611,750,000	\$611,750,000

CDC funding is intended to support activities designed to build and sustain the 15 public health preparedness capabilities. ASPR's healthcare preparedness capabilities and CDC's public health preparedness capabilities have complementary content but clearly describe how each discipline—public health and healthcare systems—contributes expertise to the capabilities. Each set of capabilities targets a different sector—the public health system and the healthcare system. Public health and healthcare systems have complementary yet unique characteristics, and both have specific preparedness and response roles. The HHS capabilities are intentionally designed to work in concert to assure a more coordinated, seamless emergency response and to promote safer, more resilient communities.

Released in March 2011, CDC's [Public Health Preparedness Capabilities: National Standards for State and Local Planning](#),⁴⁴³ is designed to help state and local planners identify gaps in public health preparedness, determine specific jurisdictional priorities, and develop plans for building and sustaining public health capabilities. Each of

⁴⁴³ http://www.cdc.gov/phpr/capabilities/dsir_capabilities_july.pdf

the 15 public health preparedness capabilities includes a definition of the capability and outlines the associated functions, tasks, and resource considerations for achieving the capability.

In developing their budgets, PHEP awardees must ensure their activities and associated budget justifications are allowable under the PHEP program; are reasonable and consistent with public health and preparedness program capabilities; and are consistent with stated objectives and planned program activities. While the HPP and PHEP programs are aligned and complementary, activities and their respective costs are not interchangeable. All costs must meet the criteria specified in the appropriate cost principles as necessary and reasonable for proper and efficient performance and administration of the PHEP or HPP program components.

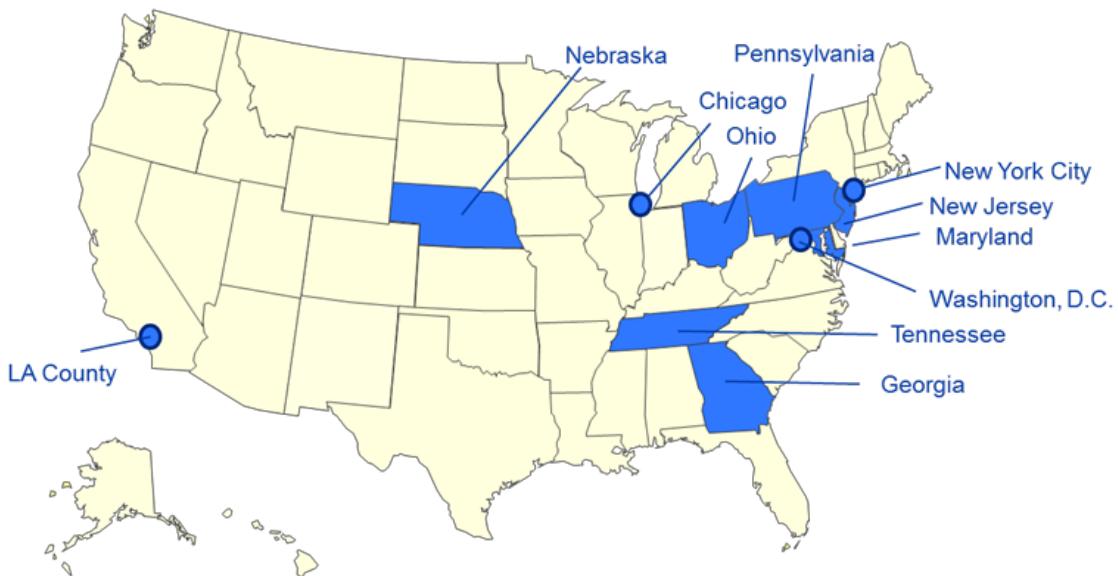
State and Local Ebola Preparedness and Response

CDC effectively coordinated state and local Ebola preparedness and response activities funded through the FY 2015 Ebola funds appropriated through the short-term continuing resolution and through Ebola Emergency Funding. In addition, CDC's State Coordination Task Force, worked closely with national public health partner organizations and state, local, and territorial public health systems to:

- Coordinate bidirectional communication and obtain situational information from the field
- Provide issues management to resolve potential barriers to response
- Conduct daily communication with senior leaders at partner organizations and facilitate national calls to provide response updates and discuss relevant response issues

In addition, CDC awarded \$165 million in Ebola emergency funding to strengthen state and local Ebola planning and response. Furthermore, CDC will strengthen state and local epidemiologic capacity for preparedness and response through the placement of 11 temporary epidemiology field assignee (TEFA) positions around the United States supported by Ebola funding for up to two years. TEFAs began their assignments in October 2015 and January 2016. TEFA placements include:

CDC Temporary Epidemiology Field Assignees Placements as of December 2015



TEFA positions will be based in a state or a large local health department and will provide regional support as needed. TEFAs will provide support to state and local health departments for:

- Active monitoring contact, data collection, data analysis, and reporting

- Evaluation and management of persons under investigation
- Planning for and conducting surveillance, contact tracing, and epidemiologic investigations
- Health systems preparation, including transport services, hospital preparedness, and infection prevention
- Incident management
- Health communications

Ebola Response Highlights

Ebola Active/Direct Active Monitoring

From October 2014 through September 2015, PHEP awardees actively monitored more than 26,000 travelers returning from countries in West Africa affected with widespread Ebola cases. This entails daily monitoring for a 21-day period for every at-risk traveler. CDC resources and guidance enabled the establishment of active monitoring procedures within 10 days of the decision to establish a daily monitoring system, resulting in active/direct monitoring of more than 26,000 travelers.

Tiered Healthcare System Approach to Ebola Response

As a result of CDC resources and guidance, PHEP awardees established a tiered healthcare system approach and jurisdictional healthcare response plans, including selecting hospitals to serve as Ebola treatment centers, assessment hospitals, and frontline hospitals.

PHEP awardees developed a system to ensure that travelers to the United States from countries with widespread Ebola transmission were appropriately monitored, triaged, and, if necessary, treated. PHEP awardees ensured public health planning and guidance were integrated with the ASPR Hospital Preparedness Program guidance and that public health surveillance, monitoring, patient referral, and infection control activities clearly and consistently aligned with the jurisdictional healthcare response plans. PHEP awardees selected hospitals to serve as Ebola treatment centers, assessment hospitals, and frontline hospitals which led to the establishment of more than 600 Ebola assessment hospitals and 55 Ebola treatment centers.

Specific PHEP activities included:

- Effectively monitoring and managing persons under investigation (PUIs) or patients confirmed with Ebola
- Ensuring laboratory testing could be quickly, safely, and accurately performed on suspected Ebola specimens to rule out or confirm the presence of Ebola
- Developing information sharing protocols for screening of travelers at major airports and for rapid and appropriate public health actions (e.g., controlled movement, isolation, quarantine, or public health orders)
- Ensuring personnel are properly trained on personal protective equipment (PPE) and the handling of contaminated waste and human remains
- Developing messages, plans, and notification systems to share information and risk communication messages with relevant response partners and the public
- Partnering with the healthcare system to assess the jurisdiction's training needs, providing materials, and facilitating training designed to improve the public health and healthcare response to Ebola and other infectious diseases

CDC Preparedness and Response Capability Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017	FY 2017 +/- FY 2016
Budget Authority	\$157.166	\$161.800	\$167.166		+\$5.366

Overview

CDC's Preparedness and Response Capability supports critical infrastructure and research to facilitate prevention of and rapid response to public health emergencies by:

- Directing public health response efforts
- Detecting sources of disease outbreaks and food-borne illnesses
- Developing tests to rapidly detect biological, chemical, and radiological agents
- Regulating laboratories handling the most dangerous infectious agents and toxins
- Developing risk and emergency communication strategies
- Conducting health hazard evaluations and assesses threats from hazardous substances
- Creating emergency response plans
- Developing and maintaining secure information technology systems that monitor potential threats
- Managing deployments for CDC responders both domestic and internationally

Budget Request

CDC's FY 2017 request of **\$167,166,000** for CDC Preparedness and Response Capability is \$5,366,000 above the FY 2016 Enacted level. In FY 2016, the Select Agent Program received an estimated \$21.539 million, not including Working Capital Fund expenses and other associated costs. This increase for the Federal Select Agent Program will allow for improved training of inspectors, increased frequency and number of inspections, and increased assistance to registered entities to prevent accidental or intentional release of select agents.

At this level, CDC will support:

- Systems for regulation and oversight of select agents and toxins
- Emergency Management Program (including CDC's EOC)
- Laboratory Response Network
- Preparedness research agenda
- National Syndromic Surveillance Program (BioSense)

Regulation of Biological Agents and Toxins

The CDC Select Agent Program regulates⁴⁴⁴ laboratories that use and share select agents and toxins that have the potential to threaten human health and safety. To accomplish this mission, CDC oversees the [Federal Select Agent Program \(FSAP\)](#)⁴⁴⁵ and the [Import Permit Program \(IPP\)](#).⁴⁴⁶ CDC partners with USDA and FBI to administer the full scope of work included in the FSAP. Through these programs, CDC:

- Develops, implements, and enforces the select agent regulations to ensure that research with select agents and toxins, which does come with inherent risks, is conducted as safely and securely as possible

⁴⁴⁴ 7 CFR Part 331, 9 CFR 121, and 42 CFR part 73

⁴⁴⁵ <http://www.selectagents.gov/>

⁴⁴⁶ <http://www.cdc.gov/od/eaipp/index.htm>

- Issues import permits required for the importation of infectious biological agents, infectious substances, and vectors of human disease into the United States that support the research and development of diagnostics and therapeutics as well as the understanding of the larger threats posed
- Maintains a national database to ensure that the U.S. government has full awareness of select agents and toxins being used for research
- Conducts [inspections](#) and [registration](#) for facilities that work with select agents and toxins to make certain they have the appropriate measures in place to prevent the unauthorized access, theft, loss, or release of select agents
- Ensures all individuals who work with select agents and toxins undergo a security risk assessment performed by the FBI to certify a level of protection suitable for work with select agents and toxins
- Investigates inspection findings of thefts, losses, releases, and incidents and takes enforcement actions commensurate with the violation
- Ensures the correction of deficiencies in biosafety and biosecurity measures among facilities to accomplish increasing compliance with regulations

Over the past two years, several incidents involving select agents highlight the need for enhanced measures to prevent, investigate, and mitigate release of select agents (July 2014—Anthrax; December 2014—Burkholderia pseudomallei; December 2014—Ebola; May 2015—Anthrax).

As a national leader in promoting the safe and secure use of dangerous biological agents and toxins, CDC continues to improve upon its work in providing guidance and oversight to laboratories working with select agents and toxins. In July 2015, a workgroup of CDC experts took a deeper look at how the agency inspects select agent facilities in a [90-day review](#)⁴⁴⁷ of the areas of the Federal Select Agent Program overseen by CDC. In conducting this review, the workgroup made recommendations in the areas of inspections, incident reporting, and transparency and public understanding.

In FY 2017, CDC proposes an increase of \$5.4 million above the FY 2016 Enacted level to continue to upgrade CDC's Select Agent Program and to specifically implement the highest priority recommendations from the 90-day review, including upgrading and enhancing systems to improve analysis of inspection findings and increasing and improving inspections.

Currently, CDC uses two databases for tracking select agents and toxins and for permitting infectious biological agents, infectious substances, and vectors that can cause human disease. With the proposed increase, both databases will undergo crucial upgrades. The National

Select Agent Registry (NSAR) is a joint national database used by the Federal Select Agent Program that contains information collected at the time of registration regarding the status of facilities working with select agents and toxins. This information includes the select agent and toxins at each facility, individuals approved to work on select agents, as well as information from inspections and from incidents reported by facilities.

CDC's Import Permit database maintains critical information on permits issued to import infectious biological agents, infectious substances, and vectors of human disease into the United States. In FY 2016, CDC implemented upgrades to the import permit system to allow for integration with the International Trade Data System as required by the [SAFE Port Act of 2006](#) and will also facilitate critical biomedical research by removing administrative delays at the borders. The final upgrades to NSAR and the Import Permit database, to be completed in FY 2017, will improve program efficiency and

Controlling Access to Select Agents and Toxins

In the past 10 years, the CDC Select Agent Program performed 2,072 laboratory inspections and restricted 338 persons from accessing select agents and toxins. There have been zero thefts of these potentially dangerous biological agents.

⁴⁴⁷ <http://www.cdc.gov/phpr/dsat/full-report.htm>

provide more up to date information by allowing the regulated community to conduct transactions electronically via a single web portal. The system will also enable the regulated entity to communicate in a digitally secured environment using a single web portal and will provide a platform for electronic exchange of information.

FY 2016 and FY 2017 Activities

FY 2016 Activities	<ul style="list-style-type: none"> • Import Permit and NSAR database upgrades to improve program efficiency • Complete up to 300 registered entity inspections
FY 2017 Activities	<ul style="list-style-type: none"> • Complete systems upgrades to enhance communication among regulated entities • Double the number of Import Permit Program inspections (90) • Enhance the inspector training program • Expand CDC assistance to registered entities • Enhance outreach and communications to regulated entities, internal staff, federal stakeholders, and the public

With the proposed increase, CDC will enhance the current inspector training program and conduct more inspections. The requested funding level will allow CDC to perform approximately 295 inspections of registered entities and 90 Import Permit Program inspections in 2017, doubling the number of Import Permit Program inspections completed in 2016 and performing more than 100 inspections total than in 2015. With an enhanced inspector training program, CDC will provide more innovative science-based interactive biosafety and security training. These enhancements will also be used for external training to federal interagency working group partners. This will provide the extramural inspectors with the same knowledge, skills, and experience as the CDC Select Agent Program inspectors.

Inspections by CDC's Select Agent Program

	Select Agent Inspections	Import Permit Inspections
CY15 ¹	243	38
CY16 ¹	295	45
CY17 ¹	295	90

¹ Estimated

Additionally, the proposed increase will be used to expand CDC assistance to registered entities in advance of natural disasters or national events to ensure that all select agents are properly secured to protect them from theft, loss, or release. Requested funds will also allow CDC to enhance outreach and communication programs to regulated entities, internal staff, federal stakeholders, and the public.

Emergency Management Program

CDC's Emergency Management Program (EMP) ensures better coordination of experts responding to small outbreaks and large-scale public health emergencies. Public health emergencies demand immediate attention. It is critical to continually improve processes and procedures so that they can be implemented anytime to ensure public health, medical, and emergency management expertise are available to respond quickly to any public

health emergency. In 2013, CDC became the first federal agency to earn full accreditation of its EMP by the [Emergency Management Accreditation Program \(EMAP\)](#).⁴⁴⁸

CDC is committed to the following goals in FY 2017:

- Provide public health and medical expertise for an estimated 20,000 inquiries from hospitals, health departments, federal and international agencies, other countries, airlines, cruise ships, and the general public
- Support global health security by providing fellowship opportunities and emergency management technical assistance that develop the emergency management capacity of international partners
- Sustain professional credentialing from EMAP

CDC's approach to public health preparedness, response, and recovery is rooted in scientific evidence. CDC will study factors that lead to rapid, complete community recovery following disasters to determine if specific policies or interventions contribute to better physical and mental health outcomes. CDC will examine responder organizations to see which factors aid in, or detract from, a coordinated response across the public health system.

In response to 9/11 and subsequent anthrax attacks, CDC's EMP established the Emergency Operations Center (EOC) as its response hub in 2003. Since inception, CDC used [National Incident Management System](#)⁴⁴⁹ principles for the agency's Incident Management System and has activated more than 50 times with a centralized response in the EOC for numerous incidents and events like the Polio Eradication efforts, and most recently:

Incident	Highlights
Ebola (July 2014–Present)	During the first 500 days of the Ebola response, CDC staff triaged 9,611 Ebola-related phone calls, tracked 9,844 tasks, recruited and assigned functional roles to 3,944 participants, produced 125 situational reports, deployed 1,949 staff domestically and internationally, and assured the accuracy of 485 scientific documents. CDC also processed more than 50 mapping and graphing product requests, critical to applying information and resources needed to stay updated and save lives.
Department of Defense (DOD) Sample Investigation (May–June 2015)	During activation, approximately 110 CDC staff members provided scientific, technical, and programmatic leadership and other support functions for the DOD Sample Investigation.

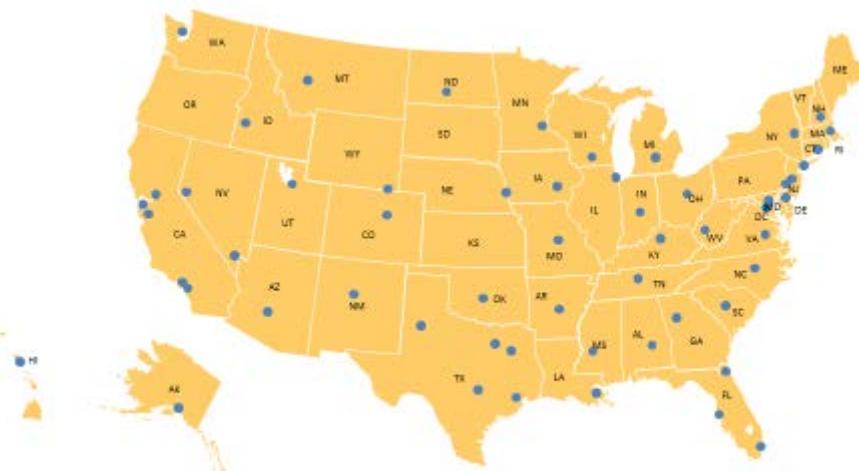
Laboratory Response Network Assay Development and Proficiency Testing

To support the Laboratory Response Network (LRN), CDC provides standard assays and protocols, training, and quality assurance for testing biological and chemical threat agents. In FY 2017, CDC will improve detection of Tularemia and Plague by developing improved assays for use by the LRN. In addition, CDC will complete a FDA submission for a new assay for the detection of *Rickettsia* species (parasite that causes typhus, Rocky Mountain spotted fever, and other tick-, flea-, and lice-borne diseases).

⁴⁴⁸ <http://www.emaponline.org>

⁴⁴⁹ <http://www.fema.gov/national-incident-management-system>

LRN Labs Capable of Testing for Ebola on November 1, 2015



In response to the West Africa Ebola outbreak, CDC collaborated with the Department of Defense (DOD) to equip select LRN laboratories around the United States with the ability to quickly and accurately test specimens for the outbreak strain of Ebola virus. Prior to the current outbreak only two LRN National laboratories were capable of performing an Ebola test: the DOD United States Army Medical Research Institute of Infectious Diseases and CDC. By November 1, 2015, 57 LRN public health laboratories (PHLs) completed proficiency testing with the DOD Ebola assay. Also in November 2015, CDC deployed the CDC real-time Polymerase chain reaction (PCR) assays that contained an additional target for improved sensitivity to the 57 LRN laboratories. CDC continues to assure that LRN laboratories can handle Ebola specimens.

National Syndromic Surveillance Program

CDC's [National Syndromic Surveillance Program](#) (NSSP)⁴⁵⁰ promotes and advances development of a syndromic surveillance system for the timely exchange of syndromic data. These data are used to improve nationwide situational awareness and enhance responsiveness to hazardous events and disease outbreaks to protect America's health, safety, and security. NSSP is an evolution of the BioSense program that moves the focus from a software solution to one that supports all aspects of syndromic surveillance needed to achieve mandates outlined in legislation for an integrated system of public health surveillance.

NSSP functions through collaboration among individuals and organizations at local, state, and federal levels of public health; federal agencies including the U.S. Department of Defense and the U.S. Department of Veterans Affairs; public health partner organizations; and hospitals and health professionals. NSSP features include access to and use of the cloud-based BioSense Platform, a secure integrated electronic health information system with standardized analytic tools and processes. These tools enable users to rapidly collect, evaluate, share, and store syndromic surveillance data. By using the BioSense Platform, health officials can analyze syndromic data to improve their common awareness of health threats over time and across regional boundaries. NSSP also promotes a Community of Practice in which participants collaborate to advance the science and practice of syndromic surveillance. The NSSP Community of Practice includes CDC-funded awardees, non-funded states and jurisdictions that contribute data to the BioSense Platform, public health practitioners who use local syndromic surveillance systems, CDC programs, other federal agencies, partner organizations, hospitals, healthcare professionals, and academic institutions. The tools hosted on the BioSense Platform also increase the capacity of state and local health departments to support the Centers for Medicare and Medicaid Services' Meaningful Use

⁴⁵⁰<http://www.cdc.gov/nssp/index.html>

program, which is intended to expand the use of electronic health records. The BioSense Platform provides health departments with a common electronic platform for collecting, storing, and sharing syndromic surveillance⁴⁵¹ data.

Enhancing syndromic surveillance use is one of four major initiatives developed in CDC's Surveillance Strategy to improve overall surveillance operations. NSSP formalizes the BioSense Enhancement Initiative by:

- Supporting timely exchange of syndromic data and information for nationwide and regional situational awareness and enhanced response to hazardous events and disease outbreaks
- Improving the functioning of the BioSense platform
- Strengthening the National Syndromic Surveillance Community of Practice
- Improving the quality, representativeness, and use of the data

In 2015, CDC awarded a new NSSP cooperative agreement funding up to 31 state and local health departments. The cooperative agreement builds capacity for syndromic surveillance and improves local, state, regional, and national situational-awareness.¹

NSSP Awards ¹

(dollars in millions)	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Enacted	FY 2017 PB	FY 2017 +/- FY 2016
Number of Awards	34	34	31	31	31	0
- New Awards	0	0	31	0	0	0
- Continuing Awards	34	34	0	31	31	0
Average Award	\$0.196	\$0.196	\$0.211	\$0.211	\$0.211	\$0.000
Range of Awards	\$0.100-	\$0.118-	\$0.105–	\$0.105–	\$0.105–	
	\$0.275	\$0.260	\$0.282	\$0.282	\$0.282	N/A
Total Awards	\$6.738	\$6.695	\$6.564	\$6.564	\$6.564	\$0.000

¹These funds are not awarded by formula.

CDC's 2014 assessment of this measure determined that a baseline of 45% of ED visits across the nation were captured through the reporting process. In FY 2015 that measure increased to 47%. For FY 2016, the NSSP has set a target of receiving syndromic surveillance data from 55% of the nation's ED visits using improved collection processes implemented in late 2015 and prioritizing the on boarding of ED facilities. In FY 2017, NSSP will set a target of receiving syndromic surveillance data from 65% of the nation's emergency department (ED) visits. CDC will also explore inclusion of additional data sources in the NSSP Platform, such as ambulatory care, laboratory, and pharmacy data.

⁴⁵¹ <http://www.cdc.gov/ehrmeaningfuluse/Syndromic.html>

Strategic National Stockpile Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/ FY 2016
Budget Authority	\$534.343	\$575.000	\$575.000	\$0.000

Overview

CDC's [Strategic National Stockpile \(SNS\)](#)⁴⁵² manages and delivers life-saving medical countermeasures (MCMs) during a public health emergency. It is the largest federally owned repository of pharmaceuticals, critical medical supplies, [Federal Medical Stations \(FMS\)](#),⁴⁵³ and medical equipment available for rapid delivery to support federal, state, and local response to health security threats. If a biological, chemical, radiological, or nuclear event occurred on United States' soil tomorrow, the SNS is the only federal resource readily available to respond once state and local MCM supplies are depleted.

A Sizable Asset for Preparedness

CDC's medical countermeasures are held in large, strategically placed warehouses across the country and fill more than 133,995 pallets. Laid flat, these pallets would cover more than 31 football fields, or 41 acres of land. Included in that expanse of product is enough vaccine to protect every single American from smallpox, just one of the many threats addressed by the critical medicines and medical supplies in the SNS.

Budget Request

CDC's FY 2017 request of **\$575,000,000** for the SNS is level with the FY 2016 Enacted level. At this level, CDC will not be able to replace all SNS countermeasures scheduled to expire in FY 2017. Through collaboration and participation in the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE), CDC will continue to align SNS holdings and procurement plans with the recommended PHEMCE strategy. Should PHEMCE requirements change (including the addition of new medical countermeasures in development) or the commercial pricing for required MCMs increase sufficiently to impact SNS capability, then CDC will coordinate with PHEMCE to develop strategies to meet PHEMCE guidance with available funding.

Strategic procurement and stockpiling of MCMs are necessary to protect Americans' health and save lives. Some MCMs are not commercially available due to small supplies and limited use. Additionally, U.S. pharmaceutical supply chains run on a just-in-time model, often containing no more than a 30-day supply of pharmaceuticals under normal conditions. As a result, commercially available products may not exist in necessary quantities or be positioned in ways that allow rapid distribution and use during public health emergencies. For some threats, such as anthrax and botulism, CDC holds the primary supply of scarce MCMs necessary for effective treatment. The rapid delivery of MCMs from CDC in support of small scale exposures to these threats provides local clinicians with the resources required to provide potentially lifesaving care to their patients and tests CDC's ability to implement response capabilities for large scale public health emergencies.

CDC ensures SNS assets are available and ready for use by:

- Procuring, storing, maintaining, and replacing MCM assets, valued in excess of \$6.5 billion
- Supporting PHEMCE with subject matter expertise and data to inform strategic MCM requirements and procurement decisions

⁴⁵²<http://www.cdc.gov/phpr/stockpile/stockpile.htm>

⁴⁵³<http://blogs.cdc.gov/cdcworksforyou/2012/11/up-and-running-in-48-hours-how-federal-medical-stations-help-people-after-natural-disasters-like-hurricane-sandy/>

- Providing guidance, training, exercise support, and assistance to state and local partners who will receive and utilize MCMs in an emergency response
- Establishing and strengthening public-private partnerships to integrate private resources into public health response plans for a fully functioning supply chain for delivery of critical MCMs
- Fostering dialog and developing guidance and tools⁴⁵⁴ for the integration of healthcare partners into public health response planning
- Providing timely, accurate, and relevant information to clinicians to respond to emerging threats and public health emergencies

At the FY 2016 Enacted level, CDC will replace the majority of expiring SNS countermeasures, although changes in current projections for product replacement requirements and costs indicate CDC will not be able to maintain all current capabilities. Products held in the SNS for use against Anthrax and other biological threats, including anthrax vaccine and certain antibiotic products will be procured at a reduced level, as recommended in the 2014 SNS Annual Review Report. Level funding in FY 2017 will allow CDC to sustain most expiring SNS products through replacement. CDC will coordinate with PHEMCE to develop strategies to meet national priorities in the 2014 SNS Annual Review with available funding.

CDC collaborates with PHEMCE to prioritize and adjust the SNS formulary based on current threats and funding. PHEMCE is responsible for defining and prioritizing requirements for public health emergency MCMs, as well as establishing deployment and use strategies for SNS products. Furthermore, CDC works with PHEMCE in developing a five-year budget plan, taking into consideration the requirements and costs of SNS products. This multi-year budget provides a platform for CDC evaluation and reporting of the impact of proposed formulary changes. CDC's five-year projections are also part of the SNS Annual Review process to identify projected funding shortfalls or available funding for new procurement in future fiscal years, which lead to PHEMCE recommendations for CDC procurement strategy as reported in the SNS Annual Review Report. Should SNS be unable to maintain current preparedness capabilities in FY 2017 due to changes in expiration projections or PHEMCE requirements, PHEMCE recommends that CDC reduce the planned procurement of anthrax vaccine and suspend procurement of certain formulations of antibiotics to address the difference.

In FY 2015, CDC led efforts to ensure the nation had enough Personal Protective Equipment (PPE) to protect healthcare workers treating potential Ebola patients in the United States and respond to additional cases of Ebola. To ensure the smooth flow of PPE to healthcare facilities most likely to receive an Ebola patient, CDC established relationships with manufacturers of scarce PPE items allowing for a logical prioritization of PPE orders without disrupting the supply chain and causing shortages. To support facilities less likely to receive an Ebola patient, CDC also created a small stockpile of PPE in the SNS for rapid deployment to U.S. hospitals lacking sufficient PPE on hand to safely care for an Ebola patient. CDC is continuing to expand this stockpile of hard to

Real World Response—Botulism Outbreak

In April 2015, CDC deployed 50 vials of botulinum antitoxin from the Strategic National Stockpile (SNS) to the Ohio Department of Health (ODH) for the treatment of 18 cases of botulism reported in an outbreak of the food borne illness. The requested product was delivered to ODH staff approximately 10 hours after the request for

Strategic National Stockpile Support for the U.S. Response to Ebola

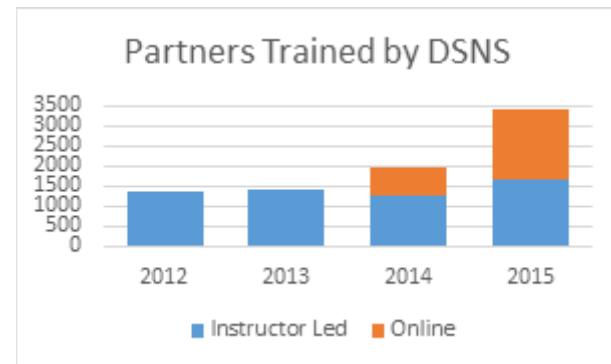
CDC expanded personal protective equipment (PPE) holdings in the Strategic National Stockpile to support public health and healthcare partners who may receive an Ebola patient without sufficient PPE available. Procurement was conducted without disrupting the commercial market. CDC coordinated with commercial manufacturers and suppliers of PPE to direct available PPE to hospitals with the greatest need.

⁴⁵⁴<http://www.cdc.gov/phpr/healthcare/about.htm>

procure PPE items, through procurements in FY 2015 using Emergency Supplemental Funds. These enhanced capabilities allow CDC to support an effective response to Ebola and other emerging infectious diseases, and strengthens partnerships with the commercial supply chain for more efficient operation of the SNS.

CDC will provide training and exercise support in FY 2017 to sustain and improve state and local capabilities critical to the effective distribution and dispensing of stockpiled MCMs to ensure access for individuals exposed to public health threats. In FY 2015, CDC trained 1,661 individuals at the federal, state, and local level through 66 training opportunities. Additionally, expanded offerings of three self-paced online courses provided CDC training for another 1,776 federal, state, and local planning and response personnel at their convenience. CDC also supported and participated in 20 realistic objective-based exercise events at CDC and around the country, to assess the readiness of CDC and its state, local and territorial partners.

CDC will expand and strengthen [partnership agreements](#)⁴⁵⁵ with government, private, faith-based, and community-based organizations in FY 2017. Under these agreements, partners explore and implement options to commit their resources and staff to dispensing MCM to defined populations such as company employees and their families, or hotel guests in the case of hospitality industry partners. Partners may also open their doors for public dispensing to further reduce the burden on public health resources.⁴⁵⁶ These partnerships for MCM dispensing will enhance community resilience and business continuity efforts while strengthening CDC's capacity to support a public health response with efficient distribution channels.



SNS FY 2017 Activities and Goals

Activities	Goals
Procure, store, maintain, and replace MCMs	<ul style="list-style-type: none"> Implement enhancements to CDC inventory management system to improve reporting capabilities and communication with partners Execute prioritized procurement plan to maintain critical MCM capabilities with available funding
Support PHEMCE	<ul style="list-style-type: none"> Improve inventory modeling and projections to support better and faster decision making Deliver an annual report to PHEMCE on the status of SNS material to ensure tracking of identified priorities
Provide guidance, training, exercise support, and assistance	<ul style="list-style-type: none"> Train over 1,000 individuals at the state and local level to support distribution and dispensing of CDC assets Provide effective and thorough evaluation of state and local capabilities to receive and use CDC assets
Partnerships	<ul style="list-style-type: none"> Expand engagements with commercial medical supply chain partners to better integrate MCM resources available to respond to emergencies Support current partners in developing operational strategies to support state/local public health emergency MCM distribution and dispensing

⁴⁵⁵ http://www.cdc.gov/phpr/partnerships/story_closedPODs.htm

⁴⁵⁶ <http://blogs.cdc.gov/publichealthmatters/2015/09/medicine-dispensing-exercise-held-at-virginia-costco/>

SNS FY 2016 and FY 2017 Projected Allocations

	FY 2016		FY 2017	
	FY 2016 Enacted	FY 2016 Percentage of Total Appropriation	FY 2017 Requested	FY 2017 Percentage of Total Appropriation
Total	\$575.0M	100%	\$575.0M	100%
Product				
Expiring Asset Replacement	\$288.0M	81.5% ¹	\$343.5M	81.3% ¹
New Asset Purchases	\$77.0M		\$17.3M	
Product Sustainment Costs	\$103.8M		\$106.9M	
Operations				
SNS Operational Costs	\$32.4M	18.5% ²	\$33.4M	18.7% ²
CDC MCM Operational Costs	\$73.8M		\$73.9M	

¹ Supports procurement, management, and maintenance costs to sustain \$6.5 billion inventory of SNS assets, including storage, transportation, and disposal

² Supports CDC work to develop and provide guidance, training, technical assistance, and other resources required for effective use of SNS held MCMs at the federal, state and local level during an emergency

State Table: Public Health Emergency Preparedness (PHEP) Program Funding^{1,2}

	FY 2015 Actual	FY 2016 Estimate ³	FY 2017 Estimate	FY 2017 +/-FY 2016
Alabama	\$8,896,210	\$8,970,642	\$8,970,642	\$0
Alaska	\$4,203,797	\$4,200,821	\$4,200,821	\$0
Arizona	\$11,827,592	\$11,929,756	\$11,929,756	\$0
Arkansas	\$6,627,030	\$6,672,588	\$6,672,588	\$0
California	\$42,550,665	\$42,990,084	\$42,990,084	\$0
Colorado	\$9,800,461	\$9,881,639	\$9,881,639	\$0
Connecticut	\$7,724,101	\$7,779,523	\$7,779,523	\$0
Delaware	\$4,386,406	\$4,400,653	\$4,400,653	\$0
Florida	\$29,486,535	\$29,788,335	\$29,788,335	\$0
Georgia	\$16,013,312	\$16,167,208	\$16,167,208	\$0
Hawaii	\$4,890,373	\$4,912,068	\$4,912,068	\$0
Idaho	\$5,035,239	\$5,060,073	\$5,060,073	\$0
Illinois	\$16,717,286	\$16,873,908	\$16,873,908	\$0
Indiana	\$11,399,133	\$11,500,307	\$11,500,307	\$0
Iowa	\$6,778,623	\$6,826,238	\$6,826,238	\$0
Kansas	\$6,744,676	\$6,789,265	\$6,789,265	\$0
Kentucky	\$8,465,354	\$8,533,098	\$8,533,098	\$0
Louisiana	\$8,899,256	\$8,970,537	\$8,970,537	\$0
Maine	\$4,706,041	\$4,726,500	\$4,726,500	\$0
Maryland	\$11,267,444	\$12,439,031	\$12,439,031	\$0
Massachusetts	\$13,119,101	\$13,205,845	\$13,205,845	\$0
Michigan	\$16,671,987	\$15,760,810	\$15,760,810	\$0
Minnesota	\$11,262,604	\$11,346,091	\$11,346,091	\$0
Mississippi	\$6,696,959	\$6,743,032	\$6,743,032	\$0
Missouri	\$10,885,932	\$10,979,010	\$10,979,010	\$0
Montana	\$4,343,135	\$4,358,762	\$4,358,762	\$0
Nebraska	\$5,365,165	\$5,393,943	\$5,393,943	\$0
Nevada	\$6,763,000	\$6,805,983	\$6,805,983	\$0
New Hampshire	\$4,812,829	\$4,833,194	\$4,833,194	\$0
New Jersey	\$15,592,851	\$16,826,444	\$16,826,444	\$0
New Mexico	\$6,751,311	\$7,413,802	\$7,413,802	\$0
New York	\$19,804,717	\$18,253,928	\$18,253,928	\$0
North Carolina	\$14,918,015	\$15,069,666	\$15,069,666	\$0
North Dakota	\$4,203,797	\$4,200,821	\$4,200,821	\$0
Ohio	\$17,904,402	\$18,082,585	\$18,082,585	\$0
Oklahoma	\$7,801,393	\$7,860,723	\$7,860,723	\$0
Oregon	\$8,033,968	\$8,094,451	\$8,094,451	\$0
Pennsylvania	\$19,524,277	\$19,721,080	\$19,721,080	\$0
Rhode Island	\$4,502,689	\$5,529,908	\$5,529,908	\$0
South Carolina	\$9,831,748	\$8,894,226	\$8,894,226	\$0
South Dakota	\$4,147,303	\$4,200,821	\$4,200,821	\$0
Tennessee	\$11,253,427	\$11,353,470	\$11,353,470	\$0
Texas	\$37,664,097	\$38,072,224	\$38,072,224	\$0
Utah	\$6,656,363	\$6,701,059	\$6,701,059	\$0
Vermont	\$4,203,797	\$4,200,821	\$4,200,821	\$0
Virginia	\$15,049,835	\$15,177,180	\$15,177,180	\$0
Washington	\$12,132,694	\$12,240,074	\$12,240,074	\$0
West Virginia	\$5,327,651	\$5,356,192	\$5,356,192	\$0
Wisconsin	\$11,587,682	\$11,676,110	\$11,676,110	\$0
Wyoming	\$4,203,797	\$4,200,821	\$4,200,821	\$0
Cities/Counties				
Chicago	\$9,793,363	\$9,845,000	\$9,845,000	\$0

CDC FY 2017 Congressional Justification

	FY 2015 Actual	FY 2016 Estimate ³	FY 2017 Estimate	FY 2017 +/-FY 2016
Los Angeles County	\$19,738,684	\$19,926,591	\$19,926,591	\$0
New York City	\$18,477,826	\$18,634,877	\$18,634,877	\$0
Washington, D.C.	\$6,389,265	\$6,399,260	\$6,399,260	\$0
Territories				
American Samoa	\$363,274	\$364,118	\$364,118	\$0
Guam	\$485,453	\$487,923	\$487,923	\$0
Marshall Islands	\$380,652	\$381,727	\$381,727	\$0
Micronesia	\$422,693	\$424,328	\$424,328	\$0
Northern Marianas	\$359,170	\$359,959	\$359,959	\$0
Palau	\$324,408	\$324,734	\$324,734	\$0
Puerto Rico	\$7,158,040	\$7,213,407	\$7,213,407	\$0
Virgin Islands	\$421,112	\$422,726	\$422,726	\$0
Subtotal, States	\$547,436,060	\$551,965,350	\$551,965,350	\$0
Subtotal, Cities/Counties	\$54,399,138	\$54,805,728	\$54,805,728	\$0
Subtotal, Territories	\$9,914,802	\$9,978,922	\$9,978,922	\$0
Total	\$611,750,000	\$616,750,000	\$616,750,000	\$0

¹ This state table is a snapshot of selected programs that fund all 50 states (and in some cases local, tribal, and territorial awardees). For additional information (data available through FY 2014): <http://www.cdc.gov/fundingprofiles/fundingprofilesria/>.

²CFDA NUMBER(s): 93-069 [Discretionary].

³FY 2016 estimates are based on current anticipated funding. Recalculations may be necessary based on additional strategy planning for FY 2016.

CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT

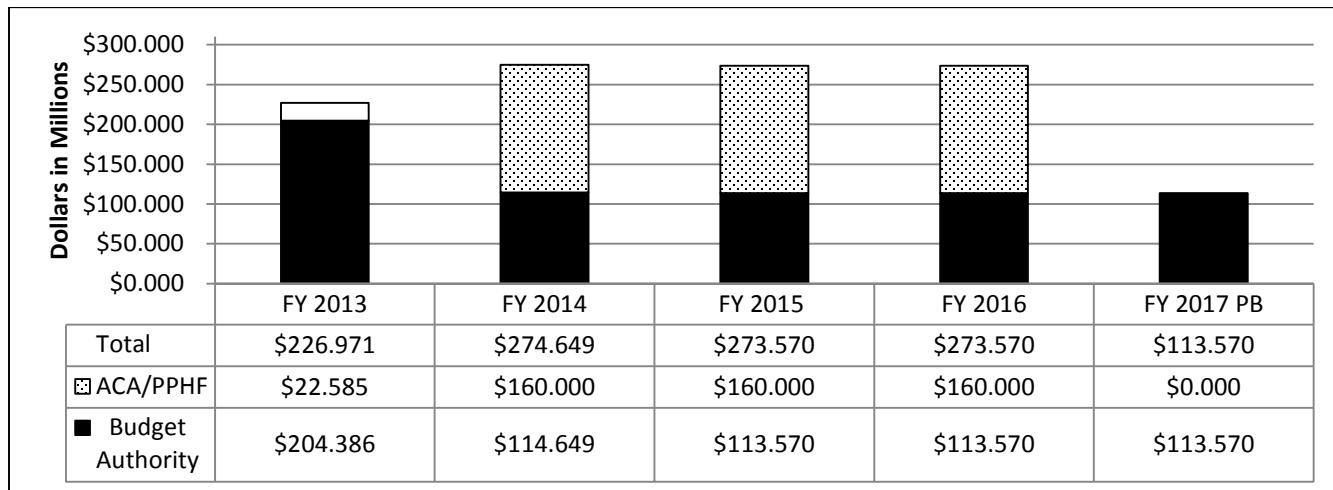
(dollars in millions)		FY 2015 Final	FY 2016 Enacted	President's Budget	FY 2017 +/- FY 2016
	Budget Authority	\$113.570	\$113.570	\$113.570	\$0.000
	ACA/PPHF	\$160.000	\$160.000	\$0.000	-\$160.000
	Total Request	\$273.570	\$273.570	\$113.570	-\$160.000
	FTEs	2,336	2,336	2,336	0
CDC-wide Activities and Program Support					
- Public Health Leadership and Support		\$113.570	\$113.570	\$113.570	\$0.000
- Preventive Health Block Grant Program - ACA/PPHF		\$160.000	\$160.000	\$0.000	-\$160.000

Summary

CDC's FY 2017 request of **\$113,570,000** for CDC-wide Activities and Program Support is \$160,000,000 below the FY 2016 Enacted level. This request proposes the elimination of the Preventive Health and Health Services Block Grant. The remaining activities support mission-critical activities and programs across CDC.

Performance Highlights

- CDC supported health departments in increasing the capacity and performance of the public health system:
 - As of November 2015, 45% of the U.S. population is being served by an accredited health department. Eighty-four local and 12 state health departments have achieved public health accreditation, and another 250 health departments have formally applied. Eighty-six percent (86%) of states and 45% of local health departments indicate they have applied or are preparing to apply for accreditation.
 - Using CDC's Prevention Status Reports (PSR), CDC and states raised awareness about and increased use of evidence-based policies and practices on key public health issues from 2011 to 2013 (green ratings +10% ; yellow ratings +2%).
- The number of states reporting PSR use increased by 31% (n = 16) between 2011 and 2013. State health department staff reported using the 2013 PSR to self-assess agency performance (69%), communicate with (57%) and/or educate (46%) decision makers, inform public health planning and priority setting efforts (53%), improve existing policies or practices (50%), and implement new evidence-based policies or practices (34%).
- The CDC-INFO contact center answered over 300,000 inquiries in FY 2015, on topics including seasonal flu, Ebola, Middle East respiratory syndrome coronavirus (MERS-CoV), cyclospora, and fungal meningitis.

CDC-Wide Funding History^{1,2}

¹FY 2013 is comparably adjusted to reflect the FY 2014 BSS transfer to implement the Working Capital Fund.

²The FY 2013 and 2014 Cross-cutting Activities and Program Support are comparably adjusted to reflect the transfer of Buildings and Facilities line to a separate account.

Public Health Leadership and Support Budget Request

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$113.570	\$113.570	\$113.570	\$0.000

Overview

The Public Health Leadership and Support line funds:

- CDC's Office of the Director
- Urgent and emergent public health response activities
- Offices that provide agency-wide support and leadership
- Technical support to health officials in the field

These funds are essential to CDC's ability to manage with efficiency, transparency, and accountability. In addition to day-to-day agency management, these funds are used to provide technical support to the field. Some offices providing agency-wide support are also partially or fully funded by the Public Health Scientific Services (PHSS) budget.

Budget Request

CDC's FY 2017 request of **\$113,570,000** for Public Health Leadership and Support is level with the FY 2016 Enacted level.

Office of the Director

Funds requested in FY 2017 will support CDC's public health leadership to the nation through several offices that provide services agency-wide. The Office of the Director also manages funding for urgent and emergent threats. In FY 2015, this funding supported:

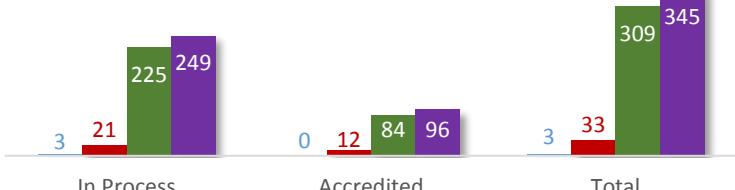
- National Healthcare Safety Network upgrade to enable nursing homes to report antimicrobial use
- Optimizing treatment for multi drug-resistant tuberculosis
- Reducing the burden of neglected parasitic infections (NPIs) in the United States through evidence-based prevention and control activities
- Establishing a national surveillance definition of sepsis that can be used to track trends and measure intervention impact

Office for State, Tribal, Local and Territorial Support (OSTLTS)

CDC's OSTLTS improves the capacity of state, tribal, local, and territorial (STLT) public health departments to manage and improve performance and deliver high-quality programs and services to protect the public's health. Strategies include improving the performance and accountability of STLT health departments through national accreditation and improving the quality, performance, and organizational methods of STLT health departments operations, programs, and services. OSTLTS works with stakeholders such as health departments and national public health organizations to identify and implement improvements in services and support to the field, and to identify and address current and emerging challenges in the public health system. OSTLTS provides consultation and technical assistance to assist health officers with addressing specific high-priority needs in their jurisdiction. OSTLTS also facilitates cross-cutting activities to collaborate with STLT health officials to inform CDC's public health activities and conduct joint problem-solving and decision-making. OSTLTS also manages the Public Health and Health Services Block Grant, which is proposed for elimination.

In addition to supporting health departments every day, OSTLTS provides ready-to-use tools and surge capacity for supporting health departments in protecting the public's health during emergencies. OSTLTS Public Health Associates embedded in health departments also compliment and support the efforts of CDC and health departments.

Recent OSTLTS Support to Public Health Departments and Organizations⁴⁵⁷

Activities	Examples																				
Improve health department performance through support of national accreditation standards	<p style="text-align: center;">Health Department Accreditation Status (November 2015)</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Tribal</th> <th>State</th> <th>Local</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>In Process</td> <td>3</td> <td>21</td> <td>225</td> <td>249</td> </tr> <tr> <td>Accredited</td> <td>0</td> <td>12</td> <td>84</td> <td>96</td> </tr> <tr> <td>Total</td> <td>3</td> <td>33</td> <td>309</td> <td>345</td> </tr> </tbody> </table>	Category	Tribal	State	Local	Total	In Process	3	21	225	249	Accredited	0	12	84	96	Total	3	33	309	345
Category	Tribal	State	Local	Total																	
In Process	3	21	225	249																	
Accredited	0	12	84	96																	
Total	3	33	309	345																	
Improve the efficiency and effectiveness of health department program and services	<p>*There are a total of approximately 2,565 state, tribal, local, and territorial health departments.</p> <p>Among the 79 local and tribal health departments funded through Accreditation Support Initiatives as of September 2015, 60% have applied for accreditation and 19% have achieved accreditation. Results indicate that even small investments (\$4,000-\$40,000) can have significant impact and accelerate a health department's ability to meet these national consensus standards. CDC funded an additional 33 local, tribal and territorial health departments by the end of December 2015.</p>																				
Monitor state use of evidence-based policies and practices to address priority public health problems	<p>States and Washington, D.C. are using CDC's 2013 Prevention Status Reports⁴⁵⁸ (PSRs) to benchmark performance, inform strategic planning, and set priorities. Reach of the 2013 PSRs exceeded 41,225 downloads as of October 2015.</p>																				
Build capacity to use public health law	<p>Trained 16,033 people in public health law since 2011, and 6,780 from October 2014 to September 2015.</p> <p>Identified and analyzed legal provisions related to improving population health for CDC offices and state, tribal, local, and territorial communities. Specifically, the Public Health Law Program provided legal mapping and legal evaluation on state Ebola policies, school and daycare vaccine exemptions, electronic health data sharing during outbreaks, healthcare-associated infection prevention laws, prescription drug overdose prevention laws, batterer interventions, and federally qualified health center and tribal public health law issues.</p>																				

⁴⁵⁷Activities are funded through both PHLs and PHSS budget lines and cannot be separated.

⁴⁵⁸<http://www.cdc.gov/stlpublichealth/psr/index.html>

Activities	Examples
Diffusion of public health knowledge across the health system	Nearly 32,000 people subscribe to the weekly “Did You Know?” feature containing health data and health activity implementation examples; 123 organizations syndicate the feature on their websites (November 2015), resulting in approximately 4.5 million page views via syndication since the service launched in February 2011.
Build capacity to collect data to support the improvement of population health through national, nonprofit organizations	The STLT Public Health Professionals Gateway—a source for information, tools, and resources for practice—had more than 400,000 page views in FY2015; more than 28,000 subscribed to “Have You Heard?: Facts from the Field” which features public health successes achieved by state and local governments, national coalitions, community-based organizations, and others (as of November 2015).
	Funded and collaborated with the National Association of County and City Health Officials and the Association of State and Territorial Health Officials in producing national profile surveys of more than 2,600 state, territorial, and local health departments on their performance, service, and functional capacities. The assessments are the only sources of comprehensive information for decision makers about organization and the financial, workforce, and information technology resources of health departments across the public health system.

Office of the Chief of Staff

The Office of the Chief of Staff provides support to CDC’s director and manages all executive secretariat functions across CDC.

Office of the Chief of Staff Activities

Activities	Examples
Controlled correspondence	The focal point for the analysis, technical review, and final clearance of all correspondence addressed to, signed by, or signed on behalf of CDC’s director.
Review/clearance of non-scientific documents	Serves as the focal point for the analysis, technical review, and final clearance of non-scientific policy documents that require agency clearance and/or CDC director approval.
Government Accountability Office/Office of Inspector General engagements and recommendations	Works collaboratively with CDC, Government Accountability Office (GAO), and Office of the Inspector General (OIG) staff to facilitate GAO/OIG audits and evaluations (engagements), including entrance conferences, pre-briefs, information requests, exit conferences, and review/comment on draft reports.

Laboratory Science and Safety Office

CDC is strengthening laboratory safety practices across the agency through training, oversight, and facilitating a culture of safety. Following thorough internal and external reviews of current laboratory practices, several recommendations were made and implemented, including creating a new office, led by the newly appointed Associate Director for Laboratory Science and Safety. This office provides high-level oversight and coordination of critical laboratory science policies and operations, particularly those associated with laboratory safety and quality management programs at all CDC campuses. The office is working with CDC’s laboratory scientists to build a strong culture of laboratory science and safety through leadership, collaboration, training and continuous quality improvement. Information regarding improvements to CDC’s laboratory science and safety

programs is available on CDC's [Laboratory Safety](#)⁴⁵⁹ webpage. The new office, led by the Associate Director for Laboratory Science and Safety, provides high-level oversight and coordination of critical laboratory science policies and operations, particularly those associated with laboratory safety and quality management programs at all CDC campuses. The office is working with CDC's laboratory scientists to build a strong culture of laboratory science and safety through leadership, collaboration, training and continuous quality improvement.

Communications Office

The Communications Office provides support to all CDC programs to provide accessible, accurate, relevant, and timely health information and interventions to protect and promote the health of individuals, families, and communities.

Communication Activities

Activities	Examples
Develop materials for the public and health professionals	Produces broadcast, audio, and video material; writer-editor services; multi-lingual services; audio and video public service announcements; and related content.
Ensure media accuracy	Reviews CDC data, research, and actions presented through various media channels.
Manage content for external health messaging	Manages CDC's internet, intranet, Twitter, Facebook, and other social media sites.
Consult with CDC programs	Develops strategies to communicate health messages more effectively with partners and the public.
Manage CDC's national toll-free contact center	Provides timely, accurate, and consistent science-based information on a variety of disease prevention and health promotion topics.

Policy Office

The Policy Office provides agency-wide support to:

- Lead CDC's public health and health care collaboration activities
- Coordinate the public health response to the Affordable Care Act (ACA)
- Monitor public health implications at federal, state, and local levels and disseminate key information inside and outside CDC
- Build relationships with external organizations to advance public health

Science Office

The Science Office provides leadership in advancing the quality and integrity of CDC science, and provides agency-wide leadership on scientific and medical matters. The Science Office:

- Develops policies related to intramural and extramural research to ensure CDC science activities and staff maintain the highest standards of scientific integrity and ethics
- Provides oversight of scientific clearance of CDC publications and promotes best practices in external peer review

⁴⁵⁹ <http://www.cdc.gov/about/lab-safety/index.html>

- Promotes and strengthens a common scientific culture for enhanced information exchange internally and externally including activities such as:
 - [Public Health Grand Rounds](#)⁴⁶⁰
 - [Vital Signs](#)⁴⁶¹
 - [CDC Science Clips](#)⁴⁶²

Office of Minority Health and Health Equity

The Office of Minority Health and Health Equity includes the Office of Women's Health and the Diversity Management Program, and provides leadership for CDC-wide policies, strategies, planning, and evaluation to eliminate health disparities.

Office of Minority Health and Health Equity Activities

Activities	Examples
Monitor and report	Monitors and reports on the health status of vulnerable populations and the effectiveness of health protection programs.
Decision support	Provides decision support to CDC in allocating resources to surveillance, research, intervention, and evaluation programs.
Official reports	Coordinates CDC's response to Executive Orders and HHS health disparity initiatives.
Strategic partnerships	Initiates strategic partnerships with governmental, non-governmental, national, and regional organizations.
Guidance and oversight	Provides guidance and oversight to the agency-wide implementation of CDC's Diversity Plan.

Office of Equal Employment Opportunity

The Office of Equal Employment Opportunity provides agency leadership on all matters related to equal employment opportunity (EEO), alternative dispute resolution, and reasonable accommodations. This office:

- Provides oversight for EEO complaints processing
- Ensures alternative dispute resolution is available to all CDC and ATSDR employees for resolving conflict or disputes informally and confidentially
- Maintains a work environment in which persons with disabilities receive full and fair consideration for any job for which they apply
- Provides reasonable accommodation to employees with disabilities in order to perform their essential job functions

Office of Infectious Diseases

The Office of Infectious Diseases (OID) provides agency-wide leadership to promote and facilitate science, programs, and policies to reduce the burden of infectious diseases in the United States and globally. OID works to:

⁴⁶⁰<http://www.cdc.gov/about/grand-rounds/>

⁴⁶¹<http://www.cdc.gov/vitalsigns/>

⁴⁶²<http://www.cdc.gov/phlic/sciclip/>

- Support internal and external partners to advance infectious disease prevention programs and priorities
- Provide national and global leadership and expertise in preventing and controlling infectious diseases by developing a strong foundation for advancing public health research
- Build capacity with partners throughout the world to protect Americans at home and abroad
- Provide strategic leadership to and enhance coordination among CDC's three infectious disease national centers

CDC's infectious disease national centers provide national and global leadership and expertise in preventing and controlling infectious diseases, ensuring a strong foundation for advancing public health research and building capacity with partners throughout the world. OID's national centers include:

- National Center for Emerging and Zoonotic Infectious Diseases
- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
- National Center for Immunization and Respiratory Diseases

Office of Noncommunicable Diseases, Injury, and Environmental Health

The Office of Noncommunicable Diseases, Injury, and Environmental Health (ONDIEH) provides agency-wide strategic direction and leadership for the prevention of noncommunicable diseases, injury, disabilities, and environmental health hazards in the United States and globally. This office works to:

- Strengthen prevention of noncommunicable disease, injuries, and disabilities
- Strengthen environmental health-related science and program impact
- Enhance integration and inclusion of activities to prevent noncommunicable diseases, injuries, disabilities, and environmental health across CDC and within larger public health community
- Increase collaboration and innovation across noncommunicable diseases, injury prevention, disabilities, and environmental health

ONDIEH's national centers provide national and global leadership and expertise in preventing and controlling noncommunicable diseases, ensuring a strong foundation for advancing public health research, and building capacity with partners throughout the world. ONDIEH's national centers include:

- National Center on Birth Defects and Developmental Disabilities
- National Center for Chronic Disease Prevention and Health Promotion
- National Center for Environmental Health/Agency for Toxic Substances and Disease Registry
- National Center for Injury Prevention and Control

CDC Washington Office

The CDC Washington Office (CDC/W) provides support to CDC on legislative and policy issues. CDC/W also represents the agency in Washington, D.C. to the Department of Health and Human Services, other agencies, and the Washington, D.C. policy community. CDC/W is the main point in CDC for receiving requests for information and assistance from Congress. CDC/W works closely with the Office of the Director, program leadership, policy offices, and CDC's Office of Appropriations to respond to those requests.

CDC Washington Office Activities

Activities	Examples
Congressional relations	Builds Congressional relations, including notifying Congress of breaking public health developments and provides technical reviews as requested by Congress on public health policy and legislative initiatives.
Tracks and analyzes legislation	Tracks and analyzes legislation impacting CDC programs and coordinates preparation of CDC testimony and witnesses for hearings.
External relations	Builds relations with government agencies and other organizations to advance policy agendas, with an emphasis on federal agencies.

Office of the Chief Operating Officer

OCOO offices support CDC by administering the agency's budget, grants, facilities, physical security, workforce health and wellness, human resources, and information technology programs. The OCOO office oversees many functions supported by the Working Capital Fund. The Public Health Leadership and Support (PHLS) budget funds the Office of Appropriations, within the Office of Financial Resources; and the OCOO Office of the Director.

Business Service Offices in OCOO

Business Service Offices	Summary
Business Integrity and Strategic Management (BISM) Unit	The Business Integrity and Strategic Management (BISM) Unit leads strategic management, risk management, and fiscal integrity activities for CDC's business operations.
Human Resources Office (HRO)	HRO provides a full range of human resources advisory, consulting, and information services to meet the needs of employees and managers at CDC and ATSDR. HRO consists of five core offices responsible for carrying out human resources operational and strategic programs: <ul style="list-style-type: none"> • CDC University • Client Services • Executive and Scientific Resources • Strategic Programs • Workforce Relations
Office of Safety, Security, and Asset Management (OSSAM)	CDC's Office of Safety, Security, and Asset Management (OSSAM) provides services to the agency in the areas of: <ul style="list-style-type: none"> • Safety • Security • Buildings and facilities • Property • Transportation • Health and wellness • Sustainability
Office of Financial Resources (OFR)	On October 1, 2015, the Office of the Chief Financial Officer and the Procurement and Grants Office combined to provide united financial support to CDC programs as the Office of Financial Resources (OFR). OFR provides leadership for the agency's budgetary and accounting initiatives including administration of CDC's Working Capital Fund. The office works to ensure CDC accomplishes its public health mission through agency-wide fiscal accountability and oversight. OFR is responsible for the stewardship of contracts, grants, and cooperative agreements to partners throughout the world to promote health, prevent disease, injury, and disability, and prepare for new health threats. OFR also provides congressional support through the Office of Appropriations, which is funded by PHLs.
Office of the Chief Information Officer (OCIO)	OCIO coordinates information program, policy, management, technology, security, and projects through the following organizations: <ul style="list-style-type: none"> • Enterprise IT Portfolio Office • Acquisition Program Management Office • Enterprise Architecture • Freedom of Information Act Requester Service Center • Information Technology Service Office • Management Analysis and Services Office • Management Information Systems Office

CDC FY 2015 Public Health Leadership and Support Obligations

The Joint Explanatory Statement accompanying the Consolidated Appropriations Act, 2016 (P.L. 114-113) included requirements for CDC to provide Public Health Leadership and Support detail that includes specific breakouts and details by budget activity.

FY 2015 Public Health Leadership and Support: Summary by Object Class

OC	Description	Total
11	Compensation Summary	\$31,938,011
12	Personnel Benefits	\$9,981,231
21	Travel and Transportation of Persons	\$1,180,825
22	Transportation of Things	\$52,800
23	Rent, Telecommunication, Other Comm. & Utilities	\$4,933,892
24	Printing and Reproduction	\$279,718
25	Consulting & Other Services	\$37,876,942
26	Supplies & Materials	\$401,586
31	Equipment	\$3,407,766
41	Grants	\$7,798,910
42	Insurance Claims	\$61,500
	Working Capital Fund	\$15,656,819
Grand Total		\$113,570,000

Affordable Care Act Prevention and Public Health Fund

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/ FY 2016
Preventive Health and Health Services Block Grant - ACA/PPHF	\$160.000	\$160.000	\$0.000	-\$160.000

Preventive Health and Health Services Block Grant

The FY 2017 budget request continues elimination of the Preventive Health and Health Services Block Grant (PHHSBG) program.

These activities may be more effectively and efficiently implemented through other state-based programs, such as the [State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity, and Associated Risk Factors and Promote School Health](#)⁴⁶³ program. Elimination of this program provides an opportunity to find savings, while enhancing functionality for core chronic diseases. When the PHHSBG was first authorized in 1981, there were minimal resources within CDC's budget allocated for categorical programs such as heart disease, diabetes, immunizations, and obesity, and many states did not receive funding from CDC to support prevention of chronic diseases. However, since 1981, categorical programs at CDC have grown to over \$1 billion annually and the PHHSBG now represents a much smaller percentage of state budget when compared to total available CDC funding.

⁴⁶³<http://www.cdc.gov/dhdsp/programs/spha/>

BUILDINGS AND FACILITIES BUDGET REQUEST

(dollars in millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 President's Budget	FY 2017 +/- FY 2016
Budget Authority	\$10.000	\$10.000	\$31.221	+\$21.221

Summary

CDC's FY 2017 request of **\$31,221,000** for Buildings and Facilities (B&F) is \$21,221,000 above the FY 2016 Enacted level. B&F funds support all federally owned assets through demolition, disposal, repair, and maintenance. With a significant number of CDC's facilities in a mature phase of their life cycle, a rigorous, preventive maintenance program will ensure facility functionality and continued service.

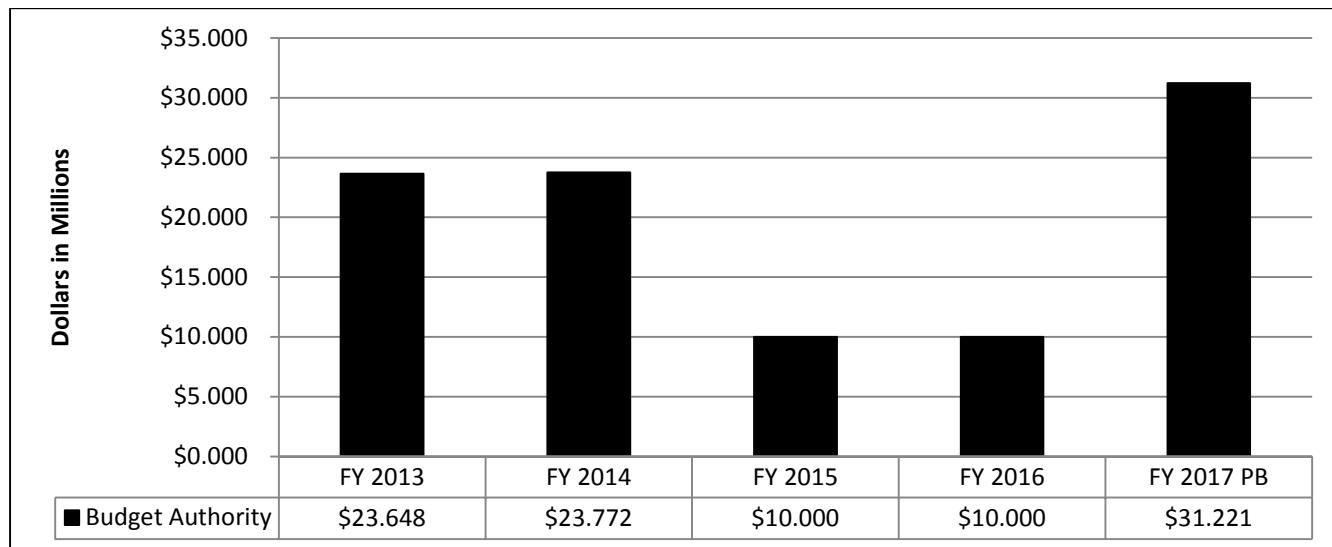
B&F funding supports capital projects and the National Repair and Improvement (R&I) program. Capital projects funded through B&F include major renovations to existing buildings in the owned inventory. The R&I program maintains, sustains, improves, and restores CDC's assets including: roof replacements; electrical and mechanical repairs; lab ventilation upgrades; animal water piping replacement; chemical storage unit installation; structural repairs; and much needed fireproofing repairs and upgrades. Funding is also used to ensure CDC facilities comply with mandated sustainability improvements and enhancements.

Capital leases, utilities, and operations and maintenance contracts for CDC buildings and facilities are funded through the Working Capital Fund.

Performance Highlight

Through CDC's ongoing sustainability improvement efforts, major progress has been made in waste reduction and diversion programs. In addition, overall energy usage has decreased by 25% and water use on CDC's Roybal Campus is down 55% since 2013, resulting in an estimated savings of \$1,300,000 annually.

Buildings and Facilities Funding History



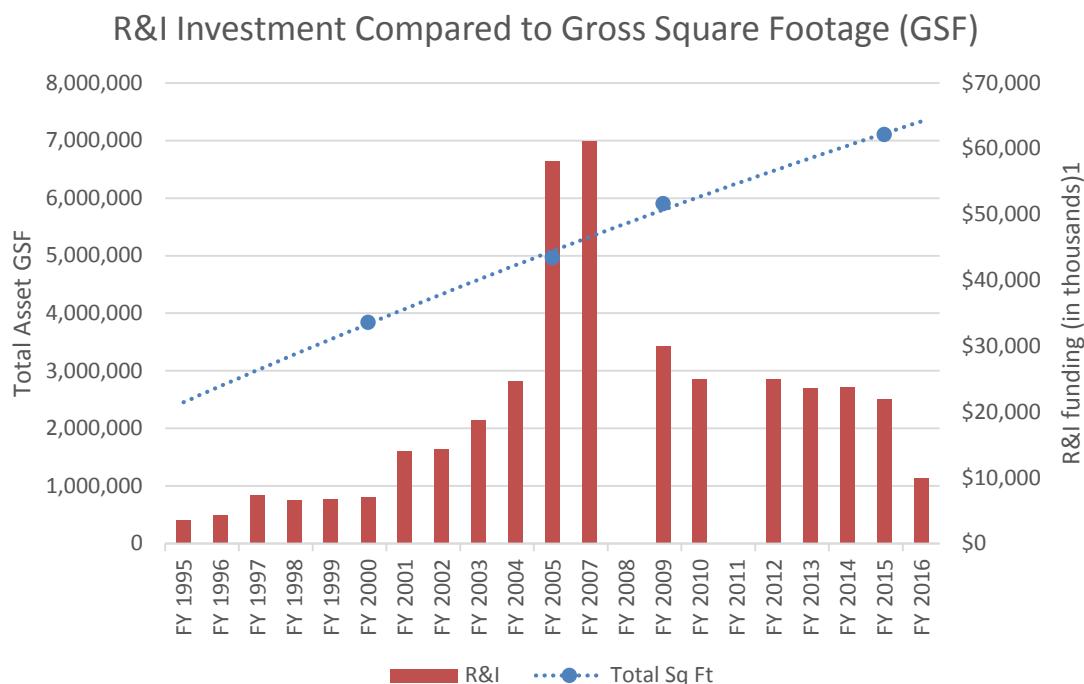
Overview

CDC established the B&F program over 20 years ago to replace, sustain, improve, and repair existing facilities as well as to construct new facilities to meet CDC's mission. The principal B&F activity is mission support, serving approximately 15,000 CDC staff—FTE and non-FTE—around the world.

Over the past 15 years, CDC has constructed significant new facilities on the Atlanta, Georgia (Roybal and Chamblee) and the Ft. Collins, Colorado campuses, including:

- Emerging Infectious Disease Laboratories (Roybal Buildings 17, 18, and 23)
- Headquarters and Emergency Operations Center (Roybal Building 21)
- Conference, Library, Museum, and Training Center (Roybal Buildings 19 and 45)
- Research Support Building for Infectious Diseases (Roybal Building 24)
- Business Service Facilities (Roybal Building 20 and Transhipping)
- Vector-Borne Infectious Disease Laboratory (Ft. Collins)
- Environmental Health Laboratories (Chamblee Buildings 103 and 110)
- Research Support Buildings for Non Infectious Disease Research (Chamblee Buildings 106 and 107)
- Central Utility Plants for Roybal and Chamblee campuses in support of new buildings

Many of these new facilities advance and improve CDC's lab capabilities that are paramount to the success of CDC's public health mission. CDC's R&I program is nationwide—covering CDC-owned facilities in: metro Atlanta, GA; Anchorage, AK; Cincinnati, OH; Morgantown, WV; Pittsburgh, PA; San Juan, Puerto Rico; Ft. Collins, CO; and Spokane, WA. Adequate funding is needed to maintain, sustain, improve, and ensure continued optimal performance. The amount invested in facility repair and improvement has remained relatively consistent while CDC's gross square footage (GSF) of assets has roughly doubled since 2000. Maintaining reliable, efficient buildings that enable the CDC workforce to carry out its mission can be an increasing challenge as the facilities age, which can result in increases in operational and maintenance costs. This growth in assets requires a comparable investment in maintenance and repair to ensure future functionality of the facilities.



¹ Reflects annual investment in R&I from a combination of sources

Today, CDC has 219 assets—192 buildings and 27 support facilities—with a functional replacement value of \$3.8 billion. Of CDC's 192 buildings, only 33 buildings are less than 10 years old. Forty-three percent are over 40 years old. With 125 facilities in a mature phase of their life cycle, it is vital that a rigorous, preventive maintenance program continues to ensure facility functionality and preparedness. In addition, replacement of major mechanical, electrical, and plumbing systems and infrastructure is anticipated in the future.

Life Cycle of CDC's 192 Buildings*



* Federally Owned Buildings. Excludes Land, Structures, and Utilities

Since the late 1990's, CDC has disposed of or earmarked for disposal over 40 non-performing assets nationwide; yet, CDC still owns many unutilized, underutilized, or nonperforming structures slated for demolition that are affecting overall condition index and campus utilization rates.

CDC's R&I funding is often needed for emergencies that take place as a direct result of aging facilities. Recent examples include:

- FY 2015: A fire in Roybal Campus Building 18 required a five-week shutdown of key laboratories (i.e., poxvirus, rabies, special pathogens, meningitis) at a repair cost of \$1.2 million.
- FY 2016: A waterline break in Roybal Campus Building 17 caused \$300,000 in damage remediation.
- FY 2016: A roof leak at the National Institute of Occupational Safety and Health (NIOSH) Pittsburgh campus in the Building 13 Respirator Fit Testing Laboratory (shown right) and a 10-day power outage resulted in disruption of research on personal protective equipment a permanent fix is estimated to cost \$50,000.



R&I funding is critical to NIOSH's Pittsburgh facilities, where many repairs and improvements are needed to support basic facility functions. Adequate R&I is needed for NIOSH to conduct critical and important Pittsburgh-based occupational health and safety research. The majority of the site and utility infrastructure at the NIOSH campus in Pittsburgh, Pennsylvania is obsolete and failing, which has resulted in frequent utility outages; emergency repairs are routine occurrences and require resources.



Obsolete control panel from 1947 at NIOSH campus in Pittsburgh, Pennsylvania

Nonrecurring Expenses Fund

Cincinnati

CDC completed the planning phase—including program requirements and a project development study—for consolidation of the NIOSH Cincinnati Research Facilities (Taft, Taft North, and Hamilton buildings) into one central location. NIOSH Cincinnati is currently located on two campuses, eight miles apart. These facilities are 60 years old and have significant deficiencies in both space configuration and the condition of building systems. The new central location will reduce recurring costs associated with operating two separate campuses. GSA executed a Reimbursable Work Authorization with CDC in January 2016 to provide site and building acquisition consultation services for the new facility. CDC will continue to use Nonrecurring Expenses Fund resources in FY 2016 to purchase a new site and existing building(s). CDC anticipates construction to renovate the facility will begin in August 2017.

Budget Request

CDC's FY 2017 request of **\$31,221,000** for buildings and facilities is an increase of \$21,221,000 above the FY 2016 Enacted level and is requested for R&I to ensure continued condition improvement through new budgetary resources and carryover funds. As many of CDC's non-Atlanta campuses are approaching or are beyond a half century or more in age—specifically the NIOSH Pittsburgh research campus—not only do requirements for routine R&I continue to increase, but so do demands for asset demolition and/or disposal to improve CDC's overall condition index at a level above or equal to 90.

CDC's R&I program is nationwide—covering CDC-owned facilities in: metro Atlanta, GA; Anchorage, AK; Cincinnati, OH; Morgantown, WV; Pittsburgh, PA; San Juan, Puerto Rico; Ft. Collins, CO; and Spokane, WA. Over the next 20 years, critical investments will need to be made to support aging infrastructure in laboratory buildings at all locations. This includes routine R&I and also major system replacements, including: roofs;

chillers; boilers; plumbing; elevators; foundations; built-in laboratory equipment and heating; ventilation; and air conditioning systems. Maintenance is essential to ensure the outer shell of each building supports a dry, climate controlled indoor environment that will support CDC scientific research.

Potential projects generated by building assessments are incorporated into the annual facilities business plans. CDC continues to work toward annual energy conservation, water conservation, and sustainable practices performance targets.

With the request of \$31,221,000 for R&I in FY 2017, CDC will:

- Significantly reduce current backlog of maintenance and repair through infrastructure and building improvements. Priority projects include:
 - Roybal Campus:
 - Upgrade heating, ventilation, and air conditioning (HVAC) chiller capacity to avoid loss of laboratory function or failure.
 - Replace exposed, deteriorating piping in Building 23 vivarium that routinely leaks or is damaged and is used in care of hundreds of research animals.
 - Replace Building 17 roof that is 15 years old. Building 17 houses many of CDC's mission-critical laboratories. A major leak could damage or destroy expensive lab equipment.
 - Fund fire, life safety, and mission support projects including:
 - Lawrenceville Campus
 - Replace ceiling, lighting, and controls in Building C's liquid nitrogen sample storage and add a safety hoist system to protect staff that currently retrieve specimens by hand. The Lawrenceville campus requires major upgrades to address safety and maintenance issues.
 - Roybal Campus
 - Enclose two areas to provide fire-rated storage in Building 18. Fire-rated enclosures are needed to protect the surrounding area from stored combustibles and a clear path for exit.
 - Chamblee Campus
 - Install chemical storage unit for Building 103 in support of multiple non-communicable disease laboratories.
 - Morgantown, WV (NIOSH)
 - Complete atrium fireproofing repair.
 - Pittsburgh, PA (NIOSH)
 - Demolish targeted underutilized or non-performing buildings to reduce annual maintenance costs and improve the overall portfolio Condition Index.
 - Replace aging mechanical and electrical infrastructure that is technologically antiquated on multiple campuses. Advancements in both hardware and software make older equipment obsolete.
 - Fund projects to continue support of federal guidelines and requirements:
 - Federally mandated sustainability improvements such as the Guiding Principles for Federal High Performance Buildings, Executive Orders (EOs) 13423, 13514, and 13693.
 - Improve campus energy and water efficiency under the Energy Policy Act (EPAct) 2005 and Energy Independence and Security Act (EISA) 2007.

Repair and improvement projects are prioritized by need and available funding. Fire and life safety and emergency projects are prioritized and CDC carries a backlog of important and necessary projects. The backlog of maintenance and repair will roll forward into FY 2017. The FY 2017 request supports the highest priorities

and most pressing needs for facility improvement, which are outlined above. Unmet needs will be addressed through either additional funds that may be made available, or will be considered alongside CDC's other priorities in the future.

Fort Collins Freezer Building

CDC, using the authority obtained in the FY 2016 Continuing Resolution (CR) to construct on leased land, is replacing a freezer building in Fort Collins, Colorado (scheduled to be returned to Colorado State University in 2016). The contract for construction was awarded on November 27, 2015, and is funded out of prior year balances. Construction of the freezer building will begin in July 2016 and will be completed in June 2017. The replacement freezer will support emerging, zoonotic, and infectious disease research after the lease expires for the current laboratory freezer building.

Underground Mining Research Facility

As directed in the FY 2015 Omnibus Appropriations Act, CDC is proceeding with acquiring a replacement underground mining research facility to support mining research capabilities previously present at the NIOSH Lake Lynn facility. CDC will utilize acquisition consultation services from GSA to solicit offers, evaluate offers, and purchase a site and existing building to accommodate underground mining research. CDC will issue a Reimbursable Work Authorization to GSA in January 2016 to provide site acquisition consultation services for the new research facility. In spring 2017, CDC will utilize prior year B&F funds to purchase the new land site. Additional funds are required for the design and construction, which would begin in FY 2018, assuming an adequate site is identified. During this phase, CDC will contract design and construction of all site improvements, underground and above ground lab, and lab support facilities.

WORKING CAPITAL FUND

CDC FY 2017 WORKING CAPITAL FUND TABLE¹
(dollars in thousands)

CDC Programs	FY 2016 Estimate	FY 2017 Estimate
Immunization and Respiratory Diseases	\$48,064	\$48,064
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	\$52,975	\$52,975
Emerging and Zoonotic Infectious Diseases	\$63,018	\$63,018
Chronic Disease Prevention and Health Promotion	\$42,662	\$42,662
Birth Defects, Developmental Disabilities, Disability and Health	\$10,269	\$10,269
Environmental Health	\$23,566	\$23,566
Injury Prevention and Control	\$9,394	\$9,394
Public Health Scientific Services	\$56,553	\$56,553
Occupational Safety and Health	\$30,844	\$30,844
Global Health	\$41,962	\$41,962
Public Health Preparedness and Response	\$47,550	\$47,550
CDC Wide Activities	\$19,521	\$19,521
CDC Program Total	\$446,378	\$446,378
Other CDC Funding Sources		
Agency for Toxic Substances and Disease Registry	\$9,715	\$9,715
Energy Employees Occupational Illness Compensation Program Act (EEOICPA)	\$3,799	\$3,799
Vaccines for Children	\$22,768	\$22,768
World Trade Center	\$12,411	\$12,411
PEPFAR	\$31,811	\$31,811
Other Reimbursable Income	\$17,776	\$17,776
Other CDC Programs Contributions Total	\$98,279	\$98,279
Total CDC Programs Contributions	\$544,657	\$544,657

¹Estimates are based on the WCF Governance Board approved operating budget of \$544,657,141 for FY 2016. The estimate is distributed across budget lines on a pro-rata basis until consumption data is collected and bills are issued. These estimates do not include: Specialized Service Agreements, adjustments for increases or decreases to program activities, or emergency appropriations (e.g., Ebola and GHSA), which will result in a change to the consumption/billing across budget lines.

Summary

In the FY 2012 appropriation bill for Labor, Health and Human Services, Education and Related Agencies (LHHS), Congress authorized CDC to establish a Working Capital Fund (WCF) in support of agency-wide business services. The WCF is a revolving fund with extended availability and serves as the funding mechanism for centralized business services support across CDC. Services rendered under the WCF are performed at pre-established rates to cover the cost of business operations. In the FY 2014 LHHS appropriation bill, Congress authorized CDC to transfer amounts appropriated for business services for fiscal year 2014 to the Working Capital Fund to facilitate implementation. Unobligated balances of amounts appropriated for business services for FY 2013 were also

transferred to the WCF as authorized in Public Law 112–74 in FY 2014. CDC completed these one-time transfers in FY 2014.

Overview

Business service offices (BSOs) provide services to CDC programs and the WCF bills programs for the services consumed based on pre-established rates.

FY 2017 WCF Operating Budget

The WCF Governance Board, described below, approves the annual operating budget for the WCF. If there are unforeseen requirements (e.g., mandated systems upgrades) requiring additional support, the Board will vote on how to fund these requirements during the fiscal year. During calendar year 2016, the WCF board will approve the final operating budget for FY 2017.

The WCF operational budget includes the following:

- Service line budgets
- Restricted reserves
- Unrestricted reserves

The WCF is not constrained by the fiscal year cycle. Restricted reserves include amounts that will be used for capital Information Technology (IT) infrastructure investments and accrued annual leave, while unrestricted reserves can be used for a variety of investments including any unforeseen, one-time cost during the fiscal year. At the end of FY 2015, the WCF held \$48 million in unrestricted reserves. Of this amount, \$1.6 million is set aside for funding OCOO employee's individual learning accounts (ILA); \$5.8 million is for FY 2015 approved Board activities that were carried forward into FY 2016; \$13.7 million is being used for one-time lease costs (GSA); and \$1.2 million has been approved by the Board in FY 2016 for one-time support for temporary staff to support human resources. The available balance of unrestricted reserves is \$26 million.

Objectives

Objectives of the WCF include:

- Achieve greater capability of business services by developing and reviewing rates and reporting on the cost of services rendered. WCF rates are intended to reflect the total cost of service provision, which promotes full cost recovery for each service within the Fund. CDC's WCF will be included as part of HHS' annual CFO audit.
- Realize greater transparency by allowing CDC Center directors, as the majority-voting members on the Board, to determine WCF service rates and levels.
- Increase awareness and accountability for usage of business services resulting in a financial incentive for customers; providing insight into how consumption impacts costs will promote more efficient use of program funding.
- Effectively plan for and finance long-term investments. As the WCF structure allows for the accumulation of funds for future capital investments, the WCF will finance mission-critical investments and improvements over time.

Governance Structure

The WCF Governance Board provides a structured governance process for all aspects of budgeting for the WCF. The Board ensures senior level engagement and oversight, and promotes transparency. CDC Center Directors serve as the majority of voting members on the WCF Governance Board, which presides over the Fund's budget.

Scope

The WCF encompasses a portfolio of business services in the major categories described as follows.

Categories	Services
Human Resources	Services include developing and managing the recruitment, hiring, and selection of CDC employees and contractors. Additional services include the management of CDC's human resources program and policies.
Safety, Security and Asset Management Services	Safety and Security services include providing global and physical security to CDC employees located at headquarters, employees travelling overseas, employees assigned overseas, and foreign visitors to CDC campuses. Additional services include developing policy and training for the Agency staff on occupational safety and hazardous waste disposal. Asset Management services include conducting real property and space management activities; operating and maintaining CDC's facilities; rent and related costs; and managing operating and capital leases, utilities, operation and maintenance contracts; and the administrative costs of the Office of Safety, Security, and Asset Management. Additional services include developing CDC policy and procedures for logistics management, including accountable property, supplies, transportation, and shipping. Repairs and improvements and buildings and facilities capital projects are not included in the WCF service portfolio and will continue to be funded from the Buildings and Facilities budget line.
Financial Management and Oversight Services	Services include the administration of CDC's budget and related financial and accounting functions to ensure compliance with regulatory and legislative requirements; providing leadership, guidance, and advice on operational budget and financial matters; and travel related audit and payment services. Activities are coordinated with HHS, OMB, and Congress.
IT Services, Support, and Infrastructure	Services include maintenance of personal computing hardware and software; customer service support; administration of mainframe, infrastructure software, application, and server hosting; and oversight of networking and IT security.
Procurement and Grants Services	Services include the management and coordination of CDC acquisition, assistance, and management activities; and the coordination and administration of contracts, purchase orders, grants, and cooperative agreements.
Management Analysis Support Services	Services include agency policy development, management, and consultation activities; management of the internal controls program; and management of federal advisory committee activities. Additional compliance services include monitoring and oversight of agency and program measures in the area of sustainability.
Centralized Administrative Services	Services encompass administrative services provided in support of CDC programs that are not aligned to specific service providers including Department mandates. Through risk management activities, CDC proactively identifies and mitigates risks to further public health objectives and also meet the objectives of the Federal Managers' Financial Integrity Act (FMFIA) and OMB Circular No. A-123, Management's Responsibility for Internal Control. CDC works collaboratively with the Offices of the Inspector General (OIG) to reduce exposure to fraud and misconduct risk that can undermine CDC public health objectives.

Internal Controls

The OMB Circular A-123 and GAO Standards for Internal Controls in the Federal Government define the framework for WCF's internal controls. The WCF internal control assessment process details activities to be

performed by various stakeholders to ensure potential risks are identified, monitored, and mediated throughout the process. The WCF internal control assessment process aligns with CDC's internal controls program and is designed to help the WCF meet the following internal controls objectives:

- Effectiveness of WCF operations
- Reliability of financial reporting
- Compliance with applicable laws and regulations

CDC will monitor operational and financial performance of the WCF. In addition to operational reporting, the WCF will also report on the Fund's financial status and activities as part of CDC financial statements. In accordance with the CFO Act, WCF financial performance will be audited on an annual basis as part of HHS' CFO audit. Financial metrics will serve as key inputs into the evaluation of efficiency of WCF operations.

Retained Earnings The WCF will maintain a balance of retained earnings that is not constrained by the fiscal year cycle. Retained earnings in the Fund are comprised of restricted and unrestricted retained earnings. Restricted Retained Earnings Restricted retained earnings include funding for IT capital investments and accrued annual leave for WCF employees. In addition, the Fund will retain a sufficient amount of reserves to pay accrued annual leave for all employees of the WCF.

Unrestricted Retained Earnings Unrestricted retained earnings include funding used to finance unforeseen, one-time costs. Examples include costs associated with providing enhanced service levels and costs associated with discontinuing services. In an effort to stabilize rates throughout the fiscal year, unrestricted retained earnings may also be used to absorb the impact of unanticipated price fluctuations that service providers may experience during the year.

CDC's WCF will target a goal of two to four percent of WCF annual operating revenue to maintain as retained earnings. Throughout the fiscal year, the level of unrestricted retained earnings will be monitored to ensure that the level of reserves remains in compliance with the policy.

REIMBURSEMENTS AND TRUST FUNDS

(dollars in millions)	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Reimbursements and Trust Funds	\$201.881	\$516.322	\$516.322
Total	\$201.881	\$516.322	\$516.322

Authorizing Legislation: PHSA §§ 214, 301, 306(b)(4), 311, 353; Consolidated Appropriations Act, 2015 (P.L. 114-113)

Summary

CDC's FY 2017 request of \$516,322,000 for reimbursements and trust funds is level with FY 2016 Enacted level.

(dollars in millions)	FY 2015 Estimate	FY 2016 Estimate	FY 2017 Estimate
Reimbursements and Trust Funds	\$201.881	\$516.322	\$516.322

CDC's reimbursable activities provide scientific and programmatic expertise to other agencies and organizations. CDC has a long history of partnering with other federal agencies in the shared interest of improving public health and prevention programs. Examples of these activities include:

- CDC will continue its longstanding agreements with other agencies of the Public Health Service, HHS, and others associated with CDC's health statistics studies. CDC will continue to provide scientific and programmatic expertise in areas such as genetic diseases, laboratory tests, investigations, development of worker safety guidance, and training and model screening programs.
- CDC will continue the association between the Epidemiology Program at Department of Veterans Affairs (VA) and the National Center for Health Statistics (NCHS). NCHS will perform searches of the National Death Index (NDI) for VA in research and surveillance studies. The Epidemiology Program conducts research and surveillance studies on the health of veterans to understand the causes and patterns of their health and illnesses. The data and research findings from these studies help VA health professionals improve healthcare practices for veterans. The findings also help VA leadership and Congress improve health policies for veterans.
- CDC will continue to work with the U.S. Agency on International Development (USAID) on various projects including the Emerging Pandemic Threats (EPT) program. The EPT program emphasizes early identification of, and response to, dangerous pathogens in animals before they can become significant threats to human health. These efforts are critical to the sustainability of long-term pandemic prevention and preparedness. They will help develop better predictive models for identification of future viral and other biological threats.
- In addition to reimbursable agreements and user fees, CDC receives funds from Cooperative Research and Development Agreements (CRADAs) to enhance and facilitate collaboration between the agency's laboratories and various partners. CDC provides research personnel, laboratory facilities, materials, equipment, supplies, intellectual property, and other in-kind contributions, and uses the income from CRADAs to continue to improve programs.

SUMMARY TABLE

(dollars in thousands)	FY 2016 Estimate	FY 2017 Estimate
Department of Agriculture 6 Agreements: NHANES Dietary Recall Component, 2011-2012 NHIS Food Security Status Questions. 1 agreement - Surveillance Systems For Foodborne Diseases – Foodnet and FDOSS.	\$6,180	\$6,180
Department of Defense 1 Agreement: National Death Index. 2 Agreements: Ebola Research 25 Agreements to Support the Design and Deployment of the Healthcare Safety Network & Electronic Disease Surveillance System for Saudi Arabia National Guard. Various agreements with the Navy for the Border Infectious Disease Surveillance Project (BIDS). Survey and diagnose cases of Febrile Respiratory Illnesses (FRI) on the Mexican border; clothing and studies. 13 Agreements to Support the Design and Deployment of the Healthcare Safety Network & Electronic Disease Surveillance System for Saudi Arabia National Guard. Various agreements with the Navy to Border Infectious Disease Surveillance Project (BIDS). Survey and diagnose cases of Febrile Respiratory Illnesses (FRI) on the Mexican border; clothing and studies. Biosurveillance Management/Training 1 Agreement for two projects regarding Japanese encephalitis and yellow fever vaccination studies. SNS Vaccine (Smallpox/AVA) Biomedical Research	\$162,519	\$162,519
Department of Energy 6 Agreements regarding Occupational and Environmental Risk; Waterborne Contamination and Diseases. 1 Agreements to assist with Energy Related Analytical Epidemiologic Research, and School Associated Violent Death Studies. 1 agreement. Carry-over. 1 agreement. To Advance the Health Protection Program at Los Alamos National Laboratory (LANL)	\$2,850	\$2,850
Department of Health and Human Services To carry out activities under Section 241 of the Public Health Services (PHS) Act. 115 Agreements to perform various projects, provide ongoing participation in clinical laboratory improvement, develop questions for the National Health Interview Survey. Also, 1 agreement for a Prescription Drug Overdose evaluation. 15 Children's and Aging Forums, Vital Statistics Program and NHANES.	\$197,328	\$197,328
Department of Homeland Security 39 Agreements for Design & Development of Rapid Methods for AMR Susceptibility Testing for Potential BT Agents. 3 Agreements for biothreat agents and assay validation samples - CARRYOVER from FY 2013 1 agreement. Carry-over from FY 2013. NIOSH Health research project BIOASSAYS Near Team Project Validation of DHS Biological Dector System (E.G., Bioplex, generations -3 Biowatch, Public Health Actionable Assays 9PHAA)	\$4,389	\$4,389
Department of Housing and Urban Development 1 Agreement: Support for the Production of the Older Americans Report: Key Indicators of Well Being Report and Other Related Publications. Green Housing Study 1 agreement to continue implementation of compact impact mitigation	\$133	\$133
Department of Interior 1 agreement to continue implementation of compact impact mitigation	\$500	\$500

Department of Justice 1 agreement. VICTIM COMPENSATION FUND (VCF) ENROLLMENT AND ELIGIBILITY MEDICAL AND CLAIMS INFORMATION 1 agreement. Carry-over from FY 2013. Law enforcement office motor vehicle crash and struck-by fatality investigations	\$1,329	\$1,329
Department of Labor 1 Agreement: Support for the Production of the America's Children Report and Other Related Publications.	\$29	\$29
Department of State 5 Agreements: Laboratory testing for Schistosmiasis and Parasitic disease. Also, Supporting Afghanistan Uplift Program, and Biological Emergent Threats (includes numerous/various modifications).	\$15,545	\$15,545
Department of Veterans Affairs 1 Agreement for the salaries, benefits, travel, training, and program administration costs to provide the Department of Veteran's Affairs in California with an Epidemic Intelligence Service (EIS) Officer from July 1, 2013-June 30, 2015 (24 months across 3 FY). IAA is processing and will be modified in FY 15 to augment by \$135,534. 1 Agreement for the salaries, benefits, travel, training, and program administration costs to provide the Department of Veteran's Affairs in California with an Epidemic Intelligence Service (EIS) Officer from July 1, 2014-June 30, 2016 (24 months across 3 FY). 1 agreement. Provide Technical Training and Quality Control Review to Technicians Participating in Spirometry Data Collection 1 Agreement with VA to assist with a "Pandemic Influenza Nurse Triage Line"	\$2,219	\$2,219
Environmental Protection Agency 4 Agreements for Threat Agent Method Development; Surveillance of Human Health and Water Quality and Panels for Ricin and Abrin EPA Technical Assistance 1 agreement. EPA/NIOSH sampling and analysis method development for chemicals in various matrices. 3 Agreements to Collaborate Studies Occupational and Environmental Risk; Waterborne Contaminant and Diseases.	\$42,686	\$42,686
Federal Emergency Management Agency 1 Agreements for Emergency Responses; and Public Health Assessment of Air Quality in Temporary Housing.	\$300	\$300
Food and Drug Administration 3 Health & Nutrition Exam Survey, Resource Data Center	\$11,901	\$11,901
Non-Federal Agencies 4 Agreements: Oral HPV Testing with Ohio State University, Asthma Supplement to the National Ambulatory Medical Care Survey with MERCK, SLAITS with Annie Casey Foundation.	\$5,294	\$5,294
Other 56 Agreements for surveillance and Standardization of Genetic Testing. In addition numerous/various agreements with others such as USAID, WHO, UN, Peace Corp, Exec Office of the President, FBI, Department of Education, Department of Transportation, NASA, Census Bureau, John Hopkins, Coast Guard, Consumer Product Safety, State of Oregon, National Cancer Institute and State Department of Health in Florida, Wisconsin, Wyoming, Iowa, Mississippi, Louisiana and Hawaii, etc. Further, agreements that have to with funding for the President's Malaria Initiative and Emerging Pandemic Threats, as well work in tuberculosis; maternal and child health; immunization; neglected tropical diseases; and water, sanitation and hygiene. Also, agreements for viral hepatitis work as well as the Emerging Pandemic Threats program.	\$75,021	\$75,021
TOTAL	\$516,322	\$516,322

PERFORMANCE

IMMUNIZATION AND RESPIRATORY DISEASES

Immunization Program and Program Implementation and Accountability¹

Performance Measure for Long Term Objective: Ensure that children and adolescents are appropriately vaccinated.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.2.1c: Achieve and sustain immunization coverage in children 19 to 35 months of age for one dose of MMR vaccine (Intermediate Outcome)	FY 2014: 92% (Target Exceeded)	90% ²	90% ²	Maintain
1.2.1h: Achieve and sustain immunization coverage of at least 90% in children 19-35 months of age for at least 4 doses of pneumococcal conjugate vaccine (Intermediate Outcome)	FY 2014: 83% (Target Not Met but Improved)	90%	90%	Maintain
1.2.1i: Achieve and sustain immunization coverage of at least 80% in children 19- to 35-months of age for 2-3 doses of rotavirus (Intermediate Outcome)	FY 2014: 72% (Target Exceeded)	74%	75%	+1
1.2.2a: Achieve and sustain immunization coverage of at least 80% in adolescents 13 to 15 years of age for 1 dose of Tdap (tetanus and diphtheria toxoids and acellular pertussis) (Intermediate Outcome)	FY 2014: 88% (Target Exceeded)	90%	90%	Maintain
1.2.2b: Achieve and sustain immunization coverage of at least 80% in adolescents 13 to 15 years of age for 1 dose of meningococcal conjugate vaccine (MCV4) (Intermediate Outcome)	FY 2014: 79% (Target Exceeded)	84%	87%	+3

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.C: Number of states (including the District of Columbia) achieving 65% coverage for 1 birth dose of hepatitis B vaccine (19–35 months of age) (Output)	FY 2014: 43 (Target Not Met)	50	50	Maintain
1.D: Number of states (including the District of Columbia) achieving 30% coverage for influenza vaccine (6–23 months of age) (Output)	FY 2014: 44 (Target Exceeded)	47	49	+2
1.E: Number of states (including the District of Columbia) achieving 25% coverage for ≥ 3 doses of human papillomavirus vaccine (13–17 years of age) (Output)	FY 2014: 48 (Target Met)	51	51	Maintain
1.F: Number of states (including the District of Columbia) achieving 45% coverage for ≥ 1 dose of Tdap vaccine (13–17 years of age) (Output)	FY 2014: 51 (Target Met)	51	51	Maintain
1.G: Number of states (including the District of Columbia) achieving 45% coverage for ≥ 1 dose of meningococcal conjugate vaccine (13–17 years of age) (Output)	FY 2014: 51 (Target Exceeded)	51	51	Maintain

¹Targets may include budget authority and/or ACA/PPHF funding.

²Targets are maintained at 90% to align with HP2020 targets.

Performance Measures for Long Term Objective: Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.3.1b: Increase the percentage of adults aged 65 and older who are vaccinated against pneumococcal disease (Intermediate Outcome)	FY 2013: 60% (Target Not Met)	79%	82%	+3

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.3.2b: Increase the percentage of pneumococcal vaccination among non-institutionalized high-risk adults ages 18 to 64 (Intermediate Outcome)	FY 2012: 31% (Target Not Met)	42%	45%	+3
1.3.3a: Increase the percentage of adults aged 18 years and older who are vaccinated annually against seasonal influenza (Intermediate Outcome)	FY 2014: 44% (Target Not Met but Improved)	56%	59%	+3

Performance Trends: Immunization continues to be one of the most cost-effective public health interventions. CDC supports the implementation of state-based immunization programs making vaccines available to vulnerable children, adolescents, and adults. CDC estimates that vaccination of children born between 1994 and 2013 will prevent 322 million illnesses; help avoid 732,000 deaths; and save nearly \$1.4 trillion in total societal costs.⁴⁶⁴ Since the adoption of this strategy in 1962, the United States has experienced record high childhood

CDC estimates that vaccination of children born between 1994 and 2013 will prevent 322 million illnesses; help avoid 732,000 deaths; and save nearly \$1.4 trillion in total societal costs.¹

vaccination levels and record low levels of vaccine-preventable diseases (VPDs). Based on 2009 data, for each birth cohort vaccinated against 13 diseases (diphtheria, haemophilus influenzae type b, hepatitis A, hepatitis B, measles, mumps, pneumococcal, pertussis, polio, rotavirus, rubella, tetanus, and varicella) in accordance with the routine childhood immunization schedule, the United States saved 42,000 lives, \$13.6 billion in direct medical costs and prevented 20 million cases of disease. Overall, an estimated

\$3.00 is saved in direct medical costs for every \$1.00 invested in vaccines for VPDs (Table 1)⁴⁶⁵.

⁴⁶⁴ Whitney C, et al. Benefits from Immunization during the Vaccines for Children Program Era — United States, 1994–2013. MMWR: 25 Apr 2014

⁴⁶⁵ Zhou F, et al. Economic Evaluation of the Routine Childhood Immunization Program in the United States, 2009. Pediatrics: 3 Mar 2014.

Table 1: Cost-effectiveness of Childhood Vaccines

Vaccine:	Cost Savings: for every \$1 spent on an individual vaccine
Diphtheria-Tetanus-acellular Pertussis (DTaP)	saves \$47.80
Measles, Mumps, and Rubella (MMR)	saves \$23.30
Inactivated Polio (IPV)	saves \$8.60
Haemophilus influenza type b (Hib)	saves \$4.90
Hepatitis B	saves \$2.40
Varicella	saves \$2.00
Pneumococcal (PCV7)	saves \$1.50
Childhood series (9 vaccines)¹	saves \$10.00

¹Includes DTaP, Hib, hepatitis A, hepatitis B, MMR, PCV7, IPV, rotavirus, and varicella vaccines; hepatitis A and rotavirus vaccines are cost-effective, but not cost saving.

CDC achieved levels near or above national (Healthy People 2020) targets for most of the routinely recommended childhood vaccinations. Since FY 2008, measles, mumps, and rubella (MMR) vaccinations have met or exceeded 90% coverage rates, and CDC will maintain this performance target in FY 2017. Rotavirus vaccine coverage increased by 13 percentage points from 59% in FY 2010 to 72% in FY 2014. Coverage of pneumococcal conjugate vaccine (PCV) was 83% in FY 2014 but has remained about the same since FY 2010 (ranging from 82%-84%) (Measures 1.2.1). Despite this, CDC demonstrated an 88% decline in PCV13-type pneumococcal disease among children less than five years old in the U.S. Although CDC did not meet targeted coverage rates for PCV, strategies to improve the fourth dose of PCV coverage are in place and are similar to those used to improve the uptake of other vaccines, and CDC expects similar gains in the future. Strategies include provider assessment and feedback, use of reminder notifications, immunization information systems, and regular assessment of coverage levels in the National Immunization Survey.

CDC exceeded targets for both adolescent performance measures in FY 2014. Tetanus, diphtheria and pertussis (Tdap) vaccine coverage increased from 74% in FY 2010 to 88% in FY 2014, exceeding its FY 2014 target by four percentage points (Measure 1.2.2a). Meningococcal conjugate vaccine (MCV4) coverage increased from 65% in FY 2010 to 79% in FY 2014, exceeding its FY 2014 target by one percentage point (Measure 1.2.2b). This is a result of CDC's efforts to promote awareness of adolescent immunization recommendations, by providing education and training to both public and private providers to bolster adolescent vaccination rates. Most states achieved target coverage rates for select child and adolescent vaccinations (Measures 1.C-1.G) in FY 2014, with little to no change from states' FY 2013 vaccination coverage rates.

CDC achieved 24% zoster vaccine coverage in 2013 to avert an estimated 43,000 cases of herpes zoster.

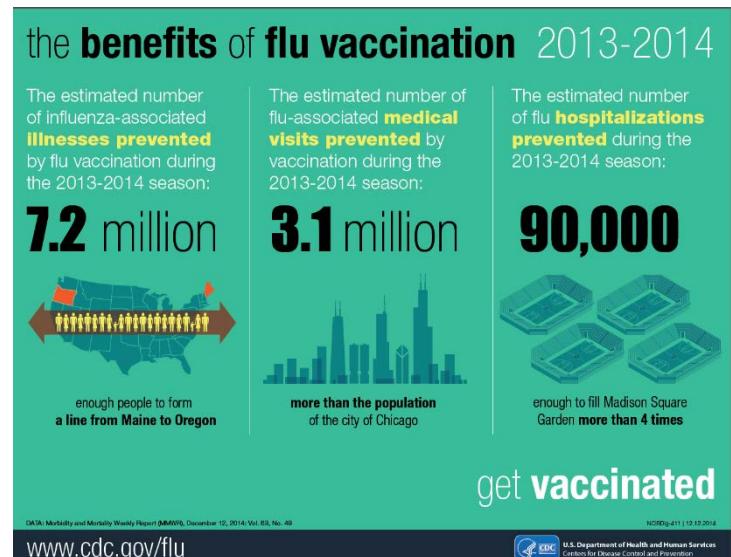
During the past decade, vaccination coverage levels among older adults increased slightly as CDC implemented national strategies and partnered with state and local public health departments to promote adult immunization among healthcare providers and state and local governments. CDC targets are based on HP 2020 goals; however, CDC did not meet the coverage targets for adult pneumococcal adult vaccination. Vaccinations for adults 65 and older have fluctuated within the range of 60% to 62% over the past

vaccination. Vaccinations for adults 65 and older have fluctuated within the range of 60% to 62% over the past

four years (Measure 1.3.1b). The percentage of pneumococcal vaccinations among high-risk adults increased from 17% in FY 2009 to 28% in FY 2010 and to 30% in FY 2011, which exceeded the CDC target by nine percentage points. CDC did not meet the vaccination target in FY 2012, although the percentage of high risk adults vaccinated increased slightly to 31% (Measure 1.3.2b). Measure 1.3.3a reflects the universal influenza vaccination recommendation and aligns with CDC's ACIP updated recommendation (as of 2010) for the seasonal influenza vaccine. In FY 2014, seasonal influenza vaccinations increased slightly by two percentage points.

Addressing barriers to adult immunization and increasing adult vaccination rates requires different strategies from those used to bolster childhood coverage. Adult vaccination recommendations are typically not included in the routine adult preventive care schedule. Further, efforts to increase adult vaccination coverage must include a variety of providers, including general practice doctors, OB-GYN practitioners, other specialists, and pharmacists. CDC's efforts to improve adult vaccination coverage rates include:

- increasing patient and provider education to improve demand
- implementing system changes in practitioner office settings to reduce missed opportunities for vaccinations
- enhancing evidence-based communication campaigns to increase public awareness about adult vaccines and recommendations
- expanding the reach of vaccination programs including new venues such as pharmacies and other retail clinics



DATA: Morbidity and Mortality Weekly Report (MMWR), December 12, 2014; Vol. 63, No. 49

www.cdc.gov/flu

get vaccinated

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Source: <http://www.cdc.gov/flu/pdf/freeresources/nivw-flu-vaccination-benefits-2014.pdf>

Performance Measures for Long Term Objective: Improve vaccination safety and effectiveness.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.5.2: Increase the number of associations between vaccines and adverse health events evaluated to ensure the safety of vaccines used in the U.S. (Outcome)	FY 2014: 482 pairs (Target Exceeded)	482 pairs	512 pairs	+30
1.H: Percentage of Vaccine Events Reporting System (VAERS) reports received electronically (Output)	FY 2015: 25% (Target Not Met)	37%	40%	+3

Performance Trends: A strong vaccine safety monitoring system is essential to ensure that the Nation's vaccines are safe. CDC is the Nation's lead public health agency responsible for providing a safe, effective vaccine supply for all licensed vaccines approved for use in the United States. CDC's vaccine safety findings and recommendations inform the vaccine policy decisions of other federal agencies and the Department of Health and Human Services (HHS) advisory committees, advance vaccine safety science through published findings in

medical and scientific literature, and inform the public of vaccine safety concerns through CDC's website, partnerships, and public health messages. CDC's [Vaccine Safety Datalink System](#)⁴⁶⁶ (VSD) and [Vaccine Adverse Event Reporting System](#)⁴⁶⁷ (VAERS) are vital for rapid detection and accurate assessment of vaccine risks, and allow for monitoring the relationships between adverse health events and vaccines.

In FY 2014, the vaccine-adverse event pair findings increased to 482 over FY 2013 findings (Measure 1.5.2). CDC findings include:

- Influenza vaccines containing the A(H1N1) pdm09 virus strain used in the United States were not associated with an increased risk of narcolepsy.
- With regard to seizures, on-time vaccination is as safe as delayed vaccination in the first year of life, while delayed vaccination in the second year of life is associated with more post-vaccination seizures than on-time vaccination.
- Data continue to indicate that Quadrivalent Human Papillomavirus Virus (HPV4) vaccine is safe.
- Vaccination error reports to VAERS are increasing, allowing better targeted development of prevention strategies to reduce these errors.
- A summary of epidemiologic data on deaths following vaccination showed the limitations of public data and provided examples where reasonable scientific evidence exists to support that vaccination caused or contributed to deaths.

Electronic submission of VAERS vaccine safety reports will improve program decision-making by increasing the timeliness, quality, and quantity of these vaccine safety reports and enhance CDC's ability to quickly evaluate and disseminate safety information to health care providers and consumers. In 2015, VAERS received approximately 44,900 reports, almost 10,000 more than received in 2014. Of these, 25% were submitted electronically (Measure 1.H) which is a seven percent decrease compared to the 2012 baseline. The percentage of patient and parent reports submitted electronically actually increased from 79% in 2012 to 85% in 2015, and the percentage of provider reports submitted electronically increased from 35% in 2012 to 48% in 2015. However, electronic reporting has been declining since 2012 due to a steady increase in manufacturers' submission of paper reports to VAERS, increasing the overall number of reports submitted. In 2015, all manufacturers' VAERS submissions were paper reports which is another indication on why the trend continues to go in the opposite direction.

CDC and FDA continue taking steps to increase electronic reporting. As of June 2015, a new FDA rule went into effect which requires manufacturers to report to VAERS electronically. Once this rule is fully implemented (by the end of 2016), CDC and FDA anticipate a significant increase in electronic reporting to VAERS. CDC and FDA continue to increase automation and implement IT enhancements that are expected to further increase electronic reporting to VAERS. For example, updates have been made to the VAERS reporting interface to facilitate electronic reporting and CDC updated the VAERS form for more direct electronic reporting. This new form will be available for use in 2016.

⁴⁶⁶ <http://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vsd/index.html>

⁴⁶⁷ <http://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vaers/index.html>

Influenza Planning and Response

Performance Measures for Long Term Objective: Protect Americans from infectious diseases – Influenza.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
1.6.1: Increase the number of public health laboratories monitoring influenza virus resistance to antiviral drugs (Output)	FY 2015: 24 (Target Exceeded)	21	21	Maintain
1.L: Number of influenza diagnostic kits and virus reference panels distributed domestically and internationally (Output)	FY 2014: 1775 (Target Not Met)	2,100	2,100	Maintain
1.M: Number of virus specimens received and fully characterized using deep sequencing from global National Influenza Centers for use in determining vaccine strain selection annually ¹ (Output)	FY 2015: 1,237 (Target Exceeded)	2,000	4,000	+2,000
1.O: Increase the percentage of influenza partner countries with a Severe Acute Respiratory Infection (SARI) surveillance system that demonstrate the capacity to improve flu detection and response by conducting syndromic surveillance for flu and other respiratory pathogens.(Output)	FY 2014: 40% (Baseline)	60%	70%	+10
1.P: Percentage of influenza partner countries reporting data routinely into WHO FluNet. (Output)	FY 2015: 69% (Target Not Met)	70%	80%	+10

Performance Trends: As a World Health Organization Collaborating Center for Influenza, CDC enhances global capacity to monitor influenza viruses and inform vaccine policy and treatment recommendations. CDC exceeded by three the FY 2015 target of 21 domestic public health programs monitoring influenza virus resistance to antiviral drugs, continuing a significant increasing trend from the 2009 baseline of three (Measure 1.6.1). However, CDC targets remain at 21 as CDC has reached maximum capacity consistent with funding levels. Resistance monitoring results in more rapid detection and reporting to the affected states and allows for more timely data for case investigations. Timeliness is critical to identify and contain possible clusters of resistant strains and prevent transmission.

Domestic Surveillance

CDC enhances state and local capacity to gather influenza epidemiology and laboratory data essential for systematic and accurate surveillance of seasonal and novel influenza viruses by providing training and resources to its grantees.

Through CDC's [Influenza Reagent Resource](#)⁴⁶⁸ (IRR), CDC distributes its flu diagnostic kits to all qualified state and local public health laboratories engaged in virologic surveillance testing to ensure the availability of timely diagnostic resources domestically and globally. This significantly reduces the financial burden for states. In FY 2012, CDC provided 2,245 influenza diagnostic kits and virus reference panels. CDC provided 1,978 kits and panels in FY 2013 and 1,775 kits and panels, in FY 2014 (Measure 1.L). CDC did not meet its target for FY 2013 or FY 2014 due to changes to the distribution process (from a "push to a pull" approach) which resulted in fewer WHO kits being distributed. The decrease in the number of kits shipped in 2014 may be an indicator of increased efficiency in the IRR system and is likely not an indicator of a problem with the IRR. CDC is currently analyzing the factors that influenced the 2014 results and will consider the appropriateness of current targets as it further refines the IRR.

CDC receives and characterizes approximately 11,000 influenza virus specimens each year. This number fluctuates annually based on the severity and burden of the disease. CDC characterizes virus specimens via "deep sequencing;" shortening the interval between the identification of novel influenza viruses and the delivery of effective vaccines. It also aids in informing vaccine policies and recommendations as well as decisions regarding prospective vaccines for novel viruses with pandemic potential. CDC Worldwide characterization of these specimens is essential to the production of each season's influenza vaccine. During the 2014/2015 influenza season, CDC received and fully characterized 1237 virus specimens using deep sequencing from the global National Influenza Centers for use in vaccine strain selection, representing an increase of over one thousand specimens from the 2013/2014 season. This increase is primarily due to incorporating Advanced Molecular Detection techniques within the characterization process, which helps to inform influenza vaccine virus selection and improve vaccine effectiveness.. CDC expects continued increases through FY 2017 (Measure 1.M).

Global Surveillance

CDC strengthens Global Health Security by equipping partner nations' capacity to improve and sustain their influenza detection and response capabilities through timely reporting into their respective Severe Acute Respiratory Infection (SARI) surveillance systems and the submission of influenza samples to WHO FluNet. With more than 40 countries currently receiving CDC assistance, the ultimate goal is to move them toward complete country-owned influenza surveillance and response programs with minimal ongoing U.S. support. In FY 2014, 40% of partner countries demonstrated the capacity to improve flu detection and response by conducting syndromic surveillance for flu and other respiratory pathogens (Measure 1.O). FY 2015 results will be available in February 2016. CDC will add several new countries to its roster of capacity building Cooperative Agreements in FY 2016, many of whom will be starting at ground zero for flu surveillance and will therefore reduce the proportion of partner countries with the capacity to detect and respond. Therefore, targets may be adjusted to account for these additions. In CDC's efforts to strengthen international influenza monitoring, evaluation, lab testing, and pandemic preparedness have resulted in an increase in the number of countries reporting to WHO FluNet from 40% in FY 2005 to 69 % in FY 2015 (Measure 1.P). CDC anticipates these gains will be sustained with minimal U.S. support as countries achieve capacity to detect and respond to outbreaks. However, as CDC adds new partners to the pool of WHO FluNet contributors, their capacity to collect and test specimens and report results is initially lower than partners that have been contributing for a longer timeframe.

⁴⁶⁸<https://www.influenzareagentresource.org/>

HIV/AIDS, VIRAL HEPATITIS, SEXUALLY TRANSMITTED INFECTIONS, AND TUBERCULOSIS

Domestic HIV/AIDS Prevention and Research

NHAS Performance Measures and CDC Contextual Indicators for Long Term Objective: Reduce new HIV infections.²

Contextual Indicators	Most Recent Result	FY 2020 Target
2.1.1: Reduce the number of new HIV diagnoses by at least 25 percent (Outcome)	FY 2014: 40,493 ¹	32,855
2.1.3: Increase the percentage of people living with HIV who know their serostatus (Outcome)	FY 2012: 87.2% (Target Exceeded)	90.0%

¹Reflects preliminary data and includes diagnoses reported to CDC within 6 months of the diagnosis year.

²CDC's HIV contextual indicators have been updated from the FY 2016 PB to reflect recent changes to NHAS strategies, planning, and measurement.

NHAS Performance Measures and CDC Contextual Indicators for Long Term Objective: Reduce new HIV infections.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.1.8: Reduce the proportion of persons with an HIV diagnosis at later stages of disease within three months of diagnosis (Outcome)	FY 2013: 23.6% (Target Not Met but Improved)	18.9%	18.9%	Maintain
2.1.7: Increase the proportion of adolescents (grades 9-12) who abstain from sexual intercourse or use condoms if currently sexually active (Outcome) ¹	FY 2013: 86.3% (Target Not Met)	N/A ¹	86.9%	N/A ¹

¹Targets and results are set and reported biennially

NHAS Performance Measure and CDC Contextual Indicator for Long Term Objective: Increase access to care and improve health outcomes for people living with HIV.

Contextual Indicators	Most Recent Result	FY 2020 Target
2.2.1: Increase the percentage of newly diagnosed persons linked to HIV medical care within one month ¹ of their HIV diagnosis to at least 85 percent (Contextual Indicator)	FY 2013: 72.6% (Target Exceeded)	85.0%

¹This contextual indicator has been changed from linkage within three months of HIV diagnosis to linkage within one month of HIV diagnosis to align with the National HIV/AIDS Strategy, Updated to 2020.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.2.2: Increase the percentage of HIV-infected persons in CDC-funded counseling and testing sites who were referred to Partner Services to confidentially notify and provide HIV testing and prevention services to partners who may be infected (Outcome)	FY 2013: 85% (Target Exceeded)	85%	85%	Maintain
2.2.3: Increase the percentage of HIV-infected persons in CDC-funded counseling and testing sites who were referred to HIV prevention services to reduce risk of HIV transmission to others (Outcome)	FY 2013: 78.8% (Target Exceeded)	80.0%	80%	Maintain
2.2.4: Increase the number of states that report all CD4 and viral load values for HIV surveillance purposes (Output)	FY 2015: 42 ¹ (Target Exceeded)	43	43	Maintain
2.2.6: Reduce the number of new AIDS cases among adults and adolescents per 100,000 population (Outcome)	FY 2015: 7.9 (Target Exceeded)	10.9	10.9	Maintain

¹42 states + D.C.

Performance Trends: Since the advent of improved HIV treatments in the mid-1990s, the numbers of people with HIV who develop AIDS and die of AIDS-related complications have dropped dramatically. The number of deaths among people with who had ever been diagnosed with AIDS decreased from 18,347 in 2003 to approximately 11,658 in 2013, a 36.5% decrease. However, this success means that the number of people who have the virologic potential to transmit HIV, and the number of people in need of HIV care and treatment, is growing. The estimated number of people living with HIV increased 22.6 percent from 2003 to 2012 to a total of 1,218,400 people.

To reduce HIV transmission, it is necessary to:

- Expand HIV testing to reduce undiagnosed HIV infection;
- Ensure that people living with HIV receive partner services and risk reduction interventions and are linked and retained in medical care;
- Ensure that persons with HIV receiving medical care receive and adhere to effective HIV treatment; and
- Reduce the risk of acquiring HIV among uninfected persons.

Preventing a single case of HIV infection saves an estimated \$402,000 in lifetime HIV medical care and treatment costs for infections that are diagnosed early.⁴⁶⁹ About 50,000 people contract HIV each year, and while the estimated lifetime medical care and treatment costs for these individuals total up to \$19 billion, prevention has significantly reduced the nation's HIV treatment costs. Between 1991 and 2006, HIV prevention and treatment efforts in the United States averted an estimated 350,000 HIV infections and saved more than \$125 billion in

⁴⁶⁹Farnham PG, et al. Updates of lifetime costs of care and quality-of-life estimates for HIV-infected persons in the United States: Late versus early diagnosis and entry into care. JAIDS 2013. 64:183-189.

direct medical costs.⁴⁷⁰ A 2011 study assessed the cost effectiveness of CDC-funded prevention programs conducted by health departments and found that they are cost-saving.⁴⁷¹

Reducing the number of HIV infections ensures significant cost-savings for the federal government, which spent an estimated \$17.5 billion on healthcare for people living with HIV in 2015.⁴⁷²

Despite this progress, the number of new HIV infections, HIV-related morbidities, and disparities experienced by racial and ethnic minorities, low income persons, gay and bisexual men and others at increased risk remain unacceptably high. In July 2015, the Administration updated the *National HIV/AIDS Strategy (NHAS)*. The new *NHAS* update sets the stage for more rapid progress toward ending the Nation's AIDS epidemic by guiding federal agencies and other partners towards the most effective and efficient ways to implement recent advances in HIV prevention and treatment. There are four overarching goals of the *NHAS*: 1) reduce the number of new HIV infections, 2) increase access to care and improve health outcomes for people living with HIV, 3) reduce HIV-related health disparities and health inequities, and 4) achieve a more coordinated response to the national HIV epidemic.

Reducing HIV diagnoses is a shared *NHAS* and CDC priority. HIV diagnoses declined significantly from approximately 53,000 cases in 2003 to approximately 40,000 cases in 2014 due to numerous federal, state, local government and community response efforts (Contextual Indicator (CI) 2.1.1)).⁴⁷³ HIV diagnoses declined among certain groups (e.g., injection-drug users and heterosexuals), but increased among young men who have sex with men (MSM). CDC's analysis of HIV diagnoses data from 2010 to 2014 reveals signs of an encouraging decrease in new HIV diagnoses among heterosexual black women, which contributed to an overall decrease among heterosexual women. Diagnoses are stabilizing among black gay and bisexual men and young black gay and bisexual (13-24 years of age); however, diagnoses increased among gay and bisexual Latino men increased in the same time period.⁴⁷⁴ The uneven pace of progress across regions and among high-risk groups signals an urgent need to accelerate access to testing, treatment, and prevention strategies for all individuals at risk, to ensure that every American has the knowledge and tools needed to protect themselves and their partners from infection with HIV.

Prevention Challenge:
HIV transmission rates declined by 45% over the last 12 years, but the number of people with HIV has increased because they are living longer with HIV due to better care.

Ensuring that people with HIV are aware of their serostatus and are diagnosed earlier in the course of infection are key strategies for improving the health of those infected and for preventing HIV transmission to others. Data for 2013 indicate all CDC-funded health department HIV testing programs conducted nearly 3 million HIV tests and further increased routine HIV testing in health care and community settings while identifying about 15,000

⁴⁷⁰Farnham P, et al. Medical costs averted by HIV prevention efforts in the United States, 1991—2006. JAIDS 2010. 54:565-7.

⁴⁷¹Lasry, A., et al., A model for allocating CDC's HIV prevention resources in the U.S. Health Care Manag Science, 2011. 14(1): 115-124.

⁴⁷²<http://kff.org/global-health-policy/fact-sheet/u-s-federal-funding-for-hivaids-the-presidents-fy-2016-budget-request>

⁴⁷³ <http://www.nejm.org/doi/full/10.1056/NEJMms1513641>

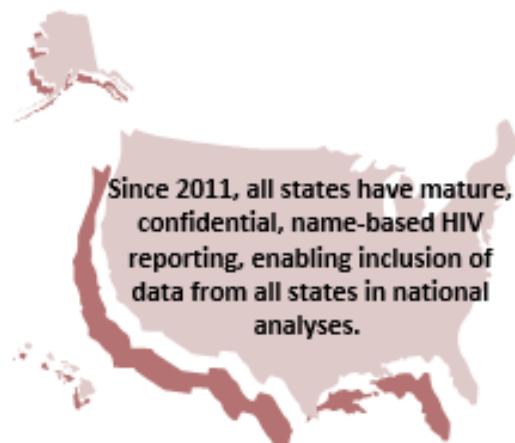
⁴⁷⁴ <http://www.cdc.gov/hiv/pdf/policies/cdc-hiv-prevention-bluebook.pdf>

previously undiagnosed cases of HIV infection. HIV testing prevents new HIV infections and reduces medical care costs. For example, CDC's Expanded Testing Initiative prevented an estimated 3,380 new HIV infections in its first three years and saved an estimated \$1.2 billion in direct medical costs.⁴⁷⁵ Those living with HIV who know their serostatus increased from 80.9% in 2006 to 87.2% in 2012 (CI 2.1.3). This means seven out of eight people living with HIV in 2012 knew their status. In 2013, 23.6% of persons diagnosed with HIV were diagnosed late in the course of infection, an improvement over 2012 results (Measure 2.1.8).

When an individual tests positive for HIV, appropriate medical care and confidential partner notification services and other prevention services are critical to reducing the risk of future HIV transmission. CDC data from 19 state and local jurisdictions with laboratory reporting of CD4 and viral load test results demonstrate progress on increasing linkage to care compared to an earlier national estimate. In recognition of the benefits of early treatment and thus the need for immediate linkage to HIV medical care for all persons newly diagnosed with HIV, linkage to care within one month of diagnosis is the priority for NHAS and CDC with a 2020 goal of 85% of all persons diagnosed with HIV linked to HIV medical care within one month of diagnosis (2.2.1). Linkage was 70.2% in 2010 (baseline year) and improved to 72.6% in 2013. CDC will be better able to assess national progress as more state and local jurisdictions provide complete CD4 and viral load data in the coming years. CDC also increased referrals to Partner Services for people diagnosed with HIV in publicly-funded HIV testing sites from 83.2% in 2012 to 85.0% in 2013, exceeding the 2013 target (Measure 2.2.2). CDC also increased referrals for these individuals to other HIV prevention services from 75.8% in 2012 to 78.8% in 2013 (Measure 2.2.3). Since FY 2011, referrals to Partner Services have increased eight percentage points while referrals to other HIV prevention services have increased 15 percentage points. CDC prioritized these services in its health department funding agreement, which began in FY 2012, and is providing expert advice and assistance to grantees to further improve performance in these areas.

CDC monitors HIV through the National HIV Surveillance System, using the data to direct prevention efforts and provide researchers, policymakers, and the public with a timely understanding of HIV trends in the United States. With more than 80 percent of diagnosed cases reported, HIV and AIDS case surveillance data meet high standards for completeness of reporting. CDC is also working in collaboration with state and local health departments to better monitor the effects of HIV medical care through expanded reporting of CD4 and viral load test results. For FY 2015, 42 states and Washington, D.C. required reporting of all CD4 and viral load values, an increase of two states from FY 2014 and exceeding the FY 2015 target while continuing a steady increase in states meeting reporting requirements (Measure 2.2.4). CDC programs seek to reduce progression from HIV infection to AIDS and monitor disease progression using surveillance data. The AIDS rate dropped from 12.3 per 100,000 population in 2009 to 7.9 per 100,000 in FY 2015 (Measure 2.2.6). Given the updated NHAS, FY 2017 targets will remain level with FY 2016.

Scientific reviews document that school health programs can positively impact health-risk behaviors, health outcomes, and educational outcomes. CDC-led studies demonstrate that school health programs can also be



⁴⁷⁵Hutchinson A et al. 2012). Return on public health investment: CDC's Expanded HIV Testing Initiative. JAIDS 2012. 59: 281-6.

cost effective. For example, every dollar invested in school-based HIV, sexually transmitted infections (STI), and pregnancy prevention efforts saves \$2.65 in medical and social costs. These efforts address NHAS imperatives to provide age-appropriate HIV and STI education for all Americans. The percentage of students who ever had sexual intercourse decreased significantly from 54.1% in 1991 to 46.8% in 2013. Condom use during most recent sexual intercourse among sexually active students increased from 46.2% in 1991 to 59.1% in 2013. CDC did not meet its FY 2013 target for the percentage of adolescents in grades 9 to 12 abstaining from sexual intercourse or using condoms if currently sexually active. However, the change from FY 2012 is minimal, dropping slightly from 86.8% in FY 2012 to 86.3% in FY 2013 (Measure 2.1.7). CDC strategies to improve performance for this measure focus on strengthening the health infrastructure of state and local education agencies and addressing critical health issues including HIV/AIDS, STIs, and teen pregnancy prevention in schools. In the long term, CDC estimates the proportion of adolescents in grades 9 to 12 who abstain from sexual intercourse or use condoms if sexually active will increase as a result of these strategies.

Viral Hepatitis

Performance Measures for Long Term Objective: Reduce the rates of viral hepatitis in the United States.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.6.1: Reduce the rate of new cases of hepatitis A (per 100,000 population) (Outcome)	FY 2013: 0.6 (Target Not Met)	0.4	0.4	Maintain
2.6.2: Reduce the rate of new cases of hepatitis B (per 100,000 population) (Outcome)	FY 2013: 1.0 (Target Exceeded)	0.9	0.9	Maintain
2.6.4: Increase the number of state and local health departments reporting viral hepatitis data of sufficient quality to be included in national surveillance reports (Output)	FY 2013: 7 (Target Met)	10	10	Maintain

Performance Trends: In the United States, hepatitis A, B, and C viruses (HAV, HBV, and HCV) are the main causes of viral-induced hepatitis. An estimated 3.5–5.5 million people are chronically infected with HBV or HCV, and at elevated risk for cirrhosis, liver cancer, and early death.

Before the 1996 implementation of Advisory Committee on Immunization Practices (ACIP) recommendations for hepatitis A immunization, an estimated 271,000 infections and 100 deaths occurred as a result of acute liver failure attributed to HAV each year. Through the implementation of effective immunization strategies, nationwide HAV incidence decreased approximately 95% since 1995. The 2013 rate of 0.6 cases per 100,000 approaches the Healthy People 2020 target of 0.3 cases per 100,000 but fell just short of the target of 0.5 cases per 100,000 (Measure 2.6.1). Since 2011, an increase in the number of reported cases of hepatitis A has been observed. In 2013, there were 1,781 reported cases of hepatitis A, which represented a 14% increase from 2012; the 2013 rate was 0.5 cases per 100,000. This increase reflects cases ascertained during a large hepatitis A outbreak from imported pomegranate arils [commonly referred to as seeds] consumed by persons in several southwestern states and Hawaii. CDC expects that expansion of 2006 recommendations for routine hepatitis A vaccination, which now include children in the United States aged 12–23 months, will be needed to reduce hepatitis A rates further. Although hepatitis A vaccination coverage is increasing in the United States among children 19–35 months, the proportion of children who were fully vaccinated was only 55% in 2013, the lowest coverage level for any vaccine in the infant immunization schedule. Most adults are susceptible to hepatitis A, through lack of childhood exposure or vaccination, and are vulnerable to infection particularly during food-

borne outbreaks of hepatitis A: adults with hepatitis A have the highest risk for liver failure and death. An update of ACIP recommendations for hepatitis A vaccination is an opportunity to present new strategies to improve vaccination coverage and guide the use of hepatitis A vaccination in response to disease outbreaks.

As a result of implementation of hepatitis B vaccination strategies, from 2009 to 2013 declines in hepatitis B incidence have occurred among all age groups, but are greatest among children under 15 years of age. The 2013 hepatitis B incidence rate is 1.0 cases per 100,000 (Measure 2.6.2), still lower than the 2009 rate of 1.1 cases per 100,000 but higher than the 2012 rate of 0.9 cases per 100,000. However, the results of the declines have not been equal across all groups, for example, relatively high rates remain for persons aged 30-39 years (2.42 cases/100,000 population), males (1.21 cases/100,000 population), and non-Hispanic, African Americans (0.95 cases per 100,000 population).

The number of persons with chronic HBV infection in the United States remains high—estimated to be up to 1.4 million. People with hepatitis B can spread the virus to others and are at risk of serious health problems themselves. Of major concern are the infants born to pregnant women with hepatitis B because those infants are at increased risk for perinatal HBV transmission. If infants are infected with HBV, they have a 90% chance of developing lifelong HBV infection, and therefore have a 25% risk of premature death from liver failure and/or liver cancer. Elimination of mother-to-child transmission of HBV is one of the goals of the national viral hepatitis action plan⁴⁷⁶ and is the priority for CDC funded Perinatal Hepatitis B Prevention Programs (PHBPP). Emerging data suggest these perinatal prevention programs are improving prevention of infant HBV infection. CDC is supporting PHBPP by facilitating laboratory reporting of HBV infected pregnant women by national commercial laboratories, and encouraging administration of the first dose of hepatitis B vaccine routinely before hospital discharge, as recommended by ACIP, and a new [National Quality Forum](#)⁴⁷⁷ hepatitis B birth dose coverage quality measure.

CDC continues to pursue opportunities for reducing new HBV infections in populations other than children. For example, in 2011, CDC provided technical analyses to the ACIP to expand recommendations for adult hepatitis B vaccination to include persons with diabetes aged 19–59, given the increased risk of HBV infection in this population. Because patients with chronic HBV infection in the United States place healthcare personnel at risk for HBV exposure in the workplace, in 2013 CDC provided guidance to address the challenge of evaluating hepatitis B protection among healthcare personnel vaccinated in infancy and childhood, and updated recommendations for post-exposure prophylaxis for exposed personnel.⁴⁷⁸ In 2014, the U.S. Preventive Services Task Force issued updated recommendations for *Screening for Hepatitis B Virus Infection in Nonpregnant Adolescents and Adults*.

Improvements in surveillance and monitoring are needed to rapidly detect and prevent new HCV infections, as well as to assure that HCV infected persons receive appropriate care and treatment to avoid premature death. For example, of persons with hepatitis C who do not receive needed care and treatment; approximately one million will die from HCV-related complications; unfortunately, at a time of safe and curative therapies for hepatitis C, up to 60% of the estimated 3 million Americans living with HCV do not know they are infected and even fewer are receiving appropriate care. To improve strategies for HCV testing and linkage to care which previously were based on the ascertainment of risks for infection, CDC recently expanded the recommendations to include routine one-time screening for all persons born during 1945-1965; this population has a five-fold

⁴⁷⁶U.S. Department of Health and Human Services, Office of the Assistant Secretary for Health, Office of HIV/AIDS and Infectious Disease Policy. Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis (2014-2016). Washington, DC: U.S. Department of Health; April 2014.

⁴⁷⁷ <http://www.cdc.gov/hepatitis/hbv/perinatalxmtn.htm>

⁴⁷⁸Centers for Disease Control and Prevention (CDC). CDC guidance for evaluating health-care personnel for hepatitis B virus protection and for administering post-exposure management. MMWR 2013;62(No. RR-10).

greater prevalence of HCV infection than other adults. This approach (in addition to risk-based screening) could reduce hepatitis C related deaths by 320,000.⁴⁷⁹

CDC provides technical assistance to states for improving viral hepatitis surveillance; however, only limited funding is provided to enable enhanced surveillance to obtain more complete demographic information on individuals with acute and chronic viral hepatitis infection. As a result, few states are able to conduct comprehensive follow-up activities of all persons with positive laboratory reports. Current funding recipients are Florida, Massachusetts, Michigan, New York, Washington, Philadelphia, and San Francisco. Although CDC did not meet targets in FY 2011 and FY 2012, CDC expanded the scope of this measure in FY 2013 to include chronic viral hepatitis. As a result, CDC met the FY 2013 target with seven states providing quality acute hepatitis data to be included in national reports (Measure 2.6.4).

Greater effort is needed to improve the quality of viral hepatitis surveillance data, particularly to track the burden of chronic infection and access to preventive services. The current volume of viral hepatitis testing overwhelms the existing surveillance capability of most state and local health departments. Adding to the challenges of surveillance, screening for the presence of HCV requires two tests: one test to detect a history of infection and if positive, a second test to determine current infection. State and local health departments have limited capacity to access the large volume of viral hepatitis laboratory data, process the incoming data (including sorting the multiple records that exist for persons living with hepatitis B or C given the complexity of hepatitis testing), ensure the quality of the data, investigate cases and obtain complete case information, and assure infected persons are linked to care and treatment. As a consequence, the number of cases reported to CDC underestimate the expected number of cases actually occurring, and do not always include sufficient information about the case. In 2013, over 31,000 reports of chronic hepatitis B and over 132,000 reports of chronic hepatitis C were submitted to CDC; however, sufficient information was only available for approximately 50% of the reports of chronic hepatitis B infection and 60% of the reports of chronic hepatitis C infection.

Sexually Transmitted Infections

Performance Measures for Long Term Objective: Reduce pelvic inflammatory disease in the United States.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.7.1: Reduce pelvic inflammatory disease in women aged 15–44 years in the U.S. as measured by initial visits to physicians (NDTI) (Outcome)	FY 2014: 98,000 (Target Met)	86,423	86,423	Maintain
2.7.2a: Reduce the percentage of high-risk women aged 16–20 infected with chlamydia (Outcome) ¹	FY 2013: 13.3% (Target Not Met)	11.75%	11.75%	Maintain
2.7.2b: Reduce the percentage of high-risk women aged 21–24 infected with chlamydia (Outcome) ¹	FY 2013: 9.4% (Target Not Met)	8.32%	8.32%	Maintain
2.7.4a: Reduce the rate of gonorrhea per 100,000 population in women aged 16–20 (Outcome)	FY 2014: 523.9 (Target Exceeded)	524.6	523.9	-0.7

⁴⁷⁹Rein DB, Wittenborn JS, Smith BD, Liffmann DK, Ward JW. The Cost-effectiveness, Health Benefits, and Financial Costs of New Antiviral Treatments for Hepatitis C Virus. Clin Infect Dis. 2015 Jul 15;61(2):157-68.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.7.4b: Reduce the rate of gonorrhea per 100,000 population in women aged 21–24 (Outcome)	FY 2014: 508.1 (Target Exceeded)	507.7	507.7	Maintain
2.7.4c: Reduce the racial disparity of gonorrhea in women aged 16–24 (is black: white) (Outcome)	FY 2014: 10.3:1 ratio (Target Exceeded)	10.1:1 ratio	10.1:1 ratio	Maintain
2.7.5: Increase the proportion of gonorrhea patients who are treated with a CDC-recommended antibiotic regimen for gonorrhea (Outcome)	FY 2013: 80.1% (Historical Actual)	87.5%	87.5%	Maintain
2.7.6a: Increase the proportion of sexually active women aged 16–20 enrolled in Medicaid health plans who are screened for chlamydial infection (Outcome)	FY 2014: 52.3% (Target Not Met)	62.5%	62.5%	Maintain
2.7.6c: Increase the proportion of sexually active women aged 21–24 enrolled in Medicaid health plans who are screened for chlamydial infection (Outcome)	FY 2014: 62.0% (Target Not Met)	66.0%	66.0%	Maintain
2.7.6b: Increase the proportion of sexually active women aged 16–20 enrolled in commercial health plans who are screened for chlamydial infection (Outcome)	FY 2014: 42.7% (Target Not Met but Improved)	43.5%	43.5%	Maintain
2.7.6d: Increase the proportion of sexually active women aged 21–24 enrolled in commercial health plans who are screened for chlamydial infection (Outcome)	FY 2014: 52.1% (Target Not Met but Improved)	52.7%	52.7%	Maintain

¹In FY 2013 CDC improved the calculation of data for these measures, increasing the stability of estimates over time.

Performance Measures for Long Term Objective: Eliminate congenital syphilis.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 Target +/- FY 2016 Target
2.9.1: Reduce the incidence of primary & secondary syphilis in women aged 15–44 (per 100,000 population) (Outcome)	FY 2014: 2.6 (Target Not Met)	0.80	0.80	Maintain
2.9.2: Reduce the incidence of congenital syphilis (per 100,000 live births) (Outcome)	FY 2014: 11.6 (Target Not Met)	6.2	6.2	Maintain
2.9.3: Increase percentage of pregnant women screened for syphilis at least one month before delivery (Outcome)	FY 2013: 85.1% (Target Exceeded)	84.0%	84.0%	Maintain

In 2015, 49 STI Disease Intervention Specialists (DIS) from other state programs responded to an outbreak in Indiana of HIV and a related cluster of Hepatitis C, among persons who inject drugs. The DIS identified infected persons, connected them to care, and contained the outbreak.

Performance Trends: CDC assures the provision of quality sexually transmitted infection (STI) services in both the public and private sectors through technical assistance, issuing guidelines and recommendations, and providing education and training. CDC establishes screening recommendations and works with partners and healthcare providers to encourage adherence to these standards. Monitoring progress in screening and reducing disease burden informs programmatic priorities and resource allocation.

Screening improvements and investments in other STI prevention strategies will not only avert infections and improve national health outcomes but will prove cost-effective, due to the high, and increasing, economic burden associated with STIs and their sequelae.⁴⁸⁰ Published estimates demonstrate that chlamydia screening in sexually active young women is cost-effective, ranging from \$2,500–\$37,000 per quality-adjusted life-year.

CDC's long-term objectives are to reduce pelvic inflammatory disease (PID) and eliminate congenital syphilis. PID is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. Infections due to *Chlamydia trachomatis* and *Neisseria gonorrhoea* are major causes of PID. The number of initial visits to physicians in women aged 15–44 years diagnosed with PID decreased from 100,000 in 2009 (baseline) to 98,000 in 2014 (Measure 2.7.1).

⁴⁸⁰Chesson HW, et al. The estimated direct medical cost of sexually transmitted diseases among American youth, 2000. Perspectives on Sexual and Reproductive Health 2004, 36(1): 11–19. Also: Maciosek, M, et al. Priorities Among Effective Clinical Preventive Services: Results of a Systematic Review and Analysis. American Journal of Preventive Medicine, 2006; (31) 1, 52–61.

Reported chlamydial infection rates among women have increased annually since the late 1980s, when the United States established public programs for screening and treatment of women to avert PID and related complications. In part, this reflects expanded chlamydia screening activities, the use of increasingly sensitive diagnostic tests, increased emphasis on case reporting from providers and laboratories, and improvements in reporting systems. However, the increase may also reflect a true increase in morbidity. Data from a randomized controlled trial of chlamydia screening in a managed care setting suggested that screening programs can lead to as much as a 60% reduction in PID incidence (Measures 2.7.1-2.7.2, 2.7.6).

In 2015, CDC's STD lab discovered that a novel antibiotic inhibits DNA biosynthesis of gonorrhea in vitro and demonstrates a high level of antimicrobial activity against these bacteria.

In previous years, CDC restricted the chlamydia prevalence estimates for females entering a national job training program to those states with greater than 100 tests among females aged 16-24 years. However, since estimates are stratified by age (16-20 and 21-24 years), in 2013 CDC began applying the same restriction (greater than 100 tests) within each age group, which will improve the stability of estimates over time (Measures 2.7.2a and 2.7.2b).

From FY 2013 to FY 2014 chlamydia screening rates among women 16-20 and 21-24 enrolled in Medicaid health plans decreased, while screening rates among women aged 16-20 and 21-24 enrolled in commercial plans increased.

- Among sexually-active women aged 16–20 years enrolled in Medicaid health plans, chlamydia screening rates decreased from 53.0% in 2013 to 52.3% in 2014 (Measure 2.7.6a).
- Among sexually-active women aged 21–24 years enrolled in Medicaid health plans, chlamydia screening rates decreased from 64.1% in 2013 to 62.0% in 2014 (Measure 2.7.6c).
- Among sexually-active women aged 16–20 years in commercial plans, chlamydia screening rates increased from 42.3% in 2013 to 42.7% in 2014 (Measure 2.7.6b).
- Among sexually-active women aged 21–24 years in commercial plans, chlamydia screening rates increased from 51.2% in 2013 to 52.1% in 2014 (Measure 2.7.6d).

CDC is collaborating with the health care sector to increase adherence to existing recommendations and developing tools for providers to increase awareness and assist with chlamydia screening implementation. Chlamydia screening in private and public health plans reporting this measure may be plateauing, changing only slightly from 2012 to 2013. CDC is working with its partners to better understand what may be causing this, and to develop strategies that health plans could use to increase recommended chlamydia screening in this population.

Following a 74% decline in the rate of reported gonorrhea during 1975–1997, the overall gonorrhea rate decreased to 98.1 cases per 100,000 population in 2009—the lowest rate since recording of gonorrhea rates began. However, during 2009–2012, the rate increased slightly each year, to 106.7 cases per 100,000. In 2013, the rate decreased to 105.3 cases per 100,000 population. But in 2014, a total of 350,062 gonorrhea cases were reported, and the national gonorrhea rate increased to 110.7 cases per 100,000 population. An increase in gonorrhea rate from 2013–2014 was observed primarily among men. In 2014, among women aged 16–20, the rate of gonorrhea per 100,000 population was 523.9, a steady decline since 2011, and among women aged 21–24, the rate of gonorrhea per 100,000 population was 508.1. The black: white ratio among gonorrhea in women aged 16–24 has also seen steady decreases since 2011, and was 10.3:1 in 2014 (Measures 2.7.4a-c).

Antimicrobial resistance remains an important consideration in the treatment of gonorrhea. In FY 2014, CDC added a new measure tracking the proportion of gonorrhea patients who are treated with a CDC-recommended

antibiotic regimen for gonorrhea. In FY 2013, 80.1% of gonorrhea patients received treatment with a CDC-recommended antibiotic regimen (Measure 2.7.5), slightly down from the FY 2012 rate of 80.8%. CDC expects to increase this proportion to 87.5% by FY 2017.

The primary and secondary syphilis rate (P&S) among women aged 15–44 increased from 2.1 cases per 100,000 in 2013 to 2.6 cases per 100,000 in 2014. To prevent further increases of syphilis among women, STD prevention programs must quickly identify and respond, through screening efforts, to syphilis cases among women and their male partners. CDC has set a FY 2017 target of 0.80 (Measure 2.9.1).

Congenital syphilis (CS) is a preventable disease which could be eliminated through consistent and effective antenatal screening and treatment of infected pregnant women. Elimination of CS would contribute to reductions in lost pregnancies and preterm/low birth weight infants. Congenital syphilis rates decreased from 2008–2012 (10.5 to 8.4 cases per 100,000 women), reflecting trends in rates of P&S syphilis among women during the same period, which decreased from 1.5 to 0.9 cases per 100,000 women. Congenital syphilis rates increased during 2012–2014 from 8.4 to 11.6 cases per 100,000 live births (Measure 2.9.2); as has been observed with earlier CS trends, this reflects an increase in the rate of P&S syphilis among women (22.2% increase, from 0.9 to 1.1 cases per 100,000 women) during the same period.⁴⁸¹ Although CDC did not meet the FY 2014 target, CDC plans to strengthen partnerships with health care providers to train them about the importance of ensuring that pregnant women receive syphilis testing and timely treatment.

Tuberculosis

Performance Measures for Long Term Objective: Decrease the rate of cases of tuberculosis (TB) among U.S.-born persons in the United States.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.8.1: Decrease the rate of cases of tuberculosis among U.S.-born persons (per 100,000 population) (Outcome)	FY 2014: 1.2 (Target Exceeded)	1.2	1.2	Maintain
2.8.2: Increase the percentage of newly diagnosed TB patients who complete treatment within 12 months (where <12 months of treatment is indicated) (Outcome)	FY 2012: 89.9% (Target Exceeded)	91.5%	92%	+0.5
2.8.3: Increase the percentage of culture-positive TB cases with initial drug susceptibility results reported. (Outcome)	FY 2014: 96.2% (Target Exceeded)	98%	98.5%	+0.5

⁴⁸¹ Centers for Disease Control and Prevention (CDC). (2015, November 13). Increase in Incidence of Congenital Syphilis — United States, 2012–2014. MMWR. Morbidity and Mortality Weekly Reports.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6444a3.htm>

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
2.8.4: For contacts to sputum acid-fast bacillus smear-positive TB cases who have started treatment for newly diagnosed latent TB infection, increase the proportion of TB patients who complete treatment. (Outcome)	FY 2012: 65.9% (Target Not Met)	70%	70%	Maintain
2.T: Number of state public health laboratories participating in the TB Genotyping Network (Output)	FY 2015: 50 (Target Met)	50	50	Maintain

Performance Trends: Effective control efforts by CDC and its 68 state and local partners contributed to the lowest number of U.S. Tuberculosis (TB) cases since national reporting began in 1953. Data indicate there were 9,421 TB cases in 2014 (3.0 per 100,000 population), including 3,188 cases (1.2 per 100,000 population) for U.S. born persons (Measure 2.8.1). Reflecting program effectiveness, the United States consistently ranks among the lowest TB incidence countries in the world.

TB drug resistance is increasing globally; the World Health Organization (WHO) estimates that around 450,000 cases of drug-resistant TB occurred in 2012. However, the number of drug resistant cases in the United States remains stable at less than one percent of all cases (approximately 100 cases per year). CDC monitors key TB program indicators, including treatment completion within one year, timely laboratory reporting, and testing of all TB patients for HIV to ensure coordinated care and other prevention activities. CDC works with state and local TB programs to improve performance on these indicators so that prevention, control, and laboratory activities contribute to the U.S. goal of TB elimination (defined as a case rate of less than one case per million population). TB treatment completion is the most effective way to reduce the spread of TB and prevent its complications. Therefore, increasing the proportion of patients who complete treatment is the highest priority for CDC's TB Elimination program. CDC continues to see an increase in the percentage of newly diagnosed TB patients who complete treatment within 12 months. In 2012, 89.9% of patients completed a curative course of treatment for TB (Measure 2.8.2), which exceeded the target of 88%. This is a considerable increase over the 1994 baseline of 67.6% and is credited with keeping U.S. rates of drug-resistant TB low. Because completion of therapy is critical for reducing TB incidence, and it is harder for vulnerable populations (i.e., persons with HIV or diabetes or who are affected by homelessness, incarceration, or substance abuse), CDC's TB funding formulas are weighted to provide additional resources to programs that serve a larger proportion of them. CDC also provides on-site assistance, upon request, to state and local health departments who are addressing TB outbreaks to assure all contacts are evaluated and that people with TB disease complete therapy. CDC supports efforts in public health laboratories to test for drug resistance and use [Advanced Molecular Detection](#)⁴⁸² tools to genetically map TB specimens to develop a database to better understand and halt the spread of the disease. From FY 2011 to FY 2013, CDC exceeded targets of the percentage of results reported for culture-positive TB cases with initial drug susceptibility. In 2014, 96.2% of culture-positive TB cases underwent initial drug susceptibility testing, exceeding the 95% target (Measure 2.8.3). CDC continues to meet its target of 50 participating state public health laboratories in the TB Genotyping Network (Measure 2.T). Other laboratories also contributed to these efforts, including facilities in Washington, D.C., Puerto Rico, and the Pacific Islands.

⁴⁸² <http://www.cdc.gov/amd/project-summaries/tuberculosis-surveillance.html>

Treatment for latent TB infection, another important priority, can prevent a person from developing active TB disease, protect their close contacts from being infected, and, ultimately, protect a community from TB. Treatment for LTBI is essential to eliminate TB in the United States. CDC supports state and local TB programs in their efforts to locate, diagnose, and treat contacts who may have been exposed to a person with TB disease. About 75% of the U.S. cases of TB disease result from latent TB infection that has become reactivated. CDC estimates up to 13 million people in the United States have latent TB infection and that offering them screening and treatment can have a significant impact on reducing future cases and reaching our goal of elimination. In 2012, 65.9% of contacts to sputum acid-fast bacillus smear-positive TB cases (i.e., patients who are considered most at risk for transmitting TB) who started treatment for newly diagnosed latent TB infection completed a treatment regimen (Measure 2.8.4), short of the target of 70% and slightly below the FY 2011 result of 66.5%. Both CDC and TB programs are working to improve progress on this indicator. For example, research funded by CDC through the [TB Trials Consortium](#)⁴⁸³ identified a new regimen for treatment for latent TB infection (LTBI) that requires three months of treatment, instead of nine, and therefore, is more likely to be completed. CDC published new guidelines for the regimen and has been evaluating their implementation in programs.

Additionally, CDC continues to explore the economic impact of LTBI and TB disease. Direct medical costs of LTBI screening and treatment ranged from approximately \$383 to \$614 per person (2014 dollars). The direct medical cost of curing TB disease is approximately \$17,000 per case of drug-susceptible TB disease treated by directly observed therapy. Costs rise for multi-drug resistant cases of disease to \$150,000 for treatment, diagnostics, case management, hospitalization, etc., and if productivity loss during treatment is included, the cost is almost doubled to \$282,000. For an extensively drug-resistant TB case, the cost for direct treatment is \$482,000 per case and \$664,000 when productivity loss during treatment is included.

CDC improved detection of large TB outbreaks by establishing surveillance of ≥10 genotype-matched TB cases related by recent transmission. From April 2014-March 2015, 18 suspected large outbreaks were detected in the U.S., 78% of which were initially identified by CDC.

⁴⁸³ <http://www.cdc.gov/tb/topic/research/tbtc/>

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

Core Infectious Diseases

Performance measure for Long Term Objective: Build and Strengthen health information systems capacity in state and local health departments.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.5.2: Increase the percentage of laboratory reports on reportable conditions that are received through electronic means nationally (Outcome) ¹	FY 2015: 69% ² (Target Not Met)	75%	80%	+5

¹Targets reflect ACA/PPHF funding.

²Result for Measure 3.5.2 was updated from the FY 2016 President's Budget as final data was acquired.

Performance measure for Long Term Objective: Protect Americans from Infectious Diseases—Vector-borne.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.G: Cumulative number of tests performed worldwide to diagnose bacterial, viral, and rickettsial infections transmitted by mosquitoes, ticks, and fleas using CDC-produced reagents. (Outcome)	FY 2014: 1,158,075 (Baseline)	2,158,075	2,658,075	+500,000

Performance measure for Long Term Objective: Reduce the spread of antimicrobial resistance.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.2.3: Decrease the proportion of hospitals with carbapenem-resistant <i>Klebsiella spp.</i> or <i>Escherichia coli</i> (E.coli) healthcare-associated infections (Outcome)	CY 2014: 8.3% (Target Not Met)	5.7%	5.3%	-0.4
3.2.4a: Reduction in community-onset <i>Clostridium difficile</i> infections standardized infection ratio (SIR). (Outcome)	FY 2014: 1.00 (Baseline)	0.84	0.76	-0.08
3.2.4b: Reduction in hospital-onset <i>Clostridium difficile</i> infections standardized infection ratio (SIR) (Outcome)	FY 2014: 1.00 (Baseline)	0.84	0.76	-0.08
3.2.5: Increase the percentage of hospitals reporting implementation of antibiotic stewardship programs fully compliant with CDC Core Elements for Hospital Antibiotic Stewardship Programs (Outcome, HHS Agency Priority Goal)	2014: 39.2% (Baseline)	50%	59%	+9

Performance measures for Long Term Objective: Protect Americans from death and serious harm caused by medical errors and preventable complications of healthcare.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.3.3: Reduce the central line-associated bloodstream infection (CLABSI) standardized infection ratio (SIR) ¹ (Outcome)	CY 2014: 0.50 (Target Not Met but Improved)	0.33 ²	0.31	-0.02
3.3.2b: Reduce invasive healthcare-associated Methicillin-resistant Staphylococcus aureus (MRSA) infections. ³ (Outcome)	CY 2015: 41,000 (Preliminary baseline data) ⁴	36,900	32,800	-4,100

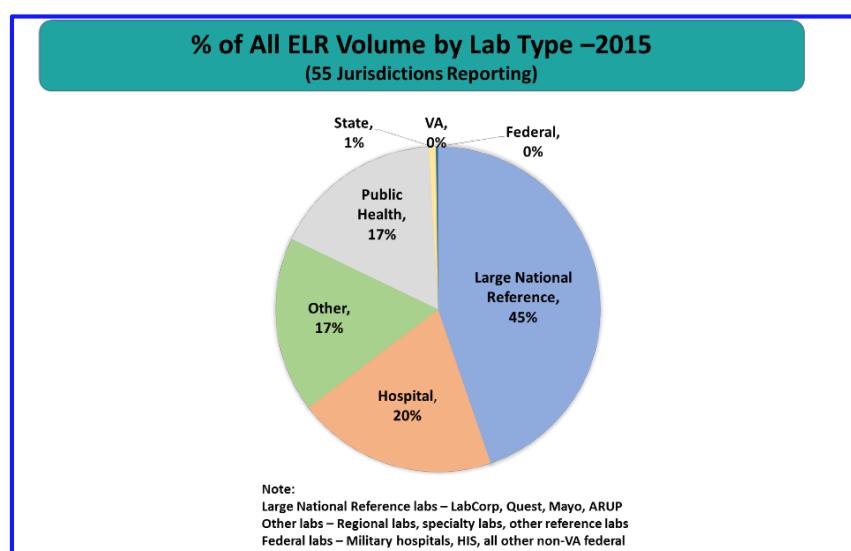
¹The Standardized Infection Ratio (SIR) is calculated by dividing the actual (observed) infections by the expected infections using data gathered through the CDC National Healthcare Safety Network (NHSN).

²CLABSI baseline will not be re-established in the HHS/NIH Action Plan. However, future targets will be adjusted accordingly to align with the Plan.

³All invasive infections manifesting as bacteraemia. The targets align with Healthy People 2020 and HHS HAI Action Plan targets.

⁴Estimated baseline is provided and subject to change per forthcoming data.

Core Infectious Performance Trends: Advancing national implementation of Electronic Laboratory Reporting (ELR) is a priority in CDC health reform and Affordable Care Act (ACA) efforts. ELR replaces paper-based reporting, which accelerates reporting to public health labs; reduces the reporting burden on clinicians, hospitals, and commercial laboratories; and decreases errors as well as duplicate reporting. Due to the substantial time savings from ELR over paper-based reporting, ELR yields clinical and public health cost savings and promotes rapid control of infectious disease outbreaks. Quicker identification of illnesses enables a more rapid public health response and results in mitigating outbreaks and averting continual spread of illness. This produces less of an economic burden on healthcare and public health.



Targeting laboratories that handle large volumes of total lab reports will substantially improve public health surveillance through increased use of ELR for reportable results from each jurisdiction's highest reporting labs. As of FY 2015, electronic laboratory reports accounted for 69% of laboratory reports for reportable conditions received. Although level with FY 2014 results, it sustains the annual increases achieved from FY 2012 (54%)-FY 2014 (69%) (Measure 3.5.2).

Vector-borne Performance Trends: CDC serves as a national and international leader in the prevention of vector-borne viral, bacterial, and rickettsial diseases. Part of CDC's prevention strategy in this area is to annually produce reagents for diagnosing a variety of vector-borne pathogens. Accurate diagnostic testing is the bedrock of disease surveillance, which protects individuals in the United States and abroad. State and international laboratories use these vitally important reagents to perform the rapid, accurate testing necessary for the early detection and suppression of epidemics. The private sector depends on CDC's research and test development as it reduces the time-to-market for commercially viable tests.

CDC recently identified two novel viruses, Heartland and Bourbon, which were isolated from fatal human cases and potentially transmitted by ticks. CDC produced diagnostic reagents and designed assays for testing; enabling cases that would have remained undiagnosed to now be confirmed.

Moreover, the reagents are widely used by industry and the World Health Organization for quality control of commercial tests; ensuring on-going test efficacy and reliability. CDC also develops reagents for detecting new pathogens, such as the recently discovered deadly Heartland and Bourbon viruses. In 2014, CDC performed 1,158,075 tests worldwide to diagnose bacterial, viral, and rickettsial infections (Measure 3.G), which was unusually high due to CDC's response to the chikungunya outbreak. CDC will conduct 500,000 tests annually. Though ambitious, CDC considers these targets to be realistic and achievable.

Antimicrobial Resistance Performance Trends: CDC is a leader in the fight to combat antimicrobial resistance. Antimicrobial resistance is one of the world's most pressing public health threats, and it is increasing in scope. CDC estimates that drug-resistant bacteria cause two million illnesses and approximately 23,000 deaths each year in the United States alone. In response, CDC focuses on the most critical and immediate antimicrobial resistance problems through the new [National Strategy for Combating Antibiotic-Resistant Bacteria \(CARB\)](#)⁴⁸⁴ and the [National Action Plan for CARB](#)⁴⁸⁵. CDC leads the HHS Agency Priority Goal (APG) for CARB, in close partnership with the Agency for Healthcare Research and Quality (AHRQ), the Centers for Medicare and Medicaid Services (CMS), the National Institutes of Health (NIH), and HHS' Office of the Assistant Secretary of Health (OASH). This CARB APG will help advance efforts related to antibiotic stewardship in hospitals, where complications of and risk factors for antibiotic resistance are most concentrated. In 2014, about 40% of U.S. acute care hospitals reported having an antibiotic stewardship program that incorporates all of the CDC Core Elements for Hospital Antibiotic Stewardship Programs. By September 30, 2017, through CDC's collaborative leadership, HHS will work to increase the percentage of hospitals reporting implementation of antibiotic stewardship programs fully compliant with CDC Core Elements for Hospital Antibiotic Stewardship Programs to 59% (Measure 3.2.5).

Carbapenem-resistant Enterobacteriaceae (CRE) are a group of bacteria resistant to almost all drugs. These pathogens pose immediate infection threats to vulnerable, hospitalized patients, especially those in intensive care units (ICUs). Because of limited treatment options, CRE bloodstream infections can be fatal in nearly half of all cases. Infections spread rapidly between healthcare settings because infected patients often receive medical care in more than one hospital and in long-term care facilities such as nursing homes. *Klebsiella pneumoniae* spp and *Escherichia coli* (*E.coli*) are the most common carbapenem-resistant pathogens found in central line-associated bloodstream infections (CLABSI), catheter-associated urinary tract infections (CAUTI), and surgical site infections (SSI). Measure 3.2.3 includes all hospitals (acute care and long-term acute care facilities) reporting at least one healthcare-associated infection (CLABSI, CAUTI, or SSI) with emerging carbapenem-resistance in *Klebsiella* spp or *E.coli* to NHSN. Through collaboration with state health agencies and other partners, CDC uses

⁴⁸⁴ <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2014/m-14-13.pdf>

⁴⁸⁵ https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf

the “[Detect and Protect](#)⁴⁸⁶ strategy to assess the type and prevalence of antibiotic resistant pathogens and protect patients through a regional prevention approach to contain the spread of these emerging threats.

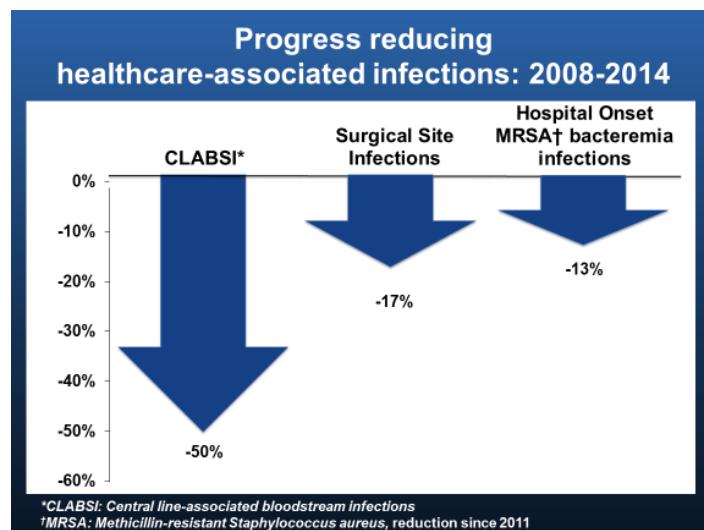
In CY 2014, 8.3% of hospitals reporting into CDC’s National Healthcare Safety Network (NHSN) reported carbapenem-resistant *Klebsiella* spp or *E. coli* infections, an increase of almost two percentage points from CY 2013 (Measure 3.2.3). However, CDC anticipated that the rate of CRE infections would increase from 2013 to 2014 due to the growing number of long-term acute care facilities reporting to NHSN and the number of acute care hospitals reporting infections from outside ICUs. Furthermore, CDC expects similar results for 2015, as long-term acute care facilities continue to enroll and report infections, and more acute care hospital wards report infections. Based on past CDC outbreak investigations, long-term acute care facilities also have the high prevalence of CRE infections. CDC interventions to decrease CRE infections include educating patients and providers on appropriate antibiotic use, tracking and improving antibiotic use, improving CRE infection surveillance, assisting health departments and healthcare facilities to respond to outbreaks, and developing and promoting innovative prevention techniques. As more data become available, CDC will propose additional measures and/or revise existing measures to take effect in FY 2016 that reflect CDC’s expectations in reducing the spread of antimicrobial resistance. The FY 2017 target of 5.3% was adjusted to align with the National Strategy for Combating Antibiotic-Resistant Bacteria.

*Clostridium difficile*⁴⁸⁷ is estimated to cause almost 500,000 infections and between 15,000 and 29,000 deaths in the United States annually. A majority of *Clostridium difficile* cases occur outside of hospitals and over 90% of all *Clostridium difficile* cases have either inpatient or outpatient healthcare exposures before disease onset, showing that prevention efforts must extend beyond the hospital setting. CDC provides guidelines and tools to the healthcare community to help prevent *Clostridium difficile* infections (CDI), as well as resources to help the public safeguard their own health. CDI prevention is a national priority, with a target to reduce CDI 50% by 2020 included in the National Action Plan for CARB, HHS Action Plan to Prevent HAIs, and CDC’s Winnable Battles. All hospitals participating in the Center for Medicare and Medicaid Services’ (CMS’) Hospital Inpatient Quality Reporting Program have been reporting CDI data to NHSN since 2013. CDC will continue to partner with CMS’ Quality Innovation Networks to expand and accelerate CDI prevention activities. To better track and monitor improvements to prevention efforts for CDI nationwide, CDC created a new CDI metric which consists of two sub-measures: community-onset CDI and hospital-onset CDI (Measures 3.2.4a and 3.2.4b). Progress in each of the CDI sub-measures will assist CDC in targeting resources to where there is the greatest need to make the most impact. Given the increased incidence of community associated *Clostridium difficile* cases, CDC believes this combined metric will ensure accurate surveillance of CDI both inside hospitals and within the community. This surveillance will support improvements in the efficiency and effectiveness of CDI prevention efforts.

⁴⁸⁶<http://www.cdc.gov/drugresistance/solutions-initiative/index.html>

⁴⁸⁷<http://www.nejm.org/doi/full/10.1056/NEJMoa1408913>

Healthcare-Associated Infections (HAIs) Performance Trends: CDC provides national leadership in healthcare-associated infection (HAI) prevention and provides the scientific foundation for state and federal healthcare oversight. CDC aggressively combats HAIs in all healthcare settings where patients receive clinical care. CDC's evidence-based guidelines are the standard of care for HAI prevention and are used by researchers, clinicians, federal partners, state and local health departments, and private sector partners to prevent HAIs and target healthcare facilities that need additional assistance. HAIs, such as CLABSI, CAUTI, SSI, and invasive methicillin-resistant *Staphylococcus aureus* (MRSA) infections, are largely preventable with adherence to CDC guidelines. While dramatic reductions in [CLABSI, MRSA, and select SSIs](#)⁴⁸⁸ have been demonstrated, more work is needed to focus CAUTI and CDI prevention efforts. CDC data is used to target facilities that need enhanced implementation of CDC's evidence-based prevention practices, and to leverage state and federal partner resources to advance prevention progress.



Reducing HAIs across healthcare settings supports national progress toward the [HHS National Action Plan to Prevent Healthcare Associated Infections: Roadmap to Elimination](#) (National HAI Action Plan)⁴⁸⁹ and the HHS Agency Priority Goal. Between CY 2008 and CY 2014, CLABSIs decreased 50% to a 0.50 Standardized Infection Ratio (SIR) nationally in U.S. hospitals (Measure 3.3.3). While the overall SIR falls short of the 2014 target, CDC continues to move forward to meet the goals in the National HAI Action Plan. CLABSI reporting from hospital wards and other non-ICU locations is still growing, (e.g., CMS inpatient prospective payment system is requiring CLABSI reporting for wards as of January 2015), and existing prevention efforts are being refined for use outside of ICUs. CDC is further working to prevent CLABSI in all locations by using HAI data to identify specific hospitals and locations that can benefit from enhanced infection control practices and expertise. CDC replaced Measure 3.3.2a with a more nationally representative measure in FY 2015. This new measure is an estimate of the overall number of healthcare-associated MRSA bacteremia cases (healthcare onset and healthcare-associated community onset), the most common type of invasive MRSA infections in the U.S.

Measures for both CLABSI and MRSA are included in the National HAI Action Plan; however, the measures of the current Action Plan were only set through December 2013. The results of national efforts to achieve these targets became available in fall of 2014. HHS proposed new HAI targets through December 2020 using data from January 2015 as the baseline. Targets established for CLABSI and MRSA for FY 2016 and beyond will align with those proposed in the new Action Plan.

⁴⁸⁸<http://www.cdc.gov/hai/pdfs/stateplans/factsheets/us.pdf>

⁴⁸⁹http://www.health.gov/hai/prevent_hai.asp#hai_plan

Food Safety

Performance measures for Long Term Objective: Protect Americans from infectious diseases – foodborne illnesses.¹

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.1.1b: Reduce the incidence of infection with three key foodborne pathogens: <i>Escherichia coli</i> O157:H7 (Outcome)	FY 2014: 0.91 (Target Not Met but Improved)	0.80	0.75	-0.05
3.1.1c: Reduce the incidence of infection with three key foodborne pathogens: <i>Listeria monocytogenes</i> (Outcome)	FY 2014: 0.24 (Target Met)	0.23	0.22	-0.01
3.1.1d: Reduce the incidence of infection with three key foodborne pathogens: <i>Salmonella species</i> (Outcome)	FY 2014: 15.29 (Target Not Met, but Improved)	12.67	12.35	-0.32
3.F: Cumulative number of states providing reports of confirmed norovirus outbreaks to Calicinet (Output)	FY 2015: 39 (Target Exceeded)	39	41	+2

¹CDC aligns its Food Safety targets with national targets for Healthy People 2020 objectives. The unit of measure for 3.1.1b, 3.1.1c, and 3.1.1d is the number of cases per 100,000 people.

Performance Trends: Concerted prevention efforts by CDC, regulatory partners, and private industry have resulted in significant progress in reducing the incidence of major foodborne infections over the last 15 years. Between 1996-1998 baseline and FY 2014, the incidence of *Escherichia coli* (*E. coli*) O157:H7 and *Listeria* decreased. CDC will continue to work closely with the U.S. Food and Drug Administration (FDA), the United States Department of Agriculture's Food Safety and Inspection Service (USDA-FSIS), state and local agencies, and food industries to prevent and control foodborne outbreaks by quickly implementing effective interventions.

While *E. coli* O157:H7 infections have risen for the last two years, the FY 2014 rate of 0.91 cases per 100,000 people returns the rate to the lowest it has been since FY 2010 (Measure 3.1.1b). A wide variety of foods may be responsible for ongoing infection of *E. coli* O157:H7. Intensive and long-term efforts from CDC, FDA, FSIS and food industries will be required to reduce the incidence of *E. coli* O157:H7 moving forward. CDC is increasing its engagement with these stakeholders to encourage improvements in food safety practices.

CDC met its 2014 target of 0.24 cases per 100,000 people for the reduction of *Listeria* infections (Measure 3.1.1c). This reflects an overall decrease in infections since 2011 of 0.04 cases per 100,000 people, and CDC has met or exceeded its *Listeria* target since 2012. Previous efforts by the processed meat/hotdog industry proved important in reducing *Listeria* contamination. Recent successes might also be attributed to CDC's *Listeria* Initiative, an enhanced surveillance program in all states and Washington D.C., which aims to improve outbreak detection and decrease response time. Since the introduction of the *Listeria* Initiative, the size of *Listeria* outbreaks has decreased, reflecting faster and more efficient investigations. CDC's Advanced Molecular Detection (AMD) Initiative, in partnership with the National Institutes of Health (NIH), FDA, USDA-FSIS, and state partners added a new component to the *Listeria* initiative: sequencing and

Since adopting whole genome sequencing, the median number of illnesses per outbreak has declined 50%. In FY 2015, these investigations identified caramel apples and ice cream as two food sources of *Listeria*. Neither had previously been considered as an important source of this severe infection.

analyzing of clinical, food, and environmental *Listeria monocytogenes* isolates sent to PulseNet, using Whole Genome Sequencing methods in near real-time. This collaboration helps CDC identify outbreaks of *Listeria* infections more rapidly, supports related investigation efforts to detect additional cases, and identifies the source(s) of infection. Since September of 2013, CDC has sequenced more than 2,000 *Listeria* samples, and analyzed more than 5,000 genomes from CDC and FDA as part of *Listeria* outbreak detection and investigation activities.

CDC did not meet its FY 2014 target of 13.30 cases per 100,000 people for *Salmonella* infections (Measure 3.1.1d). Although slightly up from FY 2013 (15.15 cases per 100,000 people), *Salmonella* infection rates have dropped 13% since FY 2010. *Salmonella* remains the most commonly reported infection in FoodNet and the most common cause of large, multistate outbreaks. Predicting where and when *Salmonella* will be found is challenging because there are more than 2,000 serotypes that cause human illness derived from many different food and animal sources. CDC will continue coordinating public health surveillance and foodborne outbreak investigations to inform important actions needed to reduce *Salmonella* incidence, including:

- FDA's proposed Food Safety Modernization Act (FSMA) required rules to reduce illnesses caused by *Salmonella* and other pathogens in produce and in processed foods;
- USDA's efforts to improve the safety of poultry products, including its proposed *Salmonella* reduction rule;
- Food industry's new strategies to reduce *Salmonella* contamination in food, particularly in chicken, which is an important source of *Salmonella*-related illnesses; and
- Consumers' increased knowledge and awareness of their role in food safety.

CDC also collaborates with FDA and USDA to measure progress towards reducing *Salmonella* from all sources, including animals such as turtles and backyard poultry. Combined with efforts to reduce *Salmonella* contamination in food, CDC anticipates these activities will reduce the U.S. incidence of *Salmonella* illnesses in the future.

CDC uses the [CaliciNet](#)⁴⁹⁰ national surveillance system to detect and characterize norovirus outbreaks by supporting state and territorial public health laboratories. CDC exceeded the target of 28 states reporting to CaliciNet in FY 2015, representing an increase of 11 states reporting since FY 2014 (Measure 3.F). These 39 states reported data on 892 norovirus outbreaks, including 149 (17%) foodborne outbreaks (Measure 3.F). Currently, CDC uses its five [CaliciNet Regional Outbreak Support Centers](#)⁴⁹¹ to analyze outbreaks from the 22 states that do not participate in CaliciNet. The Regional Outbreak Support Centers reported 109 outbreaks (17% foodborne) in 2015.

⁴⁹⁰ <http://www.cdc.gov/norovirus/reporting/calicinet/>

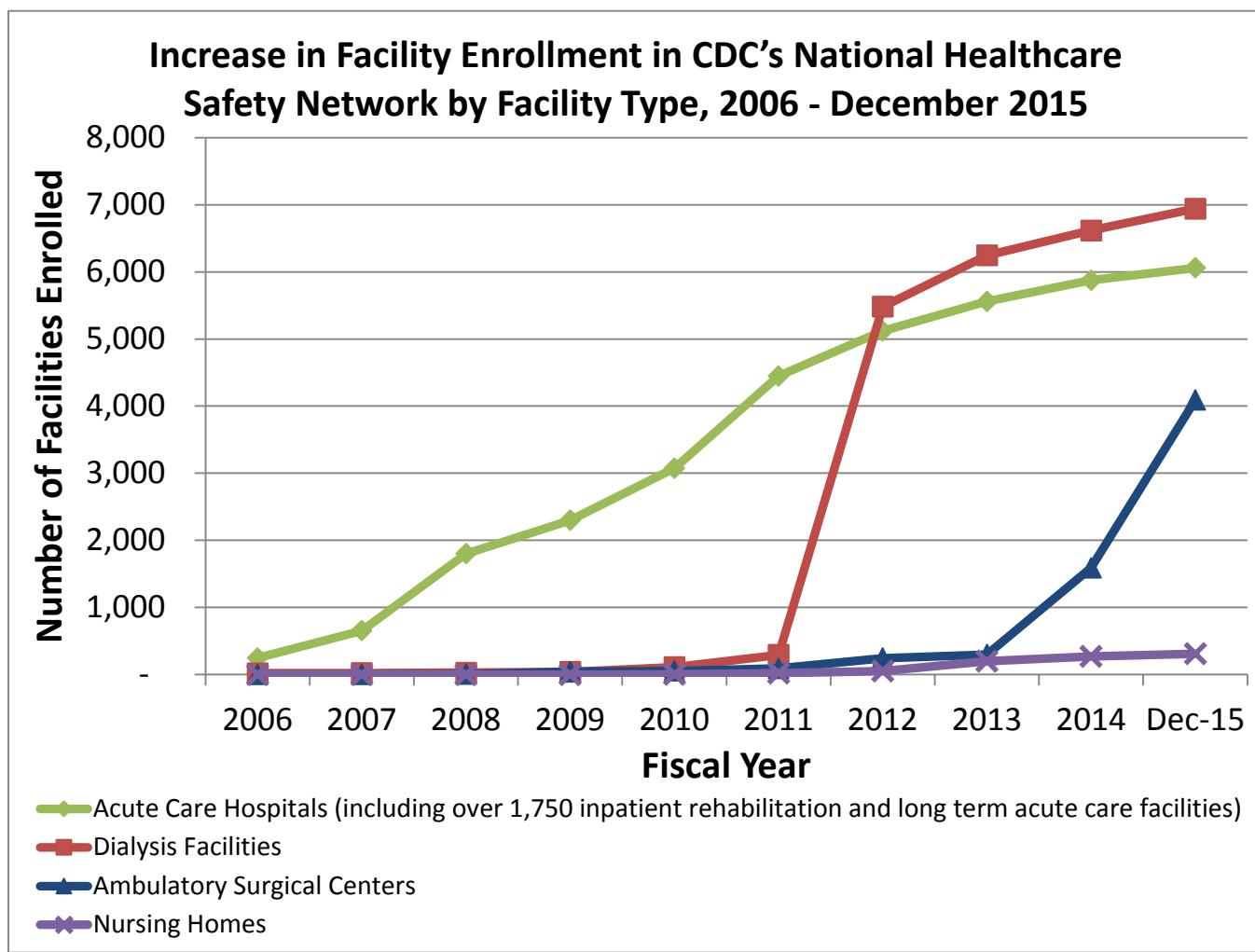
⁴⁹¹ <http://198.246.124.22/norovirus/reporting/calicinet/participants.html>

National Healthcare Safety Network

Performance measure for National Healthcare Safety Network.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.3.4: Increase the number of hospitals and other selected health care settings that report into the National Healthcare Safety Network (NHSN) (Output)	FY 2015: 18,300 (Target Exceeded)	19,000	20,000	+1,000

Performance Trends: CDC's National Healthcare Safety Network (NHSN) is a comprehensive medical care surveillance and quality improvement system that detects HAIs and drives HAI prevention at the local, state, and national levels. CDC extended its tracking capacity from 14,450 facilities reporting to NHSN by December 2014 to 18,300 facilities reporting by December 2015, exceeding its FY 2015 target by 1,800 facilities (Measure 3.3.4). This includes reporting from more than 6,000 acute care hospitals, nearly 7,000 dialysis facilities, over 4,000 ambulatory surgical centers, and over 300 nursing homes.



NHSN enrollment has increased steadily over the last eight years across the continuum of care.⁴⁹² Since FY 2012, CDC has nearly tripled the number of healthcare facilities reporting data for HAI prevention and is positioned to meet its FY 2016 and FY 2017 targets. To simplify reporting for healthcare facilities and improve the accuracy of data reported, CDC promotes electronic reporting of HAI data by increasing the number of facilities using electronic data sources to detect and report HAIs. NHSN informs CDC's strategic efforts to provide timely, accurate, and valid data across healthcare settings that can be used at the local, state, and national levels to assess HAI trends, improve the quality of care, benchmark progress, and target HAI prevention. NHSN data are used by partners, such as the CMS, to fulfill quality reporting and improvement programs, by FDA to improve medication and product safety, and by the Agency of Healthcare Research and Quality to evaluate implementation strategies.

⁴⁹²Long term acute care hospitals and inpatient rehabilitation facilities are also enrolled as acute care hospitals.

Quarantine and Migration

Performance measures for Long Term Objective: Prevent the importation of infectious diseases to the U.S. in mobile human, animal and cargo populations.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
3.4.4: Increase of the percentage of immigrants and refugees with a "Class A or B medical notification for tuberculosis" who undergo medical follow-up after arrival in U.S (Outcome)	FY 2014: 79% (Target Not Met)	85%	85%	Maintain
3.4.8: Increase the proportion of U.S.-bound refugees with at least one dose of age-appropriate routine vaccinations (Outcome)	FY 2014: 60.5% (Historical Actual)	70%	100% ¹	+30

¹Measure 3.4.8 only assesses the proportion of refugees that receive at least one round of required vaccinations; it does not track parasitic treatment. The 2017 target can only be achieved with PRM's full and continued support of both CDC and IOM.

Performance Trends: CDC reduces morbidity and mortality among immigrants, refugees, travelers, expatriates, and other globally mobile populations, and prevents the introduction, transmission, and spread of communicable diseases. To address infectious disease health risks associated with international travel and migrating populations, CDC carries out regulatory responsibilities and implements cost-effective public health programs.

CDC ensures that immigrants and refugees receive required medical screening, health education, as well as disease prevention and treatment before coming to the United States. The development of evidence-based guidelines for required medical screening of one million immigrants and 70,000 refugees annually prevents importation of infectious diseases into the United States. In FY 2015, CDC retired its Tuberculosis Technical Instructions (TB TI, Measure (3.4.2) since it consistently for several years achieved its screening target of 100% of applicants for U.S. immigration.

Refugee resettlement is an important component in our multifaceted response to the global refugee crisis and the Budget supports the admission of at least 100,000 refugees to the United States. The United States remains deeply committed to safeguarding the American public from terrorists and providing refuge to some of the world's most vulnerable people.

Within three days of the request, CDC and DHS implemented comprehensive entry screening of all travelers arriving in the U.S. from Ebola-affected countries. More than 33,000 persons have been screened when entering the United States at 5 key ports of entry since October 2014.

Before enrollment in the U.S. Refugee Admissions Program (USRAP), displaced persons have limited access to many basic, cost-effective, preventive and therapeutic health interventions. Lack of vaccination for vaccine-preventable infectious diseases leads to increased health disparities, and higher U.S. health costs. Improving refugee vaccination is a key public health priority for CDC as it prevents the importation of infectious diseases and provides low-cost, high-impact interventions to high-risk populations. In FY 2013, CDC and the U.S. Department of State Bureau of Population, Refugees and Migration (PRM) conducted a pilot program to implement routine vaccination for refugees resettling to the United States. The pilot focused on refugees in USRAP who receive the required medical examination from physicians with the International Organization for Migration (IOM). The initial pilot achieved significant success, doubling vaccination rates in the second year of implementation. CDC has begun program expansion to reach all U.S. bound refugees, and success will be measured in vaccination coverage rate increases over time. In FY 2014, only 60.5% of U.S. bound refugees received at least one dose of age-appropriate routine vaccination (Measure 3.4.8). Final data for FY 2015 is

expected by January 31, 2016. Future targets for this measure reflect the 2017 Budget increase and expansion of the program to include more countries with significant U.S.-bound refugee populations. Measure 3.4.8 does not track parasitic treatment; it only measures the proportion of refugees that receive at least one round of required vaccinations. However, because this is a collaborative effort with PRM, the 100% target for FY 2017 cannot be achieved without PRM's full and continued support of both CDC and IOM.

CDC provides actionable information on reportable illness among refugees and immigrants to state and local health departments for treatment and follow-up care, annually delivering 100,000 electronic notifications within five days of arrival. Since FY 2009, CDC has exceeded its targets for immigrants and refugees with a "Class A or B medical notification for TB" who underwent medical follow-up after arrival in the U.S. (Measure 3.4.4). Class A conditions⁴⁹³ render applicants inadmissible and require a waiver for entry; Class B conditions are admissible but might require treatment or follow-up. In FY 2013, CDC increased medical follow-ups to 82%. In FY 2014, CDC saw for the first time a decrease in the percent of immigrants and refugees with a TB notification receiving medical follow-up after arrival in the United States (79%). CDC experts believe the cause is multifaceted; the definition of 'medical follow-up' was narrowed in the most recent year, yielding an improvement in the overall documentation of quality medical examinations, but resulting in medical visits that no longer fit the enhanced definition. Additionally, the composition of refugees and immigrant nationalities and their distribution across states changes from year to year. Some populations are more willing to seek or accept sponsored medical care, and some states are more proficient in ensuring medical follow-up for their immigrant and refugee populations. The decline observed in 2014 may reflect a higher proportion of arriving immigrants and refugees who were disinclined toward sponsored medical care and who resettled to states with less robust medical follow-up systems.

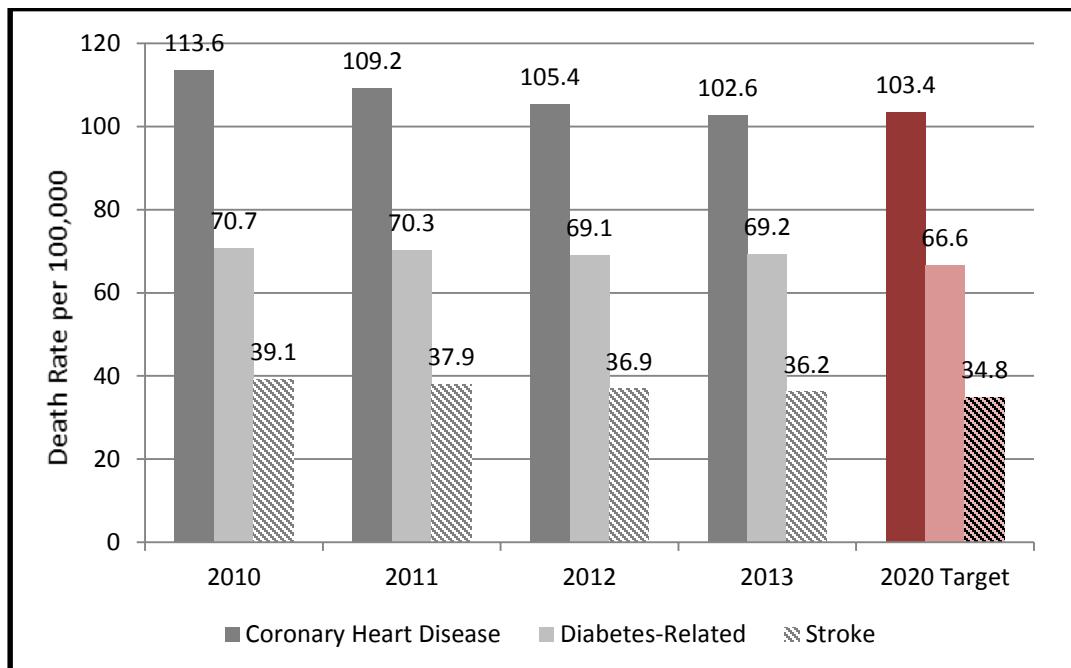
⁴⁹³<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6207a1.htm>

CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

Chronic Disease Prevention and Health Promotion

Chronic diseases are the leading causes of death and disability in the United States, and account for 70% of all deaths annually (almost 1.7 million). These diseases also cause major limitations in daily living for approximately one out of every ten people. The contextual indicators below track long-term health outcomes influenced by CDC's Chronic Disease Prevention and Health Promotion program.

Figure 1: Age-Adjusted Deaths Due to Coronary Heart Disease, Diabetes, and Stroke, 2010 - 2013 Results with 2020 Targets⁴⁹⁴



Contextual Indicator	Most Recent Result	FY 2020 Target
Coronary Heart Disease: Reduce the annual age-adjusted rate of coronary heart disease deaths (per 100,000 population).	FY 2013: 102.6	103.4
Stroke: Reduce the annual age-adjusted rate of stroke deaths (per 100,000 population).	FY 2013: 36.2	34.8
Diabetes: Reduce the annual age-adjusted rate of diabetes-related deaths (per 100,000 population).	FY 2013: 69.2	66.6

Over the past decade, CDC has worked to improve cardiovascular health and reduce coronary heart disease and stroke mortality through its support of cross-cutting public health strategies and leveraging resources to develop partnerships that promote healthy lifestyle behaviors, environments and communities. CDC has also established relationships between clinical practices and the community to improve healthcare quality.

From 2000 to 2013, the annual age-adjusted death rate for coronary heart disease steadily declined from 186.9 to 102.6 per 100,000. During the same timeframe, the annual age-adjusted rate of stroke deaths declined from

⁴⁹⁴ <http://healthypeople.gov/2020/topicsobjectives2020/default.aspx>;

60.8 to 36.2 per 100,000. From 2005 to 2013, the age-adjusted rate of diabetes-related deaths also declined from 77.0 to 69.2 per 100,000.

CDC attributes these successes to improvements in contributing factors including: reductions in per capita cigarette smoking, improvements in the integration of clinical and other preventive services, expansion of clinical and community-based resources, support for self-management of chronic diseases and conditions, and advancement of environmental approaches to promote health and reinforce healthy behaviors. CDC's inter-related programs focus not only on specific diseases, but also on those risk factors that contribute to chronic diseases and conditions at all stages of life.

Tobacco Prevention and Control

Performance Measures for Long Term Objective: Reduce death and disability among adults due to tobacco use.³

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.6.2a: Reduce the annual adult per-capita combustible tobacco consumption in the United States (Intermediate Outcome)	FY 2014: 1,216 (Historical Actual)	1,145	1,128	-17
4.6.3: Reduce the proportion of adults (aged 18 and over) who are current cigarette smokers (Intermediate Outcome)	FY 2014: 16.8% (Target Exceeded)	16.0%	15.0%	-1
4.6.4: Increase proportion of the U.S. population that is covered by comprehensive state and/or local laws making workplaces, restaurants, and bars 100% smoke-free (no smoking allowed, no exceptions) (Intermediate Outcome)	FY 2014: 49.3% (Target Not Met but Improved)	58.7%	58.9%	+0.2
4.6.5: Reduce the proportion of adolescents (grade 9 through 12) who are current cigarette smokers (Intermediate Outcome)	FY 2013: 15.7% ¹ (Target Exceeded)	N/A ²	11.9%	N/A ²
4.C: Number of calls received by Tobacco Cessation Quitlines (Output)	FY 2014: 1,302,054 (Target Not Met)	1,500,000	1,500,000	Maintain
4.D: Number of persons provided cessation counseling and/or medications by Tobacco Cessation Quitlines (Output)	FY 2014: 412,331 (Target Not Met)	499,500	499,500	Maintain

¹ YRBS data. CDC discontinued use of NYTS data in FY 2014 for interim YRBS reporting years due to growing variance in data reported between the two data sets.

² Targets and results are set and reported biennially.

³ Targets may include budget authority and/or ACA/PPHF funding.

Performance Trends: Reducing tobacco use is a CDC priority. It is also an HHS Agency Priority Goal (FY 2016-2017) to which CDC, Food and Drug Administration, National Institutes of Health, Substance Abuse and Mental Health Services Association, and others contribute⁴⁹⁵. Effective tobacco control programs, implemented through evidence-based tobacco control policies, significantly prevent and reduce tobacco use.

Per capita cigarette consumption among adults in the US declined from 1,507 to 1,071 between FY 2008 and FY 2014, revealing that current smokers are smoking fewer cigarettes.

Although cigarette smoking remains the leading cause of tobacco-related disease, tobacco users are increasingly shifting consumption to other tobacco products and dual use with other combusted tobacco, including cigars, cigarillos and little cigars, pipe tobacco, roll-your-own tobacco, and hookah. This has resulted in a slowing of the decline in the consumption of all combustible tobacco, and indicates that smokers may be switching to other tobacco products rather than quitting completely, for a number of different potential reasons (e.g., misplaced perceptions in health effects, switching to lower-taxed, and lower priced non-cigarette products). By adding a new measure (Measure 4.6.2a) to evaluate changes in the consumption of all combustible tobacco, we can better understand the public health impact of these consumption patterns.

Per capita combustible tobacco product consumption declined from 1,342 in FY 2012 to 1,216 in FY 2014. CDC estimates continued declines through FY 2017 (Measure 4.6.2a). Additionally, the percentage of current adult smokers decreased from 20.6% in 2009 to 16.8% in FY 2014 (Measure 4.6.3). Cigarette use among adolescents declined sharply from 1997 to 2003. However, the rate of decline slowed over the last decade, fluctuating between 20.0% and 23.0% from 2003 to 2007, and then declining from 19.5% to 15.7% from 2009 to 2013 (Measure 4.6.5). By achieving a smoking rate of 15.7% in 2013, which is the lowest teen smoking rate recorded since data collection began in 1991, the United States has met its national Healthy People 2020 objective of reducing adolescent cigarette use to 16% or less. Even though CDC met the national objective, CDC set its 2015 target to sustain progress toward reducing teen smoking prevalence and its 2017 target to reduce the rate even further to 11.9%.

The percentage of the United States population covered by comprehensive state and/or local laws that make workplaces, restaurants, and bars 100% smoke-free has increased significantly since FY 2005. Between FY 2005 and FY 2014, the population covered by smoke-free laws increased by 35.6 percentage points so that 49.3% are now covered (Measure 4.6.4). On average, smoke-free policies in states and communities contribute to a 17% reduction in heart attack hospitalizations. While progress has been made, 50.7% of the population is still exposed to secondhand smoke with only 27 states having comprehensive smoke-free indoor air laws as of June 30, 2015.

In addition to providing evidence to inform policy, system, and environmental changes, CDC also provides direct assistance to tobacco users through [National Tobacco Quitlines](http://www.performance.gov/).⁴⁹⁶ In 2012, CDC launched the first ever national tobacco prevention media campaign, [Tips from Former Smokers](http://www.cdc.gov/tobacco/quit_smoking/cessation/nqdw/index.htm),⁴⁹⁷ on national TV, radio, print, digital and out-of-home media to have former smokers share the real consequences of smoking and encourage smokers to quit. The campaign generated 207,519 additional calls (a 132% increase) to 1-800-QUIT NOW compared to corresponding weeks in 2011, achieving a total of more than 365,000 calls to the Quitlines between March and June 2012. In FY 2012, the tobacco Quitlines received 14% more calls and provided cessation counseling and/or medications to 10% more people than in FY 2011, contributing to an estimated 1.6 million new quit attempts among U.S. adult smokers. In 2013 CDC launched a new round of Tips advertisements featuring additional health conditions and population groups. Initial evaluation results indicate the second round of the campaign

⁴⁹⁵ <http://www.performance.gov/>

⁴⁹⁶ http://www.cdc.gov/tobacco/quit_smoking/cessation/nqdw/index.htm

⁴⁹⁷ <http://www.cdc.gov/tobacco/campaign/tips/>

generated more than 150,000 additional calls to 1-800-QUIT-NOW quitlines compared to the four weeks prior to the campaign.

In 2014, CDC released Tips in two phases and included new advertisements featuring health conditions such as premature birth, periodontal (gum) disease and tooth loss, and HIV complications. Both phases of the campaign generated 175,000 additional calls to 1-800-QUIT NOW, garnered almost 575 million audience impressions, and approximately \$1.1 million in ad value compared to the four weeks prior to each campaign phase.

In FY 2015, CDC launched new Tips ads featuring diseases identified with new causalities from the 2014 Surgeon General's Report, including colorectal cancer and vision loss (macular degeneration), as well as the dangers of continuing to smoke while dual using other products (electronic nicotine delivery systems). The campaign featured ads on-air from March 30 to August 16, 2015 which generated approximately 145,000 additional calls to 1-800-QUIT-NOW, garnered over 1.5 billion audience impressions, and approximately \$860,000 in ad value compared to the four weeks prior to the campaign. CDC conducted the first pilot of Quitline nicotine replacement therapy (NRT) distribution tied to Tips, which will inform a time-limited nationwide NRT promotion in the 2016 campaign.

In FY 2016 and FY 2017, CDC set flat targets for its Quitline because CDC will launch a single campaign in each year, respectively. These targets do not include additional funds states might spend to promote Quitlines outside of the Tips campaign, and report incoming calls from all quitlines in addition to those from 1-800-QUIT NOW (Measures 4.C and 4.D). The decrease in quitline call volume from 2013 to 2014 was likely due to the second phase of the Tips campaign running during the summer months, when call volumes are typically lower, and to fluctuations in state funding for quitline services and promotion. In addition, state quitlines are increasingly offering a variety of channels for accessing cessation services, including web services, and some smokers are likely using these alternative options instead of calling these quitlines. The [2014 Surgeon General's Report](#)⁴⁹⁸ recommends sustaining campaigns such as Tips at a high frequency and exposure 12 months a year for at least a decade to end the tobacco epidemic.

Nutrition, Physical Activity, and Obesity

Performance Measures for Long Term Objective: Promote evidence-based interventions to improve nutrition, increase physical activity, and reduce obesity.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.11.7: Increase the proportion of infants that are breastfed at 6 months (Intermediate Outcome)	FY 2012: 51.4% (Target Not Met but Improved)	60.6%	62.2%	+1.6
4.11.8: Increase the contribution of vegetables to the diets of the population aged 2 years and older (cup equivalents per 1,000 calories) (Intermediate Outcome)	FY 2011: 0.79 (Target Not Met but Improved) ¹	N/A ²	1.04	N/A ²
4.11.9: Increase the proportion of adults (age 18 and older) that engage in leisure-time physical activity (Intermediate Outcome)	FY 2014: 70% (Target Not Met but Improved)	73.2%	73.9%	+0.7

⁴⁹⁸<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.11.10a: Reduce the age-adjusted proportion of adults (age 20 years and older) who are obese (Intermediate Outcome)	FY 2014: 37.7% (Target Not Met)	33.2%	N/A ²	N/A ²
4.11.10b: Reduce the proportion of children and adolescents (ages 2 through 19) who are obese (Intermediate Outcome)	FY 2014: 17.2% (Historical Actual)	15.7%	N/A ²	N/A ²
4.12.1: Increase in the number of states with nutrition standards for foods and beverages provided in early care and education centers (Output)	FY 2014: 26 (Target Not Met)	38	42	+4
4.12.4: Increase the number of states with physical education standards that require children in early care and education centers to engage in vigorous- or moderate-intensity physical activity (Output)	FY 2014: 8 (Target Not Met but Improved)	18	18	Maintain

¹ Methodology changes in HP 2020 that occurred in 2014 for this measure required CDC to adjust its targets for FY 2011-FY 2015. Therefore, FY 2011-FY 2015 results of targets met/not met are not comparable to targets in CDC performance budgets prior to the FY 2017 President's Budget

²Targets and results are set and reported biennially.

Performance Trends:

Breastfeeding: The percent of infants who are breastfed at six months (Measure 4.11.7) rose from 44.4% in FY 2008 to 51.4% in FY 2012. CDC did not meet the FY 2012 target, partly because the agency shifted to a dual frame survey that uses landline and cellular telephones which resulted in lower breastfeeding duration estimates than from landlines alone. CDC now funds all 50 states, the District of Columbia and 70 community based organizations to provide access to breastfeeding support for mothers who want to breastfeed. CDC is also helping up to 100 additional hospitals work towards Baby-Friendly designation. Breastfeeding duration will continue to increase as CDC assists more hospitals to adopt evidence-based maternity care practices. CDC's Maternity Practices in Infant Nutrition and Care (mPINC) survey calculates a quality score ranging from 0-100 for each participating hospital; from 2007 to 2013 the national average hospital score increased from 63 to 75. CDC investments assist U.S. hospitals in becoming [Baby-Friendly](#)⁴⁹⁹, a designation based on adherence to the evidence-based [Ten Steps to Successful Breastfeeding](#)⁵⁰⁰ designation. In the 18 years since the first U.S. hospital achieved Baby-Friendly designation, nearly two million U.S. babies have been born at Baby-Friendly hospitals. As of November 2015, CDC's promotion of Baby-Friendly hospitals contributed to 14.8% of all U.S. births (~590,000 babies per year) occurring at Baby-Friendly hospitals (306 hospitals across 48 states), more than double the percent of 2012 births at Baby Friendly hospitals.

**As of November 2015,
nearly 590,000 births in
the US occurred at one of
306 Baby-Friendly
hospitals across 48 states.**

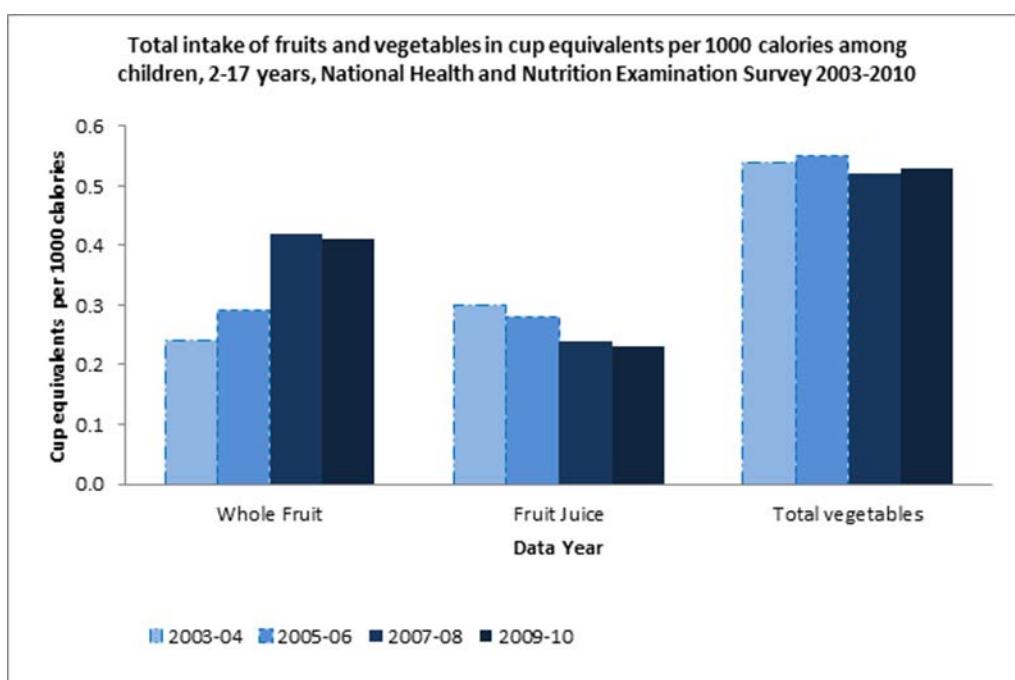
Early Care and Education (ECE): Annually, more than 11 million children under age six spend an average of 30-40 hours in non-parental care. In FY 2011, five states met national physical education standards (Measure 4.12.4)

⁴⁹⁹ <http://www.unicef.org/programme/breastfeeding/baby.htm>

⁵⁰⁰ <http://www.cdc.gov/breastfeeding/pdf/strategy1-maternity-care.pdf>

and nine states met national nutrition standards (Measure 4.12.1). By FY 2014, with investments and assistance from CDC, three additional states met the physical education standards and 17 additional states met the nutrition standards, a significant increase from FY 2011 but short of the FY 2014 targets. States were reluctant to change their nutrition standards between 2013 and 2014 pending the publication of new USDA Child and Adult Care Food Program meal pattern requirements. Many states were also reluctant to adopt physical activity standards without additional training resources to support their implementation, which is necessary as physical activity is not typically part of ECE pre-service training requirements. As a result, CDC supports professional development opportunities on these standards for ECE providers across the nation. For example, CDC partnered with Penn State University's Better Kid Care Program to develop six online, on-demand training modules for professional development credit in most states. Since these modules were launched in 2014, over 8,200 providers have completed over 20,000 training hours. CDC continues to work with every state, many localities, and thousands of ECE providers across the nation adopt and implement recommended obesity prevention standards for nutrition, breastfeeding support, physical activity, and screen time.

Healthy Eating: Between CY 2009 and CY 2011, total vegetable intake remained low at 0.79 cup equivalents per 1,000 calories for individuals age 2 and over, although a slight improvement over 2009 baseline of 0.77 cup equivalents (Measure 4.11.8). Making progress in improving diet is challenging given the complex and multiple factors that influence the marketing of, access to, and consumption of both healthy and less healthy food options. CDC will continue to work with state, local, tribal, and territorial health departments to improve environments in worksites, schools, child care, and community settings to expand access to fruits and vegetables and other healthy food and beverage choices for persons of all ages. However, the scale of these activities are not yet sufficient to counter some of the other influences.



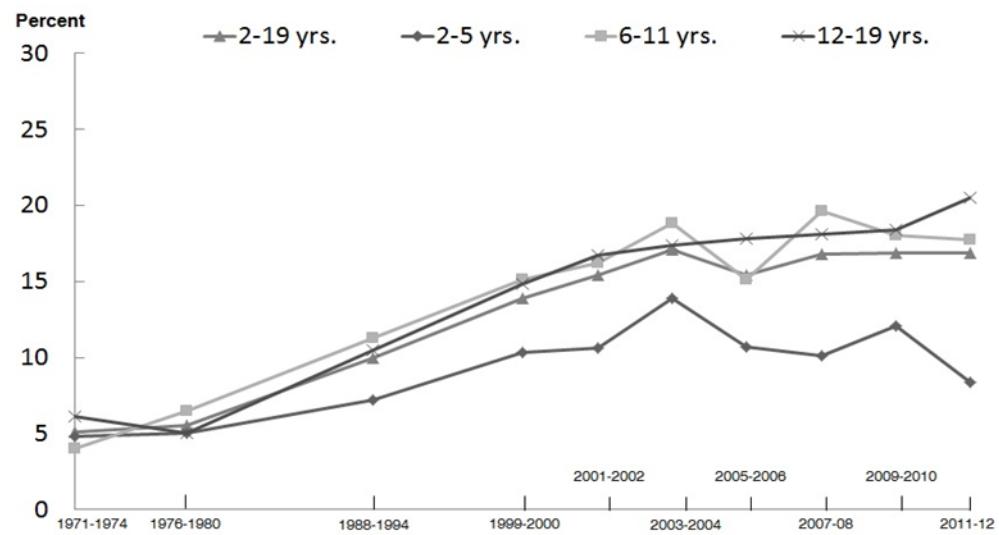
Active Living: With the support of CDC investments and assistance, the proportion of adults who engage in leisure-time physical activity increased from 63.8% in FY 2008 to 70% in FY 2014, nearly meeting the FY 2014 target (Measure 4.11.9). The proportion of adults that meet current aerobic physical activity guidelines increased from 43.5% in 2008 to 49.9% in 2014, reducing the risk for many chronic diseases. Safe and easy places for physical activity, such as sidewalks, parks, and schools, may help further increase physical activity among adults. CDC's 2014 State Indicator Report on Physical Activity shows that physical activity among adults and youth is higher in some states than others. Thirty states and the District of Columbia have state-level

Complete Streets policies, making streets safer for pedestrians and bicyclists. As of 2012, 34 states provided guidance to school districts on walking or biking to and from school.

Obesity: Obesity increases the risk of many diseases, including: heart disease, type 2 diabetes, stroke, high blood pressure, osteoarthritis, and some cancers. After decades of increasing rates, recent data show a plateau in obesity rates among youth. Between 2003–2004 and 2013–2014, no change in prevalence was seen among youth. The percentage of all children and adolescents (ages two to 19 years) that were obese increased slightly from 16.9% to FY 2012 to 17.2% in FY 2014 (Measure 4.11.10b). For adults, 2013–2014 NHANES data show 37.7% were obese, greater than 33.8% in 2008 (2007–2008 NHANES) and continuing a trend of increasing rates of adult obesity (Measure 4.11.10a). CDC funds a number of interventions that target obesity as well as related chronic diseases and their risk factors. Through its cross-cutting cooperative agreements with state and local health departments and community organizations, CDC and its partners have demonstrated short-term successes in a number of areas, some of which are described above. CDC expects continued successes through its cross-cutting approach will contribute to stemming the increasing obesity rates.

In the decade between 2003–2004 and 2013–2014, youth obesity rates did not change, stalling a pattern of decades' of increasing obesity rates.

Trends in obesity among children and adolescents 2–19 years, by sex: US, 1971–74 through 2011–12



School Health

Performance Measures for Long-Term Objective: Improve the health and well-being of youth and prepare them to be healthy adults.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.12.5: Increase the number of states that have developed and adopted a state-level multi-component physical education policy for schools (Output)	FY 2012: 6 (Historical Actual)	12	N/A ¹	N/A ¹
4.12.6: Increase the percentage of schools that do not sell less healthy foods and beverages (soda pop or fruit drinks, baked goods, salty snacks, candy) (Outcome)	FY 2014: 57.0% (Target Not Met but Improved)	70.0%	N/A ¹	N/A ¹

¹Targets and results are set and reported biennially.

Performance Trends: While obesity rates among adolescents ages 12-19 have been steadily increasing since 1980, obesity rates among children ages 6 to 10 have dropped since 2008. However, the 2015 Youth Risk Behavior Survey shows that approximately 30% of high school students are overweight or obese, demonstrating the need for CDC's Healthy Schools Program continued focus on childhood obesity prevention.

More than 90% of our nation's children spend an average of six hours a day, five days a week at school, making this an essential setting to reverse the steady increase in childhood obesity and to promote health for all students.

CDC promotes effective strategies for improving dietary quality, physical activity, and reducing obesity in youth including: increasing the quality and quantity of physical education provided in K-12 schools and improving the nutritional quality of foods available to children on school campuses.

In FY 2015, staff from more than 1,400 schools in 47 states were trained to develop and implement a Comprehensive School Physical Activity Plan, impacting over 967k students.

Physical Education: Measure 4.12.5 tracks the establishment of policies that align with CDC's [School Health Guidelines to Promote Healthy Eating and Physical Activity](#)⁵⁰¹ and the recommendations of the American Heart Association and SHAPE America. The multi-component physical education policy composition ensures that schools provide comprehensive, quality physical education to students. In FY 2012, six states established the requisite number and composition of multi-component policies, a 20% increase over baseline. Given the policy-orientation of the measure, progress will likely be incremental in the first years of program implementation. By FY 2016, CDC expects this number to more than double. FY 2014 results will be available by April, 2016. The data provider improved analysis capabilities for the data set and added new sections to the biennial report. This, in addition to staffing challenges experienced by the provider, caused a delay in their ability to deliver the FY 2014 data.

Nutrition Environment: Foods sold outside of the school food service program (competitive foods) are widely available through a variety of venues and are the primary source of low nutrient high calorie foods (junk foods) in schools. Students attending schools that sell junk foods and sugar-sweetened beverages have lower intake of fruits, vegetables, and milk at lunch and higher daily percentage of calories from total fat and saturated fat. For Measure 4.12.6, CDC will leverage implementation of USDA's "Smart Snacks in Schools" and the Local Wellness

⁵⁰¹ <http://www.cdc.gov/healthyyouth/npa/ostrategies.htm>

Policy Rule authorized under [The Healthy Hunger-Free Kids Act of 2010](#)⁵⁰². Measure 4.12.6 is based on Institute of Medicine (IOM) standards that extend beyond the USDA requirement, and tracks the percentage of schools limiting student purchases to any of the following snack foods or beverages from vending machines, school stores, canteens, or snack bars: candy, salty snacks that are not low in fat, baked goods that are not low in fat, and soda pop or fruit drinks that are not 100% juice. In FY 2014, 57% of secondary schools sold only nutritious foods outside of the school food service program, an increase from FY 2012 but still short of the target. The FY 2016 target of 70% represents a 24% increase in the number of schools selling only healthier foods.

Heart Disease and Stroke

Performance Measures for Long Term Objective: Reduce risk factors associated with heart disease and stroke.²

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.11.5: Increase the age-adjusted proportion of persons age 18+ with high blood pressure who have it controlled (<140/90) (Intermediate Outcome)	FY 2014: 49.2% (Target Not Met but Improved)	56%	N/A ¹	N/A ¹
4.11.6: Reduce consumption of sodium in the population aged 2 years and older (milligrams per day) (Intermediate Outcome)	FY 2012: 3,478 (Target Not Met)	2,900	N/A ¹	N/A ¹
4.N1: Increase the percentage of at risk women who received at least one evidenced-based healthy behavior support service (Output)	FY 2014: 57% (Baseline)	63%	66%	+3
4.N2 Increase the number of evidence-based behavioral support services provided to WISEWOMAN participants (Output)	FY 2014: 19,373 (Baseline)	21,311	22,280	+969
4.O: Increase the total number of evidence-based tools disseminated to promote sodium and hypertension reduction and awareness (Output)	FY 2015: 129 (Target Exceeded)	137	157	+20

¹Targets and results are set and reported biennially.

² Targets may include budget authority and/or ACA/PPHF funding.

Performance Trends: Hypertension affects one in three adults, and is a modifiable risk factor for heart disease, stroke, and other chronic diseases. It also contributes to one out of every seven deaths in the U.S., including nearly half of all cardiovascular disease-related deaths. CDC just missed its target of 50% for the prevalence of blood pressure control among adults with hypertension in FY 2014, improving on FY 2012 results and demonstrating increasing improvement each reporting period since FY 2008. (Measure 4.11.5). The agency will continue to bring together federal, state, local, and public/private efforts to promote hypertension control and the other "ABCS" of clinical prevention (aspirin when appropriate, blood pressure control, cholesterol

⁵⁰² <http://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act>

management, and smoking cessation) through the efforts of the HHS Million Hearts® Initiative that CDC co-leads with the Centers for Medicare and Medicaid Services (CMS).

In FY 2014 the CDC, in partnership with the Association of State and Territorial Health Officials (ASTHO), developed the [Million Hearts® Learning Collaborative](#)⁵⁰³ to assist state and local health agencies in implementing evidence-based strategies to identify, control, and improve blood pressure. In the first year, the ten selected states implemented high-impact strategies including standardization of hypertension screenings, use of electronic health records, and development of disease self-management tools. During this rapid scale-up of services, which included over 150 partners, 89,187 individuals were reached. In FY 2015, CDC and ASTHO added six states and one territory to the learning collaborative.

In FY 2014, 30 public & private health care practices & systems in 19 different states achieved blood pressure control for at least 70% of their patients—over 3.5 million patients had their blood pressure under control!

In southeast Oklahoma, where 42% of the population is diagnosed with hypertension, the Heartland Project was established to reduce uncontrolled hypertension. This project, encompassing five counties, uses a team-based model incorporating physicians, nurses, pharmacists, care coordinators, and county health department officials to track and manage patients with hypertension. In 2014, of those enrolled in this program, 25% of patients controlled their blood pressure within 90 days of enrollment. The health department also trained 26 health providers on the use of the electronic health records to monitor patients' blood pressure, resulting in a 50% increase in the number of clinics able to electronically monitor patients' blood pressure.

About 90% of Americans consume more sodium than is recommended for a healthy diet. Dietary sodium intake remained relatively unchanged between FY 2010 and FY 2012; the average intake in 2011-2012 was 3,478 milligrams per day, much higher than the recommended 2,300 milligrams per day (Measure 4.11.6).

Philadelphia, PA, a CDC Sodium Reduction in Communities awardee, works with multiple partners to reduce sodium content in meals in Chinese Take-Out Restaurants. As of January 2015, 185 restaurants were enrolled in the initiative. Over 24 months, Philadelphia achieved sodium content reductions in three main dishes of 13% to 34%.

In FY 2013, WISEWOMAN launched a new four-year cooperative agreement, which has placed more focus on providing women identified at high risk for cardiovascular disease (CVD) with appropriate lifestyle programs, such as behavioral support services, to reduce or control their CVD risk factors. Approximately 90% of the women referred to WISEWOMAN are identified as having at least one modifiable risk factor. Given the proportion of women at high risk, and that blood pressure screening is just one of seven criteria used to identify and then refer women to behavioral support services, CDC developed two new WISEWOMAN measures that track the percentage of at-risk women who receive at least one evidence-based healthy behavior support service and the total number of evidence-based behavioral support services provided to WISEWOMAN participants.

In FY 2015, CDC disseminated 129 evidence-based tools to promote sodium and hypertension reduction, continuing a trend of disseminating more tools annually since 2009 (Measure 4.O). For example, CDC's September 2015 Vital Signs report on Heart Age (<http://www.cdc.gov/vitalsigns/heartage/>), which estimates an individual's risk of having a heart attack or stroke by determining how old their heart is through known cardiovascular risk factors such as high blood pressure, resulted in double the day one media coverage relative to CDC's previous Vital Signs release on [Reducing Sodium in Children's Diets](#) in September 2014 (<http://www.cdc.gov/vitalsigns/children-sodium/index.html>). In addition, the report generated more than 1,000 news articles worldwide with a potential media reach of over 1.5 billion people, while the social media reach 30.8 million people. Due to public interest and website traffic, the original host web server hosting the heart age

⁵⁰³ <http://www.astho.org/Million-Hearts/State-Learning-Collaborative-to-Improve-Blood-Pressure-Control/>

calculator tool crashed and requiring an upgrade to a higher-capacity server. Public health leaders in other countries have since contacted CDC to ask for input on how they could conduct similar studies.

Diabetes

Performance Measures for Long Term Objective: Improve prevention, detection, and management of diabetes.¹

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.11.3a: Increase the age adjusted prevalence of US diabetic adults meeting all four recommended ABCS (cases per 1000/year) (Outcome)	FY 2010: 14.3 (Baseline) ²	21.5	22.7	+1.2
4.11.12 Reduce the age-adjusted incidence of diagnosed diabetes among US adults 20 years and older (cases per 1000/year) (Outcome)	FY 2013: 6.7 (Historical Actual)	6.7	6.7	Maintain

¹Targets may include budget authority and/or ACA/PPHF funding.

²This measure uses data that is based on four-year averages to improve the precision of the estimates through larger sample sizes. Most recent results for FY 2010 reflect data from 2007-2010.

Performance Trends: CDC estimates show that 86 million American adults, or 1 in 3 persons over age 20 have prediabetes, and 9 out of 10 people with prediabetes do not know they have it. Without weight loss or an increase in physical activity, 15% – 30% of people with prediabetes will develop type 2 diabetes within five years.

CDC established the National Diabetes Prevention Program (National DPP) to address the growing epidemic of type 2 diabetes. The National DPP incorporates strategies for eating healthier, incorporating physical activity into daily life, and improving problem-solving and coping skills. Based on research, the National DPP has shown people with prediabetes and/or at risk for type 2 diabetes how to make achievable and realistic lifestyle changes, cutting their risk of developing type 2 diabetes by 58%. Through implementation of the National DPP, CDC aims to reduce the age-adjusted incidence of diagnosed diabetes among US adults 20 years and older. CDC has set the FY 2017 target of 6.7 per 1,000 cases for Measure 4.11.12, representing an overall decrease of five percent from the FY 2012 result of 7.2 per 1,000 cases. Since FY 2010, CDC partners have trained over 7,463 lifestyle coaches, and organizations have delivered the lifestyle change program to approximately 32,000 people at high risk for type 2 diabetes in 49 states and the District of Columbia.

The Diabetes Prevention Recognition Program (DPRP) maintains quality assurance and provides recognition for organizations that deliver the lifestyle change intervention. Currently, 749 organizations are undergoing review for CDC recognition; this includes 36 virtual programs and 713 in-person programs. To date, 42 organizations have achieved full recognition from the DPRP. Additionally, the National DPP continues to fund six national organizations to sustain the lifestyle change program. Through these organizations, the program has expanded to 49 states, and the District of Columbia. In an effort to increase participation and better educate the public about type 2 diabetes, CDC is developing promotional materials for the public, providers, employers, and insurers.

In 2015, the National DPRP reached more than 32,000 participants, and it helped secure coverage for diabetes prevention for over 1 million employees in eight states.

While preventing new cases of diabetes is a priority, CDC also strives to prevent diabetes complications through diabetes self-management that results in improved A1c, blood pressure, cholesterol, and smoking cessation. CDC proposed Measure 4.11.3a in FY 2015, tracking A1c, blood pressure, cholesterol, and tobacco cessation, as a more informative indicator of managing diabetes complications such as visual impairment, end stage renal disease and lower-extremity amputations. With their partners, state-based grantees are working to improve quality of care and access to diabetes self-management education (DSME) for people with diabetes. Since FY

2014, they have increased DSME programs by eight percent, Stanford-licensed Diabetes Self-Management Program workshops offered by 26%, American Diabetes Association and American Association of Diabetes Educator accredited DME programs by 12%, and the number of counties offering DSME program by 34%.

CDC aims to increase the age-adjusted prevalence of U.S. diabetic adults meeting all four recommended components setting an FY 2017 target of 22.7 per 1,000 cases, an overall increase of 8.4 percentage points over the FY 2007-2010 baseline of 14.3 (Measure 4.11.3a). FY 2011-2014 results will be available by March 31, 2016.

Cancer Prevention and Control

Performance Measures for Long Term Objective: Improve health outcomes related to cancer.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.9.1: Decrease the incidence rate of late-stage breast cancer diagnosis in women ages 50 to 74 (per 100,000) (Intermediate Outcome)	FY 2012: 100.5 (Target Exceeded)	99.5	99.0	-0.5
4.9.2: Increase the percent of adults age 50 to 75 receiving colorectal cancer screenings ^{1,2} (Intermediate Outcome)	FY 2014: 65.7% (Target Not Met)	70.0%	N/A ¹	N/A ¹
4.9.4: Increase the percentage of CDC-funded state cancer registries that electronically receive physician cancer reports from Electronic Health Record (EHR)/Electronic Medical Record (EMR) systems (Output)	FY 2015: 35% (Target Exceeded)	38.0%	38.0%	Maintain
4.K: Number of breast cancer screenings provided by the National Breast and Cervical Cancer Early Detection Programs (NBCCEDP). (Output) ²	FY 2014: 303,487 (Target Not Met)	301,492	301,492	Maintain
4.L: Number of breast cancer cases detected by National Breast and Cervical Cancer Early Detection Programs (NBCCEDP) (Output) ²	FY 2014: 5,312 (Target Not Met)	4,952	4,952	Maintain

¹Targets and results are set and reported biennially.

²Targets may reflect budget authority and/or ACA/PPHF funding.

Performance Trends: Although recommended by the U.S. Preventive Services Task Force, screening rates for breast, cervical, and colorectal cancers remain low. Women over the age of 50 are at highest risk for breast cancer and benefit the most from screening. The incidence of late-stage diagnosis among women ages 50–74 has been trending downward since the 2008 rate of 106.7 per 100,000 women. In FY 2012 the rate decreased slightly to a five-year low of 100.5 (Measure 4.9.1). When compared to those not screened among this age group, mammography screening reduces breast cancer deaths by 17%.

Between 2009 and 2014, CDC provided 1,648,786 breast cancer screenings and detected 28,311 cases of breast cancer.

Through the [National Breast and Cervical Cancer Early Detection Program](http://www.cdc.gov/cancer/nbccedp/)⁵⁰⁴ (NBCCEDP), CDC provides access to breast and cervical cancer screening and diagnostic services to low-income, uninsured, or underinsured women.

From FY 2010-FY 2013, breast cancer screening and cases detected steadily increased to a high of about 350,000 and 5,900, respectively. In FY 2014, the NBCCEDP provided 303,487 screenings for breast cancer and detected 5,312 cases but did not meet its targets. (Measures 4.K and 4.L). The decrease may be attributed to two concurrent factors:

⁵⁰⁴ <http://www.cdc.gov/cancer/nbccedp/>

- 1) A possible reduction in the number of program-eligible (under/uninsured) women whose access to insurance coverage (and screenings) increased due to Affordable Care Act (ACA) implementation. Therefore, relative to pre-ACA implementation, the size of the NBCCEDP-eligible population likely decreased.
- 2) In FY 2014, grantees were still mandated to spend at least 60% of their funds on direct cancer screening services, giving them limited flexibility to expand outreach activities that target the hard to reach women who remain uninsured. The FY 2015 Omnibus appropriations act gave grantees the flexibility to expand activities such as patient navigation, outreach and education, and population-based strategies to increase screening among the uninsured populations, with FY 2015 funding. CDC is encouraging grantees to increase efforts that identify the remaining uninsured women and develop strategies that target these populations.

Targets are based on total funding requested for budget authority and PPHF. Implementation of the ACA will continue to afford greater access to coverage for cancer screening services, and has potentially reduced the size of the NBCCEDP-eligible populations in 2016 and 2017. However, In FY 2017, CDC will continue to provide high-quality direct screening to eligible women while increasing efforts to promote population-level screening for all appropriate women.

Colorectal cancer (CRC) is the second most commonly diagnosed cancer and the second leading cause of cancer deaths among both men and women in the United States. CRC screening can detect cancer early when treatment is more effective and colonoscopy can actually prevent cancer by removing precancerous polyps before they turn into cancer. In FY 2014, only 65.7% of adults aged 50-75 were screened for CRC. While a slight increase over FY 2012 results of 65.1% screening rates have effectively plateaued in recent years (Measure 4.9.2). In response, CDC along with other key partners is a vital member of the National Colorectal Cancer Round Table's "80 by 2018" initiative. This partnership seeks to eliminate colorectal cancer as a major public health problem and is working toward the shared goal of reaching 80% screened for colorectal cancer by 2018. In addition, in 2015 CDC began funding a new cooperative agreement with 31 grantees (24 State Health Departments, six Universities and one tribe) to work with health systems partners to use a combination of evidence-based strategies to increase the number of people screened for CRC. These [evidence-based strategies](#) include patient and provider reminders, provider assessment and feedback as recommended by the [Task Force on Community Preventive Services](#). Grantees will implement these strategies with the goal of increasing CRC screening rates within the health systems with which they partner.

Cancer reporting from providers to State Cancer Registries is included in CMS Stage 2 Meaningful Use criteria. Electronic reporting from physician Electronic Health Records to cancer registries is one of six options to achieve Meaningful Use criteria and receive CMS payment incentives. Enhanced use of Electronic Health Records by state registries will improve the timeliness, completeness and quality of cancer data reported, particularly from non-hospital facilities. Enhanced data will improve cancer surveillance, encourage development of comprehensive cancer control programs, and plan health care interventions designed to reduce cancer incidence or improve early detection. Implementation of Meaningful Use will significantly increase the number of reports received for each case by the central registry. In FY 2015, 16 registries (35% of all registries) electronically received physician cancer reports from Electronic Health Record (EHR)/Electronic Medical Record (EMR), up from 13 registries (28%) in FY 2014 and exceeding the target for the second straight year. Physician incentives for meeting Meaningful Use criteria will facilitate the National Program of Cancer Registries meeting these targets (Measure 4.9.4).

Oral Health

Performance Measures for Long Term Objective: Prevent oral health diseases and promote effective interventions that support optimal oral health.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.7.1: Increase the proportion of the people served by community water systems who receive optimally fluoridated water ¹ (Intermediate Outcome)	FY 2014: 74.4% (Target Not Met)	77.0%	N/A ¹	N/A ¹

¹Targets and results are set and reported biennially.

Performance Trends: For 70 years, community water fluoridation has been a safe and healthy way to effectively prevent tooth decay, and has been recognized by CDC as one of 10 great public health achievements of the 20th century. CDC works with national partners, states, communities, and water operators to support the U.S. population having access to optimally fluoridated water to prevent tooth decay. CDC is working toward the Healthy People 2020 objective of 79.6% of the population on public water systems who receive optimally fluoridated water. Fluoridation of public water systems increased from 62.1% in 1992 to 74.6% in FY 2012, slightly dropping to 74.4% in 2014 (Measure 4.7.1). Prior to April, 2015, U.S. Public Health Service recommendations for fluoride levels ranged from 0.7mg/L to 1.2 mg/L. A final recommendation to reduce the optimal fluoride level to 0.7 mg/L for all water systems was released on April 27, 2015. The final notice incorporates public comments and responses from an inter-governmental Federal Panel. CDC, in collaboration with the National Institute of Dental and Craniofacial Research (NICDR), has enhanced surveillance of dental caries (tooth decay) and dental fluorosis in the National Health and Nutrition Examination Survey (NHANES) to monitor the impact of these changes to the fluoride level recommendation.

Safe Motherhood and Infant Health

Performance Measures for Long Term Objective: To improve the health of women and infants through public health surveillance, research, capacity building and science based practices.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.8.4: Increase the number of reporting areas that provide optimal data for assessing safe sleep practices using the Pregnancy Risk Assessment Monitoring System (PRAMS) (Intermediate Outcome)	FY 2015: 17 (Target Not [Met])	41	44	+3
4.8.5: Reduce birth rates among adolescent females aged 15 to 19 years (per 1,000 births) ¹ (Contextual Indicator)	FY 2014: 24.2 (Target Exceeded)	22.7	19.4	-2.3
4.8.6: Increase the percentage of women at risk for unintended pregnancy who report using long-acting reversible contraception (Outcome)	FY 2013: ³ 9.5% (Historical Actual)	N/A ²	20%	N/A ²

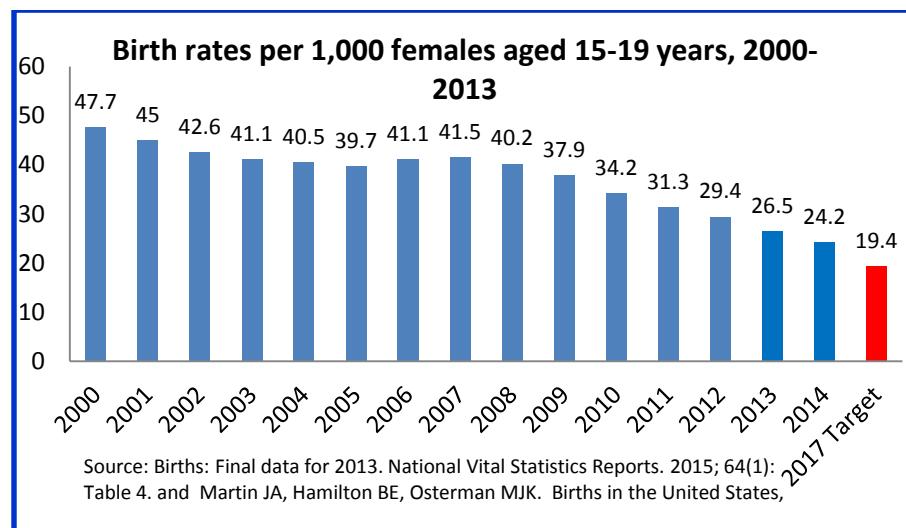
¹ Funding for this initiative in targeted communities ended in FY 2014. Data reported are national-level data.

² Targets and results are set and reported biennially.

³ CDC analysis of 2011-2013 NSFG. Change from reported result in FY 2016 PB is based on changes to HP 2020 measurement for the related objective.

Performance Trends: As a leader in population-based reproductive, maternal and child health, CDC strengthens the evidence base for effective interventions that improve both maternal and infant health. The birth rate for teenagers aged 15-19 has decreased over 50% in the past decade. This rate dropped from 26.5 per 1,000 in 2013 to 24.2 per 1,000 in 2014, reaching yet another record low for the U.S. (Measure 4.8.5). In 2010, CDC identified and funded 10 communities with significantly higher than average teen birth rates. The teen birth rate in these communities decreased from 71.8 per 1,000 in FY 2009 to 45.1 per 1,000 in FY 2012.

Figure 2: The birth rate for teenagers aged 15-19 has decreased over 50% since 2000. The rate dropped to 26.5 per 1,000 in 2013, the lowest rate ever reported for the US.



The availability of data through the Pregnancy Risk Assessment Monitoring System (PRAMS) allows CDC and states to monitor changes in maternal and child health status and indicators (e.g., unintended pregnancy, prenatal care, breastfeeding, smoking, drinking, and infant health), identify groups of women and infants at high risk for health problems, and measure progress toward goals in improving the health of mothers and infants. In FY 2014, 41 sites (40 states and New York City) collected data using PRAMS, which represents 78% of live births in the United States. In FY 2016, CDC will realign the core set of questions to allow all sites to measure safe sleep practices in order to evaluate community-based infant death prevention recommendations for reducing sudden unexpected infant deaths. Currently (pre-alignment), only 17 sites collect additional data for assessing safe sleep practices using the PRAMS safe sleep module. CDC expects this number to significantly increase once the core set of questions has been realigned (Measure 4.8.4).

For individuals who are sexually active and do not want to become pregnant or cause a pregnancy, correct and consistent contraceptive use is needed to prevent unintended pregnancy. The most effective methods to prevent unintended pregnancy among sexually active individuals are long-acting reversible contraceptives (LARC) such as intrauterine devices (IUDs) and contraceptive implants.

CDC uses the National Survey of Family Growth (NSFG) to track sexual behaviors and contraceptive use among women and men age 15 to 44. The proportion of women ages 15-19 years at risk of unintended pregnancy who report using LARC at last sexual encounter increased from less than one percent in 2002 to 3.3% in 2013. For women ages 20-44 years at risk of unintended pregnancy, use of LARC increased from 2.2% in 2002 to 10.1% in 2010. The proportion of all women ages 15-44 years at risk of unintended pregnancy who report using LARC increased from 2.0% in 2002 to 9.5% in 2013. Although final results will not be available until December 2016, preliminary data indicate an acceleration in the rate of increase in LARC use. Therefore, CDC's FY 2017 target of 20% effectively doubles the FY 2013 result.

Arthritis

Performance Measures for Long Term Objective: Reduce pain and disability and improve quality of life among people affected by arthritis.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
4.11.1: Reduce the age-adjusted percentage of adults (age 18+) diagnosed with arthritis that are physically inactive in states funded by the CDC Arthritis Program (Outcome)	FY 2014: 29.4% (Historical Actual)	27.8%	27.3%	-.5

Performance Trends: Moderate physical activity is a proven and safe self-management strategy for people with arthritis. Benefits include significant improvements in reducing pain level and enhancing function, mobility, and quality-of-life. Adults with arthritis have significantly higher rates of physical inactivity than adults without arthritis.

FY 2014 data for physical activity levels show about 29% of adults diagnosed with arthritis in states funded by CDC were physically inactive (Measure 4.11.1), a slight increase from FY 2011 baseline results (28.9%), but slightly lower than the reported prevalence of 29.7% in FY 2013. FY 2014 data cover the first two years of a five year project period, so states are still working to establish sufficient partnerships to embed physical activity programs within delivery systems. As these partnerships mature, data from FY 2015, FY 2016 and FY 2017 will likely show less physical inactivity among adults diagnosed with

Through a CDC-YMCA of the USA partnership, more than 200 YMCA sites in 36 states are now providing Enhance®Fitness classes, a senior fitness and arthritis management program with demonstrated results.

arthritis due to the increased reach and success of CDC and partner physical activity interventions. To increase the level of physical activity among people with arthritis, the CDC and its 12 funded state arthritis programs, along with national partners (e.g., Arthritis Foundation, National Association of Chronic Disease Directors, Y-USA, National Recreation and Parks Association), will improve knowledge of appropriate physical activity through health communication messages and increased access, availability, as well as participation in proven physical activity programs for people with arthritis. Evidence-based interventions and programs include:

- [Walk with Ease](#)⁵⁰⁵
- The Arthritis Foundation Exercise Program
- Active Living Every Day
- Fit and Strong
- Enhance®Fitness
- [Physical Activity. The Arthritis Pain Reliever](#)⁵⁰⁶

These programs demonstrate reduced symptoms and improved function and physical activity behaviors among adults with arthritis.

⁵⁰⁵ <http://www.arthritis.org/resources/community-programs/walk-with-ease/>

⁵⁰⁶ <http://www.cdc.gov/arthritis/interventions/physical/overview.htm>

Behavioral Risk Factor Surveillance System (BRFSS)

Performance Measures for Long Term Objective: Improve validity, coverage, and dissemination of BRFSS.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017+/- FY 2016
4.P: Increase the average percentage of completed cell phone interviews to maintain population coverage in the Behavioral Risk Factor Surveillance System (BRFSS) (Output)	FY 2014: 35% (Target Exceeded) ¹	35%	35%	Maintain

¹FY 2014 result reflects a change in sampling methodology that allows all potential cell phone respondents to participate in the survey.

Performance Trends: CDC established the Behavioral Risk Factor Surveillance System (BRFSS) as a landline telephone-based health survey system conducted by states and territories to monitor population risk factors for chronic disease and other leading causes of death and disability. However, to maintain survey coverage and validity, the BRFSS like other telephone-based surveys had to adjust to the rapid rise in cellular telephone use by adding cellular telephone households to what were traditionally only landline telephone household samples. CDC worked with states to begin piloting a BRFSS cell phone survey in 2008 and officially moved to a dual, but separate, landline and cellular telephone sampling frame beginning with the 2011 data collection cycle. CDC has demonstrated measurable improvements in reaching cell phone respondents by increasing the average percentage of BRFSS cell phone interviews from 4.5% in FY 2009 to 35.0% in FY 2014 (Measure 4.P). A change in methodology in 2014 allowed all potential cell phone respondents to participate in the survey. This contributed to states exceeding the FY 2014 target of 25%. The previous methodology screened out some cell phone users who also had landline phones. However, because cell phone respondents are asked if they have a landline phone, CDC is still able to generate estimates on the adult cell phone only population, which tends to have different demographics and risk behaviors than those with a landline telephone. The new methodology, which overlaps cellular and landline telephone samples, provides greater population coverage that includes younger demographics and minorities.

The BRFSS is the world's largest continuously conducted telephone health surveillance system. About 465,000 adults were interviewed as part of the BRFSS in 2014.

BIRTH DEFECTS AND DEVELOPMENTAL DISABILITIES

Child Health and Development¹

CDC Contextual Indicators for Long Term Objective: Prevent birth defects and developmental disabilities.

Contextual Indicators	Most Recent Result ²	FY 2020 Target
5.1.5a: Increase the proportion of children with autism spectrum disorders (ASDs) having a first evaluation by 36 months of age (Outcome)	FY 2010: 43.3%	47.0%
5.1.5b: Increase the proportion of children with low SES with autism spectrum disorders (ASDs) who receive a first evaluation by 36 months of age (Outcome)	FY 2010: 37.3%	41.0%
5.1.5c: Increase the proportion of children of minority race/ethnicity (non-white) with autism spectrum disorders (ASDs) having a first evaluation by 36 months of age (Outcome)	FY 2010: 39.5%	43.1%
5.1.5d: Increase the proportion of children of low SES and minority race/ethnicity: with autism spectrum disorders (ASDs) who receive a first evaluation by 36 months of age (Outcome)	FY 2010: 40.0%	43.1%

¹ Fiscal year represents the year when studies began. Targets are set and reported every four years.

²FY 2010 results were updated from the FY 2016 President's Budget to reflect data corrections.

Performance Measures for Long-Term Objective: Prevent birth defects and developmental disabilities.¹

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
5.1.8a: Increase the percentage of primary care providers who screen women of reproductive age for risky alcohol use (Outcome)	FY 2015: 39.3% (Target Not Met but Improved)	46%	46%	Maintain
5.1.8b: Increase the percentage of primary care providers who provide appropriate, evidence-based interventions to reduce alcohol-exposed pregnancy for those at risk (Outcome)	FY 2015: 36.9% (Target Not Met but Improved)	42%	42%	Maintain
5.1.10 Increase the proportion of Hispanic women of reproductive age who have an optimal blood folate concentration for neural tube defect prevention ² (Outcome)	FY 2011: 75.5% (Baseline)	N/A ²	76.5%	N/A ²

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
5.1.11a: Reduce use of opioid-containing medications among pregnant women (Outcome)	FY 2012: 11.4% (Historical Actual)	8.6%	8.2%	-0.4
5.1.11b: Reduce use of opioid-containing medications among women of reproductive age (Outcome)	FY 2012: 25.4% (Historical Actual)	20.4%	19.4%	-1
5.E: Increase the proportion of population-based birth defects surveillance programs that meet essential national data quality standards (Output)	FY 2015: 57.8% (Target Exceeded)	594.0%	60.0%	+1

¹Targets may include budget authority and/or ACA/PPHF funding.

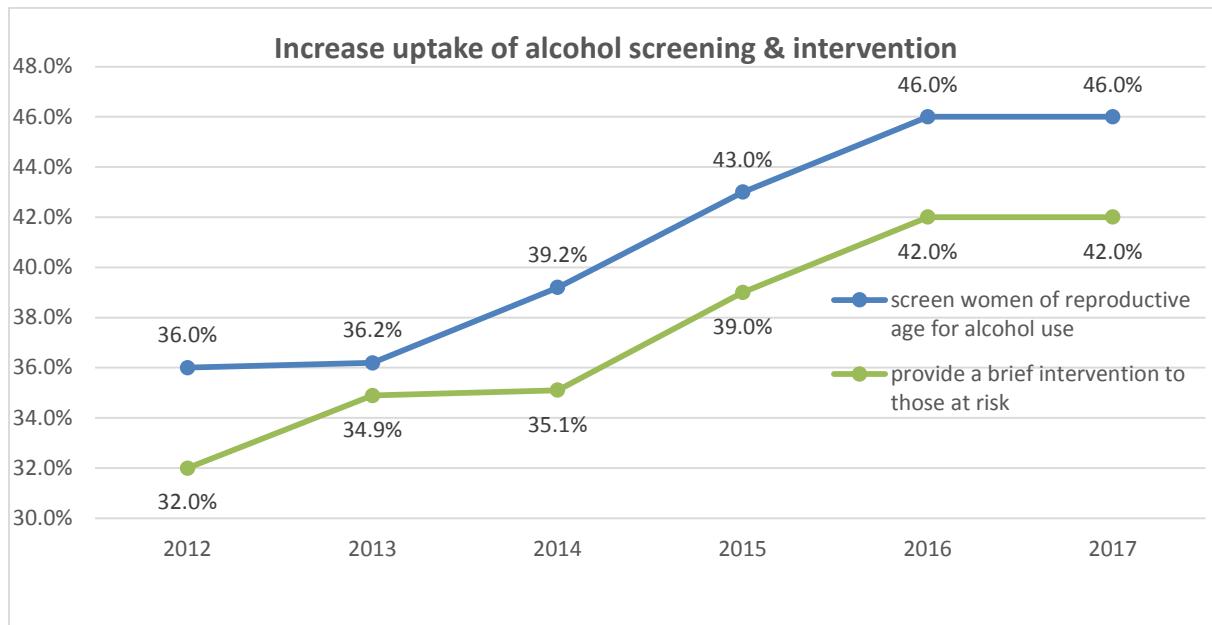
² Targets and results are set and reported biennially.

Performance Trends: CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network sites monitor the prevalence of Autism Spectrum Disorder (ASD) and other developmental disabilities in various geographic regions throughout the United States. The most recent ASD prevalence data (released in 2014) from ADDM estimated that 1 in 68 children living in ADDM Network communities during 2010 have ASD, a 30% increase since 2008. In part, this increase is due to improved identification, diagnosis, and treatment of children in local communities. ADDM has traditionally focused on 8-year-old children but has begun tracking 4-year-old children at some sites. Tracking 4-year-olds can help CDC understand more about children with ASD who are identified at a younger age, including when they are being evaluated and diagnosed. Knowing this will inform efforts to connect all children with autism to the services they need as soon as possible. Increasingly, the body of scientific evidence shows early treatment will improve the long-term outcome for children with ASD.

CDC plays a critical role in the public health response to ASD by monitoring prevalence and characteristics in the population, investigating risk factors, and promoting early identification and tools to aid in developmental monitoring to healthcare professionals, early childhood educators, and parents of young children. Early monitoring, screening, and diagnosis improve access to services during a child's most critical developmental period. CDC's data from the ADDM Network are used to track outcomes closely related to early screening and diagnosis. Results from the 2010 study year show a slight decrease (0.5 percentage points) in the proportion of children with ASD who receive a first evaluation by 36 months of age (CI 5.1.5a). The results for study year 2010 indicate the proportion of children of minority race/ethnicity with ASD who receive a first evaluation by 36 months of age remain unchanged since 2008 (CI 5.1.5c). Additionally, results for the 2010 study year show a 2.4 percentage point decrease in the proportion of children with low socioeconomic status (CI 5.1.5b) and a 0.6 percentage point increase among children with low socioeconomic status of minority race/ethnicity (5.1.5d) who receive a first evaluation by 36 months. Both contextual indicators exceeded their respective 2010 targets of 33.9% and 37.1%.

CDC also works to increase the percentage of primary care providers who (a) screen women of reproductive age for risky alcohol use and (b) provide appropriate, evidence-based interventions to reduce alcohol-exposed pregnancy for those at risk (Measure 5.1.8). Increasing primary care provider screening for alcohol misuse among women of reproductive age and the provision of evidence-based interventions are essential to improving maternal and child health and preventing Fetal Alcohol Spectrum Disorders (FASDs). CDC did not meet FY 2015 targets. However overall rates of provider-based alcohol screening (39.32%) and provider-based intervention

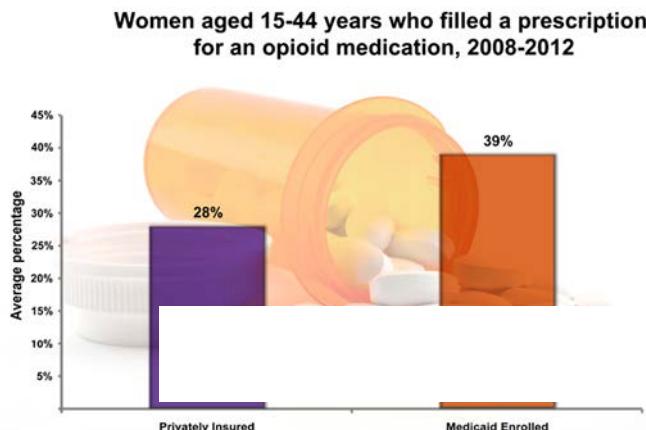
(365.9%) continue to increase compared to FY 2012 baseline estimates of 36% (provider-based alcohol screening) and 32% (provider-based intervention). It is important to note that there are variations in rates across provider types. For example, in 2015, obstetricians/gynecologists and nurse practitioners reported the highest increases in alcohol screening and intervention rates when compared with other providers. In the coming years, CDC will continue to monitor overall screening and intervention rates as well as these variations by provider type, and address them through targeted provider training and practice change efforts under cooperative agreements currently in place.



CDC strives to increase the proportion of Hispanic women of reproductive age who have an optimal blood folate concentration for neural tube defect prevention. CDC has modeled existing evidence to determine a blood folate concentration that will optimize the reduction in risk for neural tube defects. Blood folate concentrations offer a reliable measure to accurately assess a population's risk of neural tube defects. Because Hispanic women have higher rates of neural tube defects than other race/ethnicities, CDC tracks red blood cell folate concentrations among Hispanic women of reproductive age. This information is helping CDC develop appropriate prevention interventions directed to Hispanic women. FY 2011 baseline data for Measure 5.1.10 is from the most recent NHANES data available on red blood cell folate concentrations among Hispanic women of reproductive age (2009-2010). FY 2013 results are expected to be available in March, 2016.

CDC aims to reduce the unnecessary use of opioid-containing medications among pregnant women and women of reproductive age. This aligns with CDC's efforts to identify maternal risk factors for birth defects that are amenable to clinical and public health intervention, as well as CDC's Treating for Two initiative, which focuses specifically on medication use in pregnancy as a potential risk factor for birth defects and other adverse birth outcomes. For FY 2017, CDC has set a target of (a) 8.2% of pregnant women using an opioid-containing medication, and (b) 19.4% of women of reproductive age using an opioid-containing medication, assuming a five percent decline per year in each population (Measure 5.1.11a-b).

CDC aims to increase the proportion of population-based birth defects surveillance programs that meet essential national data quality standards. In the U.S., birth defects affect three percent of infants and are a leading cause of infant mortality, accounting for more than 20% of all infant deaths. Birth defects are also major contributors to disability, pediatric hospitalizations, and costs. While the overall prevalence of birth defects has remained stable over time, there is variation in the prevalence of specific birth defects. Increasing the number of birth defects surveillance systems that provide quality data will support efforts to identify causes of birth defects and guide the development and evaluation of primary and secondary prevention efforts. CDC will provide technical assistance to each program in their efforts to improve data quality (e.g. completeness, timeliness and accuracy) and will provide guidelines for expanding monitoring efforts to include additional data elements and outcomes. The percentage of birth defects surveillance programs that met national data quality standards increased from 50% in FY 2014 to 57.18% in FY 2015, exceeding CDC's FY 2015 target of 52%. (Measure 5.E).



Health and Development for People with Disabilities¹

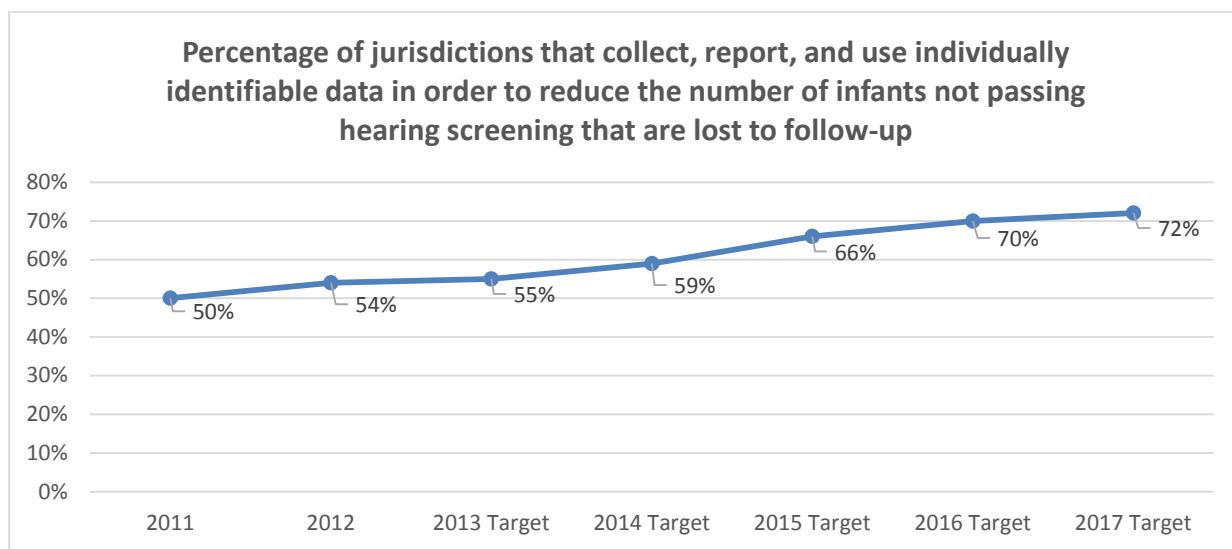
Performance Measures for Long-Term Objective: Improve the health and quality of life of Americans with disabilities.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 Target +/- FY 2016 Target
5.2.5: Increase the percentage of jurisdictions that collect, report, and use individually identifiable data in order to reduce the number of infants not passing hearing screening that are lost to follow-up (Outcome)	FY 2013: 73% (Target Exceeded)	82%	85%	+3
5.2.6: Decrease the incidence of skin breakdown in patients with spina bifida (SB) who attend SB clinics (Outcome)	FY 2014: 16% (Target Met)	12.8%	12.8%	Maintain
5.2.7: Increase the percentage of US children 2-5 years of age with a diagnosis of ADHD who receive behavioral therapy (psychological services) for treatment (Outcome)	FY 2014: 40% (Baseline)	43%	45%	+2

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 Target +/- FY 2016 Target
5.F: Increase percentage of funded Disability and Health state programs that use state Medicaid administrative data to inform the development of public health programs for people living with intellectual/developmental disabilities (I/DD) (Output)	FY 2015: 5.5% (Baseline)	11%	22%	+11

¹Targets may include budget authority and/or ACA/PPHF funding.

Performance Trends: Early identification and intervention programs for newborns with hearing deficiencies are cost-effective and improve outcomes for these children. CDC's support for and expertise gained from state and territorial-based Early Hearing Detection and Intervention Information Systems (EHDI-IS) has contributed to significant progress in the identification of newborns with hearing loss and their enrollment in intervention programs. From 2000 to 2013, the percentage of newborns in the United States who were screened for hearing loss increased from 52% to 97%. Additionally, the number of infants identified with permanent hearing loss doubled from about 2,600 in 2005 to nearly 5,500 in 2013. Finally, the percentage of jurisdictions able to collect, report and utilize EHDI data to help reduce loss to follow-up increased from 43% in 2010 to 73% in 2013 (Measure 5.2.5). CDC increased FY 2016-2017 targets to continue the advance in reducing loss to follow up.



CDC is working to improve the health of people with spina bifida (SB) by decreasing their incidence of skin breakdown. Skin breakdown is a major secondary condition for people with SB, occurring primarily in those with myelomeningocele SB. Pressure ulcers are one type of skin breakdown that can have serious consequences. The annual incidence rate of pressure ulcers among patients with myelomeningocele can be as high as 33% and can lead to serious complications such as leg amputation or even death, and up to eight percent of SB patients die of pressure ulcer complications. The Agency for Healthcare Research and Quality recommends a pressure ulcer bundle approach to preventing skin breakdown. CDC will implement a Skin Breakdown Prevention Bundle in spring 2016 in collaboration with SB clinics as a way of increasing prevention practices. CDC expects to see a reduction in skin breakdown reports and a related reduction in costs for patients with SB using data from the National Spina Bifida Patient Registry. CDC's FY 2014 results improved slightly from FY 2013 (16.2%). CDC has set a target of 12.8% for FY 2017, a 3.2 percentage-point decrease over FY 2014 results (Measure 5.2.6). FY 2015

results will be available in June 2016 due to an updated data collection and reporting cycle. Upon implementation of the SB Prevention Bundle, CDC will re-establish baseline for FY 2016, which will be reported in June 2017.

CDC strives to increase the percentage of funded Disability and Health state programs that use state Medicaid administrative data to inform the development of public health programs for people living with intellectual/developmental disabilities (I/DD). Current surveillance systems are not detailed enough to understand the needs of this uniquely diverse population. CDC is working to increase uptake of Medicaid administrative data to inform programs in ways that will lead to targeted public health interventions that meet the documented needs of people with I/DD. For example, these data can help CDC and states examine the leading causes of hospitalization and emergency department use. Data from South Carolina on 70,000 people with I/DD insured by Medicaid revealed that the leading causes of ambulatory care case sensitive conditions (ACSC) included respiratory conditions, epilepsy, urinary tract infections, and dehydration. Also, approximately 20% of people with I/DD hospitalized or visiting the emergency department for an ACSC had not seen a primary care provider in the prior year. This information represents an opportunity to improve the quality of care and potentially reduce Medicaid expenditures, as well as improve public health. CDC has set a target of 22% of funded Disability and Health state programs using state Medicaid administrative data to inform the development of public health programs for people living with I/DD for FY 2017, a 16.5 percentage-point increase over the FY 2015 baseline (Measure 5.F).

CDC aims to increase the percentage of U.S. children ages 2-5 years with a diagnosis of attention-deficit/hyperactivity disorder (ADHD) who receive behavioral therapy (psychological services) for treatment. ADHD is the most common neurobehavioral disorder of childhood, diagnosed in 11% of children aged 4-17 years. Although the American Academy of Pediatrics recommends behavioral therapy as the first-line treatment for children ages 4-5 years, data suggest that only about half of the children aged 4-5 years with an ADHD diagnosis are receiving psychological services (a classification that includes behavioral therapy, but also other psychological services that are not evidence-based). Further, new data indicate that many children as young as two and three years of age are being diagnosed with ADHD, and many of these children are receiving medication for treatment.

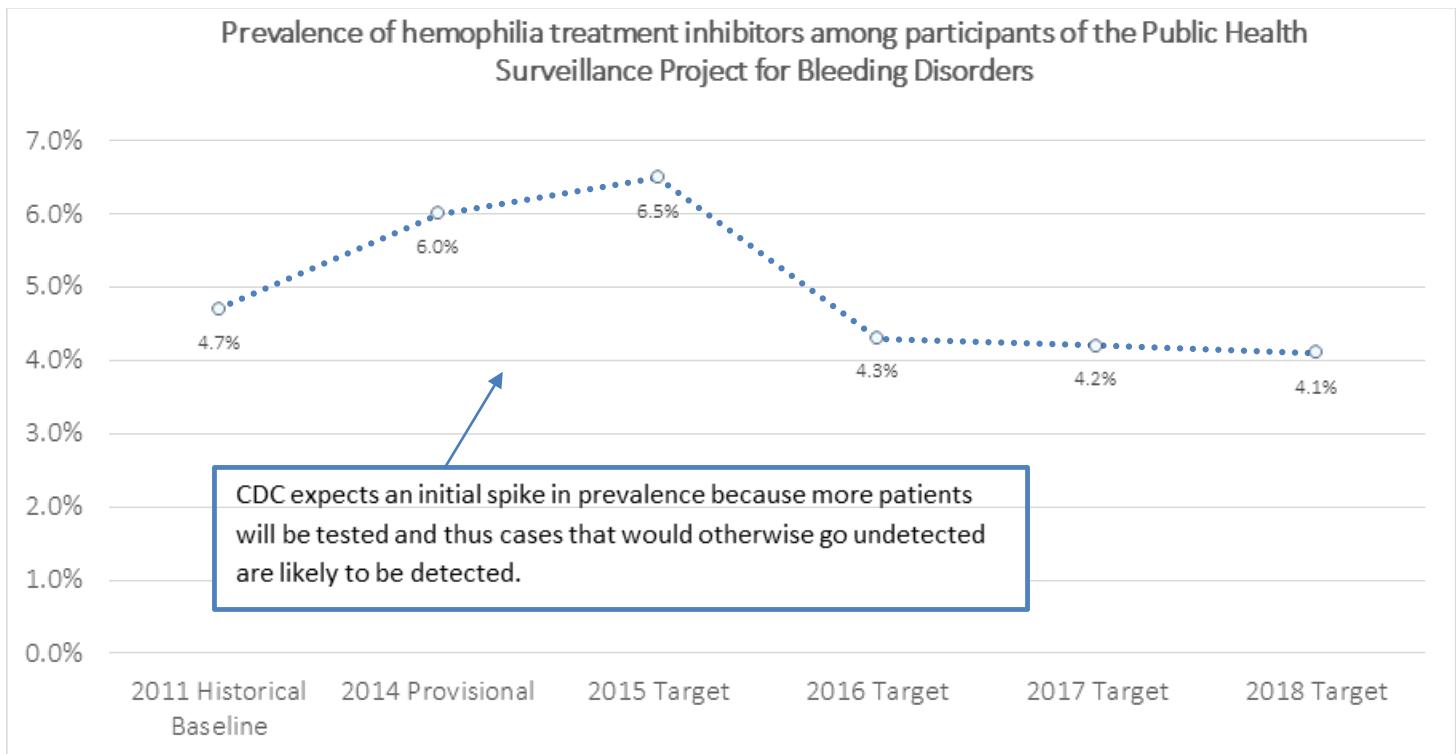
By working with key pediatric, psychiatric, and psychological partner groups, CDC is working to: 1) raise awareness of behavior therapy (parent training) among parents and health professionals; 2) increase available behavior therapy options for providers and families, and 3) inform state and local decision-makers about best practices. CDC will also continue to work with the Health Resources and Services Administration to redesign the National Survey of Children's Health to gain insight into the current practice patterns for the treatment of ADHD in communities. CDC has set a target of 45% of U.S. children 2-5 years of age with a diagnosis of ADHD who receive behavioral therapy for treatment for FY 2017, a five percentage-point increase over the FY 2014 baseline of 40% (Measure 5.2.7).

Public Health Approach to Blood Disorders¹

Performance Measures for Long-Term Objective: Improve the health and quality of life for Americans with blood disorders.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 Target +/- 2016 Target
5.3.2: Decrease the prevalence of hemophilia treatment inhibitors among Public Health Surveillance Project for Bleeding Disorders patients (Outcome)	FY 2014: 6.0% (Provisional)	4.3%	4.2%	-0.1

¹Targets may include budget authority and/or ACA/PPHF funding.



Performance Trends: Approximately 15-20% of people with hemophilia develop an inhibitor (antibody) to the products used to prevent bleeding, making the treatments less effective. Medical providers typically treat these patients with higher and more frequent doses of the treatment products, in an attempt to overwhelm the inhibitor and induce tolerance, but this can make the inhibitor worse. Inhibitors can cause a patient's hemophilia treatment costs to exceed \$1,000,000 a year, increase hospitalizations, and compromise physical functioning. Discovering an inhibitor as soon as possible helps improve outcomes and reduce costs. Although hemophilia care providers widely accept that development of an inhibitor is a serious complication of treatment, routine screening for inhibitors is not current practice because of the high cost (often not covered by insurance) and the inability of most local laboratories to perform the screening test if the patient has recently been treated.

In FY 2012, CDC replaced the [Universal Data Collection](#)⁵⁰⁷ (UDC) system with the Public Health Surveillance Project on Bleeding Disorders (PHSPBD). Data collection and sample testing began in FY 2014. The PHSPBD expands the scope of data previously collected by the UDC, incorporates screening for an inhibitor, and facilitates the identification and use of best practices that help prevent or eradicate them. The PHSPBD also complements CDC's work on the identification of genetic and environmental risk factors for inhibitors, and ongoing monitoring is expected to help identify the impact of new treatment products on inhibitor rates.

The FY 2011 baseline prevalence of 4.7% for hemophilia treatment inhibitors identified in 2009-2011 is most likely an underestimate of the true prevalence because screening for an inhibitor was not routinely performed during this time (Measure 5.3.2). FY 2014 provisional data show that 6.0% of people with hemophilia had developed an inhibitor and required a bypass drug for treatment of bleeds. CDC will establish a new baseline by March 2016 that accounts for routine inhibitor screening. CDC anticipates an initial increase in prevalence, from the expanded coverage of screening leading to identification of inhibitors that have not been previously identified. Longer-term targets work toward a decline in prevalence, reaching 4.2% by 2017, reflecting the anticipated benefits of early screening and extensive patient and provider education which are to detect

⁵⁰⁷ <http://www.cdc.gov/ncbddd/bloiddisorders/udc/index.html>

inhibitors early when they are more easily treated and eliminated thereby decreasing prevalence. In later years, the additional knowledge about inhibitor risk factors gained from the surveillance and related research will lead to primary prevention strategies that CDC anticipates will further lower the prevalence of inhibitors.

ENVIRONMENTAL HEALTH

Environmental Laboratory

Performance Measures for Program: Environmental Health Laboratory.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
6.1.1: Number of environmental chemicals and nutritional indicators that are measured in surveys and studies of the U.S. population (Output)	FY 2015: 351 (Target Exceeded)	345	345	Maintain
6.1.3: Number of laboratories participating in DLS Quality Assurance and Standardization Programs to improve the quality of their laboratory measurements ¹ (Output)	FY 2015: 1,886 (Target Not Met)	1,900	1,950	+50
6.1.4 Number of chronic disease biomarkers included in standardization programs that improve the quality of laboratory measurements (Output)	FY 2015: 10 (Target Not Met)	14	15	+1
6.A: Number of environmental chemicals for which methods were developed or improved (Output)	FY 2015: 99 (Target Exceeded)	50	60	+10
6.B: Number of laboratory studies conducted to measure levels of environmental chemicals in exposed populations (Output)	FY 2015: 86 (Target Exceeded)	75	90	+15
6.F: Number of states assisted with screening newborns for preventable diseases (Output)	FY 2015: 50 (Target Met)	50	50	Maintain

¹(i.e., newborn screening, chronic diseases [diabetes, cholesterol], environmental health [blood lead, cadmium and mercury], and nutritional indicators).

Performance Trends: CDC's biomonitoring measurements (in blood and urine) identify and track the level of environmental chemicals and nutrition indicators in the U.S. population. The measurements provide national reference information for scientists, physicians, and health officials. In FY 2015, CDC measured 351 environmental chemicals and nutrition indicators, exceeding the target by reporting results for several chemical classes recently added to the [National Health and Nutrition Examination Survey](#)⁵⁰⁸ (NHANES) (Measure 6.1.1). Because of routine, cycle-to-cycle variation in the indicators and chemicals assessed in NHANES participants, future targets for this measure are level with the FY 2014 result. From FY 2012 through 2015, CDC developed or improved several methods that measure multiple environmental chemicals in a single test, greatly exceeding the target of 25 for Measure 6.A. CDC adjusted FY 2016 and FY 2017 targets for this measure to reflect trends from recent years while accounting for the exceptional effort required to develop methods that detect multiple chemicals.

In FY 2015, CDC exceeded its target of conducting 75 laboratory studies to identify populations with harmful exposures to chemicals (Measure 6.B), a trend CDC has continued since FY 2011. CDC's FY 2016 and FY 2017

⁵⁰⁸ <http://www.cdc.gov/nchs/nhanes.htm>

targets reflect anticipated fluxuations in completed studies and are dependent on collaborative opportunities that align with CDC's Environmental Health Laboratory mission and budgetary goals.

CDC's Environmental Health Laboratory also provides quality assurance and standardization programs to laboratories testing for chronic diseases, newborn screening disorders, nutrition status, and environmental exposures. Between 2007 and 2014, CDC met or exceeded its targets for participation in these programs and greatly exceeded the target in FY 2014 because of new quality assurance programs for chronic disease biomarkers and new certification requirements from other federal agencies (Measure 6.1.3). In FY 2015, CDC did not meet its target for the number of laboratories voluntarily participating in these programs because of several laboratory mergers (Measure 6.1.3). CDC's FY 2016 and 2017 targets reflect the reduced total number of laboratories expected to participate in the future.

CDC helps improve the diagnosis and treatment of cardiovascular disease and cancer by standardizing important tests for chronic disease biomarkers. In FY 2015, CDC did not meet its target to add two additional chronic disease biomarkers to its standardization programs (Measure 6.1.4)). CDC experienced lower than expected capacity needed to add additional biomarkers but expects to meet the FY 2016 and 2017 targets. CDC also provides quality assurance for newborn screening of preventable diseases (e.g. Severe Combined Immunodeficiency, Amino acid disorders, Endocrinopathies) and met its FY 2015 target to provide quality assurance materials and technical expertise to all 50 states (Measure 6.F), a result CDC has continually achieved since at least FY 2011.

Environmental Health Activities

Performance Measures for Program: Environmental Health Activities.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
6.1.2: Number of completed studies to determine the harmful health effects from environmental hazards. (Output)	FY 2015: 27 (Target Met)	27	27	Maintain
6.1.5 Number of states using National Environmental Assessment Reporting System (NEARS) to assist in preventing outbreaks of food-borne illness (Output) ¹	FY 2014: 8 (Historical Actual)	10	11	+1
6.H: Number of emergency radiation preparedness toolkits provided to clinicians/public health workers (Output)	FY 2015: 1,189 (Target Exceeded)	1,000	1,000	Maintain

¹Data and targets for measure 6.1.5 were incorrectly reported in the FY 2016 President's Budget. Revisions to both the data point for FY2014 and the out year targets have been made which align with the measure language (i.e. limited to states instead of states and localities).

Performance Trends: Since 2010, CDC has met or exceeded its target for completing studies to examine the human health effects of exposure to water and air pollutants, radiation, and hazards related to natural and other disasters (Measure 6.1.2). These studies help CDC develop, implement, and evaluate actions and strategies for preventing or reducing harmful exposures and their health consequences. In FY 2015, CDC worked with federal and state partners to investigate contaminated nutritional supplements that have caused adverse health effects, resulting in removal of the supplements from the market. Funding fluctuations in FYs 2013-2014 will impact study implementation and data analysis in the coming fiscal years. Additionally, and as a result of response capacity needed for increasing numbers of environmental health emergencies, CDC has prioritized studies related to natural disasters and severe health hazards and maintained the FY 2015 level for its targets.

CDC's National Environmental Assessment Reporting System (NEARS) provides a standardized reporting tool that local, state, territorial, and tribal food safety programs can use to identify underlying environmental factors that can be routinely monitored by food safety programs to prevent or mitigate foodborne illness outbreaks associated with food service establishments (e.g., food handling practices, worker health policies, and food source of a particular outbreak or group of outbreaks). CDC exceeded its expectations in FY 2014 for Measure 6.1.5 with eight states using the NEARS system. CDC anticipates that at least 10 states will use the system in FY 2016 and 11 states in FY 2017. These targets have been lowered as compared to previous reporting cycles because prior targets inadvertently included utilization by both state and local governments, which is inconsistent with the measure language that only includes states. In 2015, CDC continued to encourage use of its free, interactive 8-10 hour e-Learning course for state and local food safety staff to improve environmental assessment and reporting related to foodborne illness outbreaks. In 2015, CDC registered over 3,062 users from 49 states and 40 countries for the food safety e-Learning training.

Providing expertise in radiation health and exposure, CDC exceeded its target in FY 2015 for Measure 6.H by distributing 1,189 radiation toolkits. Following the March 2011 radiation disaster in Fukushima, Japan, there was a spike in toolkit requests from the western United States and international partners in FYs 2011 and 2012. The number of requests leveled off in FY 2013 and FY 2014, and then increased slightly in FY 2015. CDC's targets are just under the average number of toolkits distributed annually from FY 2013-FY 2015. Since the creation of the toolkits in 2005, CDC has provided more than 29,200 kits to professionals across the nation and internationally to assist clinicians in developing plans and response capacity for radiation emergencies. An independent study conducted by Greene County (Ohio) Combined Health District in 2013 found that public health professionals who used the CDC tool kits increased their knowledge and abilities and significantly increased their willingness to respond to a radiation emergency.

CDC distributed 1,189 radiation emergency tool kits to public health professionals and clinicians in FY 2015, which were shown to be valuable resources for planning (pre-event) and just-in-time (intra-event) use.

Environmental and Health Outcome Tracking Network

Performance Measures for Program: Environmental Public Health Tracking.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
6.C: Number of public health actions undertaken (using Environmental Health Tracking data) that prevent or control potential adverse health effects from environmental exposures (Output) ¹	FY 2015: 56 (Target Exceeded)	30	21	-9

¹Targets may include budget authority and/or ACA/PPHF funding.

Performance Trends: The Environmental and Health Outcome Tracking Network covers over 190 million people, which makes up 62% of the US population. Between 2005 and 2015, state and local public health officials have used the Environmental Health Tracking Network to implement 302 data-driven public health actions to save lives and prevent adverse health effects that are due to environmental exposures, including 56 public health actions in FY 2015 (Measure 6.C). Examples of actions taken using the Tracking Network include the following:

- Examining use of selected pesticides near public schools in top agricultural counties in California led to the California Department of Pesticides regulation initiating a process to develop improved notifications to schools and restrictions on use of pesticides near schools to protect the health of children and adults working in school settings;

- Informing local communities about cancer data, and the risks of smoking and radon in Minnesota. The Tracking Program, in partnership with the state cancer surveillance system, health officials, and local elected officials, launched a series of new interactive maps, charts, and queries for state and county-level data;
- Developing a 'Get Hooked on Healthy Fishing' packet that contains information promoting the health benefits of using non-lead fishing tackle in Missouri. The materials encourage parents to replace lead fishing tackle with non-lead alternatives such as tin, bismuth, tungsten, or ceramic;
- Evaluating water quality data in Colorado to inform the response to nitrate in drinking water, which was also prominently featured in local news investigations.

The Tracking Network also serves as a source of information for health professionals, elected officials, researchers, parents, and the general public on environmental hazards and exposures, population data, and health outcomes.

While CDC substantially exceeded its FY 2015 target of 30, this result was largely influenced by concerted efforts by CDC staff to encourage awardees to prioritize reporting of public health actions. The FY 2017 target reflects the anticipated loss of 10 state programs because of the proposed funding cut to the Tracking Program. This change in funding will greatly impact the remaining funded states' ability to conduct activities required by the cooperative agreement, reducing the number of anticipated public health actions from 30 in FY 2016 to 21 in FY 2017.

Asthma

Performance Measure for Program: Asthma.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
6.2.4: Increase the proportion of those with current asthma who report they have received self-management training for asthma in populations served by CDC funded state asthma control programs (Output)	FY 2013: 44% (Target Not Met)	50%	50%	Maintain

Performance Trends: CDC measures the proportion of individuals with current asthma who report receiving asthma self-management training from a doctor or other health care provider (Measure 6.2.4). Implementing asthma action plans and effective asthma self-management (per the National Institutes of Health's *Guidelines for the Diagnosis and Management of Asthma*) are vital to helping people stay out of the hospital and manage their asthma. Studies show asthma self-management education can lead to a 54% reduction in hospital readmissions and a 34% reduction in emergency department visits—ultimately saving \$35.00 for every one dollar spent in avoided health care costs and lost productivity. Asthma attack prevalence among persons with current asthma decreased from 55.8% in 2001 to 49.9% in 2013.⁵⁰⁹ This decrease represents progress in asthma management.

CDC did not meet the FY 2013 target for delivering self-management training through its funded grantees with 44% of persons with current asthma reporting receiving training (Measure 6.2.4). In FY 2012, 45% of persons with current asthma reported receiving training. Funded states are implementing comprehensive, evidence-based programs that target health care providers and asthma educators in multiple settings (e.g., doctor's offices, hospitals, schools, daycare centers, community organizations) to ensure they are aligning their efforts with the National Institute of Health's *Guidelines for the Diagnosis and Management of Asthma*. CDC awarded new funding to 23 states in FY 2014. CDC plans to adjust targets for this performance measure to reflect the new mix of funded states, beginning with FY 2015 data.

Childhood Lead Poisoning Prevention

Contextual Indicator for Program: Childhood Lead Poisoning Prevention.

Contextual Indicator	Most Recent Result	FY 2015 2018 Target
6.2.5a: Reduce health disparities associated with blood lead levels in children aged 1-5 in the U.S. such that: a. The gap in blood lead levels between black children and children of other races is reduced (Contextual Indicator) ¹	FY 2010: 0.52 (Baseline)	0.45
6.2.5b: The gap in blood lead levels between children living above the federal poverty level and those living below the poverty level is reduced (Contextual Indicator) ¹	FY 2010: 0.54 (Baseline)	0.47

¹Targets are set and reported every four years. Baseline is based on analysis of 2007-2010 data. 2011-2014 results will be available April 2016.

⁵⁰⁹ http://www.cdc.gov/asthma/most_recent_data.htm

Performance Measure for Program: Childhood Lead Poisoning Prevention.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
6.2.3 Percentage of children (with blood lead levels at or above 5 micrograms per deciliter) who are referred for case management	FY 2015: 20% (Baseline)	25%	30%	+5

Performance Trends: These measures (6.2.5a and 6.2.5b) serve as valuable indicators of the success of lead interventions nationwide. Both measures focus on the stark health disparity gaps that exist between children, based on both race and household income. While overall U.S. child lead levels have fallen significantly in the last decade, reducing disparities is critical to decreasing the average blood lead levels among all young children in the U.S. CDC resumed funding interventions in FY 2014 via the Prevention and Public Health Fund and is currently assessing performance implications for FY 2015 and FY 2016. Measures 6.2.5a-b remain contextual indicators of the overall success of lead poisoning interventions nationwide. Updated data is expected by April 2016.

CDC provides national expertise on lead poisoning prevention and a national surveillance system for blood lead and other housing related health hazards. CDC's strategy to address childhood lead poisoning prevention has changed. The new FOA emphasizes grantees' use of data to facilitate targeted interventions, including referral of children with elevated blood level levels for case management services. Therefore CDC has introduced a new measure (Measure 6.2.3).

While there has been a decline in children's blood lead levels (BLL), lead exposure continues to harm children. An estimated 12.3 million children ages 1-5 have BLLs over the national average of 1 µg/dL, and 535,000 children ages 1-5 have BLLs at or above the 5 µg/dL level that triggers state and local intervention (exposure mitigation and health monitoring). Due to lead exposure, CDC estimates more than \$59 billion in lost lifetime productivity and a negative impact on achieving our nation's educational goals. Approximately 24 million homes in the U.S. have lead-based paint hazards that can result in childhood lead poisoning, the primary source of children's lead exposure. Lead exposure can affect nearly every system in the body and is associated with numerous behavioral and learning problems (e.g., reduced IQ, attention deficit hyperactivity disorder, juvenile delinquency, and criminal behavior). Research shows that even low levels of lead in a child's blood can affect IQ, the ability to pay attention, and academic achievement.

The effects of lead exposure cannot be corrected. Because lead exposure often occurs with no obvious symptoms, it frequently goes unrecognized. In FY 2017, CDC will begin a new 3-year, competitive cooperative agreement and will fund an additional three grantees, bringing the total to 38 state and local health departments. Funded health departments will use the 3-year funding to collect and analyze data to identify the highest risk areas and work with state, local and federal agencies and non-profit organizations to target primary prevention efforts to these high risk areas. Funded health departments will also collect and use surveillance data to identify high risk demographic groups so that responsible authorities can provide focused interventions, including case management of children with elevated blood lead levels.

INJURY PREVENTION AND CONTROL

Intentional Injury Prevention

Long Term Objective: Achieve reductions in the burden of injuries, disability, or death from intentional injuries for people at all life stages.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target Planning	FY 2017 Planning +/- FY 2016
7.1.3: Increase the difference in teen dating violence prevalence between the control group and Dating Matters group (Intermediate Outcome)	FY 2013: 1.7% ¹ (Target Not Met but Improved)	10%	12.5%	+2.5
7.2.5: Increase the percent of Core VIPP funded states that assess outcomes and impact of injury and violence prevention strategies using surveillance data (Intermediate Outcome) ²	FY 2015: 100% ³ (Target Met)	N/A ⁴	95%	N/A

¹ The FY 2013 result published in the FY 2016 PB, 2.8%, was based on preliminary data. The final result was 1.7%. The FY 2014 result will be reported in the FY 2018 PB.

² The Core VIPP program is cross-cutting and is supported by both the Intentional and Unintentional Injury Prevention budget lines.

³ Due to budget constraints, the number of Core VIPP states was reduced to 20 starting in FY 2012. The 2011 baseline and FY 2012 target were computed using 28 states, while FY 2014 and FY 2013 targets and FY 2012 result were computed using the 20 states currently funded.

⁴ A new Core VIPP FOA is scheduled for award in mid-2016. Starting in FY 2017, the target is 95% to reflect possible shifts in the group of awardees under this new FOA.

Performance Trends: Violence-related injuries and deaths, including interpersonal and self-directed, cost approximately \$107 billion a year in medical and other costs.⁵¹⁰ Teen dating violence is one area of growing concern in violence prevention. Teen victims of dating violence are more likely to be depressed and do poorly in school. They may engage in unhealthy behaviors, like using drugs and alcohol, and are more likely to have eating disorders. In extreme cases, some teens even think about or attempt suicide. Current science demonstrates it is most effective to begin working with teens at a younger age to stop dating violence before it starts.

CDC's [Dating Matters®](#) initiative is a combination of evidence-based and evidence-informed strategies that promote respectful, nonviolent dating relationships among youth ages 11–14 years in high-risk urban communities (Measure 7.1.3). CDC is examining the cost, feasibility, sustainability, and effectiveness of a comprehensive approach to teen dating violence in four high-risk urban communities during the first phase of a five-year demonstration project of Dating Matters® (FY 2011 - FY 2016). Elements of this prevention initiative are being delivered in over 40 middle schools across four cities (Baltimore, Maryland; Chicago, Illinois; Ft. Lauderdale, Florida and Oakland, California) and include a rigorous evaluation as well as cost analysis. The evaluation will continue to follow youth through high school to monitor the long-term program effectiveness. CDC estimates participation of up to 100,000 students and adults in the four Dating Matters® demonstration sites through FY 2016. In addition, CDC will continue planning for the dissemination of Dating Matters® strategies to other urban communities beginning in FY 2016 through seed funding and/or partnerships with other CDC programs and federal agency partners. CDC grantees will adapt and utilize the following evidence-based programs as part of the Dating Matters® initiative: 1) Safe Dates, which can decrease levels of dating

⁵¹⁰ <http://www.cdc.gov/injury/wisqars/cost/cost-learn-more.html>

violence among eighth graders; 2) Families for Safe Dates, which encourages families to talk about healthy dating relationships and dating abuse and can decrease levels of dating violence victimization among youth whose parents completed the program (for parents of eighth graders); and 3) Parents Matter, a community-level, family prevention program that enhances protective parenting practices for parents of 6th graders. In 2013, Dating Matters® communities increased the difference in teen dating violence prevalence over the control group baseline by 1.7%, although CDC did not meet the target of two percent. Preliminary data for FY 2014 indicate improvement from the FY 2013 results. As CDC set extremely ambitious targets without the ability to be informed by trend data, CDC adjusted its FY 2016 target, partially informed by the FY 2013 results and preliminary FY 2014 results. Final results for FY 2014 will be available in Spring 2016.

Additional CDC efforts for violence prevention include the Core Violence and Injury Prevention Program (Core VIPP), which is a cross cutting program that supports both intentional and unintentional injury prevention activities (Measure 7.2.5). The program is discussed in further detail in the Unintentional Injury Prevention section.

Unintentional Injury Prevention

Long Term Objective: Achieve reductions in the burden of injuries, disability, or death from unintentional injuries for people at all life stages.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
7.2.4: Reduce motor vehicle deaths per 100M vehicle miles traveled. (Outcome)	CY 2014: 1.07 (Target Not Met but Improved)	0.97	0.97	Maintain
7.2.5: Increase the percent of Core VIPP funded states that assess outcomes and impact of injury and violence prevention strategies using surveillance data. (Intermediate Outcome) ¹	FY 2014: 100.0% ² (Target Met)	N/A ³	95%	N/A
7.2.6: Reduce the age-adjusted annual rate of overdose deaths involving opioid analgesics per 100,000 population among states funded through Prescription Drug Overdose Prevention for States (Outcome)	FY 2014: 12.5 ⁴ (Baseline)	11.3	10.6	-0.7

¹The Core VIPP program is cross-cutting and is supported by both the Intentional and Unintentional Injury Prevention budget lines.

² Due to budget constraints, the number of Core VIPP states was reduced to 20 starting in FY 2012. The 2011 baseline and FY 2012 target were computed using 28 states, while FY 2014 and FY 2013 targets and FY 2012 result were computed using the 20 states currently funded.

³ A new Core VIPP FOA is scheduled for award in mid-2016. Starting in FY 2017, the target is 95% to reflect possible shifts in the group of awardees under this new FOA.

⁴The baseline rate includes 5 states (KY, OK, TN, UT, and WV) currently being funded through the Prescription Drug Overdose: Boost for State Prevention FOA to prevent prescription drug overuse, misuse, abuse, and overdose. This program was expanded to 16 states in September 2015.

Performance Trends: Unintentional injuries are the leading cause of death for individuals ages 1–44 in the United States. Additionally, over half of the total medical and work loss costs of injury deaths are attributable to unintentional injuries (\$129.7 billion).⁵¹¹ CDC works in multiple areas across unintentional injury, including transportation safety, drug overdose, and older adult falls prevention. CDC also works to strengthen states' capabilities to address both intentional and unintentional injuries, especially through the Core Violence and Injury Prevention Program (Core VIPP).

Although CDC missed its 2014 target of 0.97 fatalities per 100 million vehicle miles traveled (VMT), the rate of traffic fatalities per 100 million VMT has declined since 2005 except for a slight increase in 2012 (Measure 7.2.4).⁵¹² The FY 2014 rate of 1.07 fatalities per 100 million VMT is an improvement from the rate of 1.1 in FY 2013. These declines are likely attributable to prevention strategies that increase seat belt usage, graduated driver licensing systems, creation of safer motor vehicles, and improvement in safe driving behaviors. This trend is consistent with historical trends that show repeated instances of large declines followed by a multi-year leveling off period.

CDC will continue to provide public health leadership in surveillance, applied research, capacity building, program implementation, evaluation, translation and communication to support prevention activities, including:

- CDC's State Fact Sheets on Restraint Use and Drunk Driving provide a useful tool to highlight current data and strategies proven effective for reducing or preventing drunk driving and increasing the use of seat belts, car seats, and booster seats. States and their partners can download fact sheets with state-specific data and information that can help in implementing strategies to save lives.
- CDC released a new interactive calculator, called the [Motor Vehicle PICCS](#)⁵¹³ (Prioritizing Interventions and Cost Calculator for States). This tool will help state decision makers prioritize and select from a suite of 12 effective motor vehicle injury prevention interventions. It is designed to calculate the expected number of injuries prevented and lives saved at the state level, as well as the costs of implementation, while taking into account the state's available resources. A fact sheet for each intervention and a final report with methodologies and cost-effectiveness analyses are included. The Motor Vehicle PICCS is available online at: <http://www.cdc.gov/motorvehiclesafety/calculator>.
- CDC released a March 2015 Vital Signs on trucker safety. Federal, state, and local governments, law enforcement, employers, and truckers can download this Vital Signs and the associated materials including a fact sheet to learn more about this issue and the steps that everyone can take to increase restraint use and reduce drowsy and distracted driving.

Deaths involving prescription opioid analgesics have quadrupled since 1999 from 4,030 in 1999 to 16,235 in 2013. Responding to this crisis, in FY 2014, CDC began a three-year funding cycle, funding five states with high

⁵¹¹ <http://www.cdc.gov/media/dpk/2015/dpk-injury-costs.html>

⁵¹² <http://www.nhtsa.gov/About+NHTSA/Press+Releases/2015/2014-traffic-deaths-drop-but-2015-trending-higher>

⁵¹³ <http://www.cdc.gov/motorvehiclesafety/calculator/>

Proven Motor Vehicle Safety Policy

Solutions:

A \$30 booster seat saves more than \$9 for every \$1 invested.

For only \$70 per teen, graduated licensing programs generate \$500 in cost savings.

Society saves \$3 to \$7 for every \$1 spent on ignition interlock devices.

Source: <http://www.cdc.gov/injury/pdfs/cost-MV-a-pdf>.

prescription drug overdose (PDO) burden who demonstrated readiness to accelerate efforts to address the epidemic within their borders under Prescription Drug Overdose: Boost for State Prevention (Prevention Boost).

With increased funds received in FY 2015 to scale up state prevention efforts, CDC launched the *Prescription Drug Overdose Prevention for States* program in September 2015 funding 16 state health departments to advance and evaluate comprehensive state-level interventions for preventing prescription drug overuse, misuse, abuse, and overdose. Interventions of priority address drivers of the prescription drug overdose epidemic, particularly the misuse and prescribing of opioid pain relievers. In order to ensure that PDO Prevention for States program activities are achieving their primary goal, CDC has introduced a new measure (Measure 7.2.6) which tracks the rate of overdose deaths involving opioid analgesics per 100,000 residents in funded states.

Strategic goals related to prescription drug abuse will ultimately improve patient care and safety and reduce high-risk prescribing. These include:

- Improving data quality and tracking trends to monitor actionable changes in the epidemic.
- Strengthening state prevention efforts by scaling up effective public health interventions.
- Improving patient safety by supplying health care providers with data, tools, and guidance for evidence-based decision making.

CDC's Core VIPP program provides support to state health departments to disseminate, implement, and evaluate best practices and science-based strategies for injury and violence prevention programs. The Core VIPP grantees use surveillance data to inform injury and violence prevention activities. In 2015, grantees engaged in their fourth full year of program planning and implementation. As a result, 100% of grantees reported using data to assess outcomes and impact of injury and violence prevention strategies, an increase of five percentage points over the previous year, fulfilling CDC's target of 100% by 2015. A new Core VIPP FOA is scheduled for award in 2016. Starting in FY 2017, CDC adjusted its target to 95% to reflect possible shifts in the group of awardees under this new FOA (Measure 7.2.5). Under the new 2016 Core VIPP FOA, CDC will continue to support the implementation of the most effective injury and violence prevention interventions in states.

PUBLIC HEALTH SCIENTIFIC SERVICES

Health Statistics

Performance Measures for Long Term Objective: Monitor trends in the nation's health through high-quality data systems and deliver timely data to the nation's health decision-makers.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
8.A.E.2: Reduce the number of months after data year for release of the final mortality and natality files (Outcome; Efficiency)	FY 2014: 10.1 (Target Exceeded)	10.5	9	-1.5
8.A.1.1a: Achieve and sustain the percentage of NCHS website users that are satisfied with data quality and relevance (Outcome)	FY 2015: 75.8% (Target Not Met)	77.4%	77.5%	+0.1
8.A.1.1b: Sustain the percentage of Federal Power Users (key federal officials involved in health and health care policy or programs) that indicate that data quality is good or excellent (Outcome)	FY 2015: 100% Good or Excellent (Target Met)	100% Good or Excellent	100% Good or Excellent	Maintain
8.A.1.3: Increase the number of web visits as a proxy for use of NCHS data (Output)	FY 2015: 12.15 Million (Target Exceeded)	13 Million	13 Million	Maintain
8.F: Number of communities visited by mobile examination centers from the National Health and Nutrition Examination Survey (Output)	FY 2015: 15 (Target Met)	15	15	Maintain
8.G: Number of households interviewed in the National Health Interview Survey ¹ (Output)	FY 2014: 44,552 (Target Not Met but Improved)	35,000	35,000	Maintain
8.H.1: Number of physicians surveyed in the National Ambulatory Medical Care Survey ² (Output)	FY 2014: 12,645 (Target Not Met)	3,300	3,300	Maintain
8.H.2: Number of unweighted patient visits surveyed in the National Ambulatory Medical Care Survey ² (Output)	FY 2014: 99,330 (Target Not Met)	30,500	30,500	Maintain

¹⁻² Sample increases are typically seen in the following calendar year because of the timing of the receipt of funds and the time required to plan for additional samples. FY 2014 results reflect ACA/PPHF funding received in FY 2013. PPHF funding was not received in FY 2015-FY 2016, which is reflected in FY 2016 and FY 2017 targets.

Performance Trends: CDC uses several indicators to measure its ability to provide timely, useful, and high quality data. CDC replaced Measure 8.A.E.1 with a new measure on timeliness of mortality and natality data (Measure 8.A.E.2). In FY 2014, CDC exceeded the target by releasing the mortality and natality data one month earlier at 10 months. Since 2011, timeliness of the release of mortality and natality data reported by the National Vital Statistics System has improved with each data year. These data provide crucial information for evidence-based decisions and planning and evaluation of public health and health programs and policies. The faster these data are available, the faster resources can be allocated and programs and policies can be evaluated and targeted. Faster access to these data also facilitates timely research related to births and deaths. CDC expects vital statistics timeliness to continue to improve as more states effectively use electronic systems that allow for faster reporting of data to the National Center for Health Statistics (NCHS).

To drive program improvements, CDC assesses user satisfaction and perceptions of data utility. The percentage of NCHS' website users who are satisfied with data quality and relevance has increased by four percentage points since 2010 to 75.8% in 2015, a slight decrease from 77.3% in 2014 (Measure 8.A.1.1a). Since 2010, NCHS has made strides in improving timeliness of data releases while also adding survey content to assess changes in the provision of health care, thus improving relevance of data collections to current public health and health policy discussions. Similarly, CDC interviews Federal Power Users (key federal officials involved in health and health care policy or programs) to assess their satisfaction with CDC's Health Statistics products and services including data quality, ease of data accessibility and use, professionalism of staff, relevance of data to major health issues, and relevance of data to user needs. CDC met the target of 100% Good or Excellent ratings for the seventh consecutive year in FY 2015 (Measure 8.A.1.1b).

CDC tracks the number of web visits as a proxy for the frequency with which NCHS data are used. NCHS exceeded its target of 12 million web visits to NCHS webpages, within <http://www.cdc.gov>, with 12.15 million visitors in FY 2015 (Measure 8.A.1.3). CDC continues to sustain annual NCHS web visits of 12 million since FY 2013. To further increase public interest in the reports and enable potential users to easily find data, CDC also increased the number of releases on the NCHS Facebook page by nine percent between FY 2014 and FY 2015 and has pursued cross promotion of NCHS content with other CDC social media channels.

CDC monitors the implementation of its national surveys to ensure the collection and provision of accurate, high quality data. The National Health and Nutrition Examination Survey mobile examination centers visited the planned 15 communities in FY 2015 (Measure 8.F) to achieve the geographic diversity needed for nationally representative estimates. From 2011–2014, CDC increased the sample sizes for two of its surveys, the National Health Interview Survey (NHIS) and the National Ambulatory Medical Care Survey (NAMCS), to better monitor changes in the provision of health care, largely through support from the Prevention and Public Health Fund (PPHF). CDC set an ambitious 2014 target of 55,000 households to be surveyed in the NHIS, based on the PPHF request in the FY 2013 President's Budget. Though not meeting its target because the full requested amount for the sample increase was not received, the NHIS sample size increased by nearly 30% from the baseline of 34,329 households in 2010 to 44,552 households in 2014 (Measure 8.G). This is a notable improvement over the 2013 sample size, providing the ability to make important health estimates of the U.S. population for all 50 states and Washington, D.C. CDC did not meet its NAMCS 2014 target of 14,500 because the full amount of funding requested from the PPHF in the FY 2013 President's Budget was not received; however, the number of physicians interviewed more than tripled between the baseline of 3,931 in 2011 to 12,645 in 2014 (Measure 8.H.1). Although the number of patient records surveyed dropped from 109,677 in 2013 to 99,330 in 2014 (Measure 8.H.2), the 2014 results still represent an approximate 300% increase from the 2011 baseline of 33,193. The expanded NHIS and NAMCS samples provide more precise national estimates for access to care, prevention, management of chronic conditions, and health outcomes. Sample size increases also expand the utility of these surveys by allowing for more state-level estimates from the NHIS and for the first-ever state

With additional funding, CDC increased the number of states for which estimates of health insurance coverage could be produced from 32 states in 2011 to all 50 states and Washington, D.C. in 2014.

estimates for some measures from the NAMCS. For example, the NHIS sample size increase allowed CDC to produce reliable health insurance coverage estimates for persons of all ages for 32 states in 2011, 43 states in 2012 and 2013, and all 50 states and Washington, D.C. in 2014, compared to approximately 20 states at the baseline sample size. With the additional funds to increase the sample size, the NHIS is the only national federal health survey that provides estimates of health insurance coverage by state Health Insurance Marketplace type. These data are critical for monitoring insurance coverage and other key indicators at the state and national level to inform the public and decision makers. CDC's NHIS and NAMCS sample size targets reflect annual sample sizes that can be achieved with FY 2017 resources. (8.G, 8.H.1, 8.H.2).

Surveillance, Epidemiology, and Laboratory Services (CSELS)

Performance Measures for Long Term Objective: Lower barriers to data exchange across jurisdictions as part of an integrated strategy for public health surveillance and response.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
8.B.1.3a: Increase the percentage of public health agencies that can receive production Electronic Laboratory Reporting (ELR) Meaningful Use compliant messages from certified Electronic Health Record (EHR) technology used by eligible hospitals ¹ (Output)	FY 2014: 70% (Target Exceeded)	72%	80%	+8
8.B.1.3b: Increase the percentage of public health agencies (or their designee) that can receive Immunization Information System (IIS) Meaningful Use compliant messages from certified Electronic Health Record (EHR) technology ^{2,3,4} (Output)	FY 2015: 92% (Target Exceeded)	92%	92%	Maintain
8.B.1.3c: Increase the percentage of public health agencies that can receive production Syndromic Surveillance (SS) Meaningful Use compliant messages from certified Electronic Health Record (EHR) technology ⁵ (Output)	FY 2015: 76% (Target Not Met but Improved)	90%	90%	Maintain
8.B.1.4: Increase the percentage of notifiable disease messages transmitted to CDC in HL7 format to improve the quality and streamline the transmission of established surveillance data (Output)	FY 2015: 1% (Baseline)	10%	40%	+30

¹ELR: The work of state public health agencies reflected in this measure is funded by the National Center for Emerging and Zoonotic Diseases through the Epidemiology and Laboratory Capacity Cooperative Agreement.

²CDC does not currently track the percentage of agencies that can send EHR Meaningful Use compliant messages, but this may be possible, pending the inclusion of this requirement in the final Meaningful Use Stage 3 criteria issued by the Office of the National Coordinator for Health Information Technology.

³IIS: The work of state public health agencies reflected in this measure is funded by the National Center for Immunization and Respiratory Diseases through the Section 317 program.

⁴Stage 2 Meaningful Use began in FY 2014 and changed the format that providers are required to send for meaningful use compliant messages to HL7 2.5.1 only. FY 2014-FY 2016 targets represent this new standard and results are not comparable to previous years.

⁵ Data prior to FY 2014 measures both HL7 2.3.1 and 2.5.1 standard formats. CDC began measuring receipt of production messages in FY 2014. FY 2014 results will not be comparable to previous years. SS: The work of state, local, tribal, and territorial (STLT) public health agencies reflected in this measure is funded through the Office of Public Health Preparedness and Response. Performance Measures for Long Term Objective: Improve access to and reach of scientific public health information among key audiences to maximize health impact.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
8.B.2.1a: Increase the electronic media reach of MMWR through use of mechanisms such as the MMWR website and social media outlets, as measured by page views, app views, social media followers, and email subscribers (Output)	FY 2015: 23,007,356 (Target Not Met but Improved)	24,157,723	25,365,609	+1,207,886
8.B.2.2: Increase the electronic media reach of CDC Vital Signs through use of mechanisms such as the CDC website and social media outlets, as measured by page views, social media followers, and texting and email subscribers (Output)	FY 2015: 6,551,159 (Target Exceeded)	6,875,000	7,500,000	+625,000
8.B.2.5: Increase access to and awareness of the Guide to Community Preventive Services, and Task Force findings and recommendations, using page views as proxy for use (Outcome) ¹	FY 2015: 1,301,832 (Target Not Met)	1,420,000	1,420,000	Maintain

¹Targets may include budget authority and/or ACA/PPHF funding.

Performance Measures for Long Term Objective: Improve the efficiency and accuracy of public health and clinical laboratory testing.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
8.B.3.2a: Increase the percentage of public health and clinical laboratory professionals who improve laboratory policies and practices as a result of participating in CDC laboratory training (Outcome)	FY 2015: 55% (Baseline)	60%	65%	+5

Public Health Informatics Performance Trends: CDC tracks the contribution of the informatics program and CDC program partners through the [Electronic Health Records – Meaningful Use \(EHR-MU\) initiative](#).⁵¹⁴ CDC works to assess and ensure readiness of three key systems in each state: Electronic Laboratory Reporting (ELR), Immunization Information Systems (IIS), and Syndromic Surveillance (SS). Public health agencies will assess their capability to receive data in a Meaningful Use-compliant format (i.e., Health Level 7 (HL7) 2.5.1 standard) from eligible hospitals and providers, meaning those with certified electronic health records (EHRs) participating in the Centers for Medicare and Medicaid Services' (CMS') Meaningful Use program. In FY 2014, Meaningful Use stage two required eligible providers to use only the latest format (HL7 version 2.5.1). However, if the public health agency approves, providers currently using the older format (HL7 2.3.1) could be grandfathered in, until the use of 2014 Edition Certified EHR Technology became mandatory starting 2015. While CDC experienced a drop in capability of IIS during the transition to the newer format in FY 2013, it exceeded its FY 2015 target of 90%, holding steady the capability gains achieved in FY 2014 (Measure 8.B.1.3b). In FY 2014, CDC demonstrated significant capability gains for ELR as healthcare and public health agencies strove to meet Meaningful Use stage one and two requirements. ELR capability significantly increased from 46% in FY 2013 to 70% in FY 2014 (Measure 8.B.1.3a). SS capability encountered a change in reporting criteria, falling short of the FY 2015 target of 84% but achieved slight improvement over FY 2014 results of 74% (Measure 8.B.1.3c). Eligible providers will no longer be required to meet the syndromic surveillance objective for Meaningful Use stage 3, which starts January 2017.

Public health agencies are not currently required to develop the ability to send messages to eligible providers and hospitals. CMS released a Notice of Proposed Rule Making for Stage 3 meaningful use in 2015 that includes bidirectional data exchange between the provider's certified EHR technology system and the immunization registry/IIS. EHRs will be certified to submit immunization data to IIS and will receive immunization forecasts and histories from IIS.

Surveillance Performance Trends: The [National Notifiable Diseases Surveillance System \(NNDSS\)](#)⁵¹⁵ is a CDC collaboration with state and local public health agencies to collect and report data on approximately 100 diseases and conditions under continuous nationwide surveillance. Infrastructure supporting the NNDSS is being modernized to improve interoperability and standardize data and exchange mechanisms. This will provide more comprehensive, timely, and higher quality data for public health decision making, enabling CDC programs to better monitor disease occurrence, identify potential outbreaks, recognize emerging trends, and monitor the impact of public health interventions, while allowing the retirement of less efficient systems. CDC introduced a new measure for FY 2017 (Measure 8.B.1.4), which monitors the percentage of notifiable disease messages transmitted in HL7 format and provides a clear indicator of progress toward modernizing the NNDSS to improve

⁵¹⁴ <http://www.cdc.gov/ehrmeaningfuluse/introduction.html>

⁵¹⁵ <http://www.cdc.gov/nndss/>

the quality and streamline the transmission of established surveillance data. CDC began developing new Message Mapping Guides (MMGs) in 2014, to transition data reporting to HL7 message standards. Jurisdictions adopting these new standards set the language, structure and data types required for seamless integration between systems. In FY 2015, CDC piloted selected MMGs with 13 jurisdictions around the Nation setting up the ability to begin testing the transmission of high-quality data from the jurisdictions to CDC programs. Upon completion of these tests in early FY 2016, CDC expected to begin fielding those MMGs with all States, while simultaneously incorporating lessons learned and best practices into the development of additional MMGs for other reportable conditions; however, contractor turnover, an unanticipated lapse in contractor coverage, and filling and training new personnel in key positions delayed implementation. Once implementation begins, it is expected that impactful results will be realized at the end of FY 2016, and results from full implementation realized in early FY 2017.

Epidemiology Performance Trends: In FY 2015, CDC provided critical epidemiological data and recommendations for solving public health problems to over 250,000 clinicians, epidemiologists, laboratorians, and other public health professionals through an extensive network of electronic communication channels for the Morbidity and Mortality Weekly Report (MMWR). Data indicate MMWR's electronic media reach, which includes web page views (www.cdc.gov/mmwr), subscriptions to MMWR content, and social media outlets, increased by eight percent since FY 2013 from 21.4 million to 23.0 million during FY 2015, just slightly off the target of 23.3 million (Measure 8.B.2.1a). During 2015, CDC expanded MMWR social media presence by increasing the number of Facebook and Twitter postings, which resulted in increases of electronic reach through these channels by 40% and 20%, respectively, over FY 2014. MMWR Express, which allows for a seamless experience across multiple devices, had more than 70,000 views on the iOS platform.

Looking forward, CDC is improving MMWR production processes and technological functionality, which will allow greater redistribution of content through multiple information channels and a responsive design website that enhances use via mobile devices and traditional desktop computers. As reflected in the FY 2017 target, CDC anticipates that these enhancements will further expand the reach of critical epidemiological data disseminated in MMWR.

CDC Vital Signs is a monthly communication program that targets the public, health care professionals, and policymakers through fact sheets, social media, a website (<http://www.cdc.gov/vitalsigns>), and a linked issue of the MMWR. Its electronic media reach grew from approximately 250,000 potential viewings (page views, social media followers, and email subscribers) in FY 2010 to over 6.5 million potential viewings in FY 2015 due to print, broadcast and cable media interest, and continued promotion to add subscribers to its social and email dissemination channels (Measure 8.B.2.2). Due to the continued use of mechanisms such as the CDC website and social media outlets, CDC expects the number of potential viewers for *CDC Vital Signs* to continually increase in FY 2017.

[The Community Preventive Services Task Force \(Task Force\)](#)⁵¹⁶ is an independent, nonpartisan, nonfederal, unpaid panel of population health and prevention experts. The Task Force's mandate is to identify population-based programs, services, and policies that are effective in saving American lives and dollars, increasing longevity, and improving quality of life. Task Force recommendations provide information about evidence-based options that decision makers and stakeholders can consider when determining what best meets the specific

MMWR by the Numbers:

23,700,000 communication channels (page views, app views, social media followers) due to TV, print, broadcast, and internet media

254,500 subscribers, a 23% increase since 2013.

⁵¹⁶ <http://www.thecommunityguide.org/about/aboutTF.html>

needs, preferences, available resources, and constraints of their jurisdictions and constituents. Task Force recommendations are compiled in [The Guide to Community Preventive Services](#)⁵¹⁷ (The Community Guide). The Community Guide website (<http://www.thecommunityguide.org>) is the primary dissemination tool used to 1) provide information about Task Force-recommended options to individuals, organizations, agencies, and communities who are making their own decisions about what is best for their circumstances, and 2) assist those who request help in implementing Task Force recommendations that best meet their needs. In FY 2015, the Community Guide “.org” website received 1,301,832 page views (Measure 8.B.2.5)—a slight two percent decrease from FY 2014, but an increase of about 40% over the 2011 baseline. CDC maintained the majority of expected page views (~96%) from its high in FY 2013 by utilizing processes, strategies, and web-based products developed and tested during 2011-2013. CDC expects modest growth in page views in FY 2016 with a likely plateau in FY 2017 due to the release and promotion of enhancements to the Community Guide website, which provide customized decision and implementation support for a range of user audiences.

Laboratory Standards and Services Performance Trends: CDC has conducted laboratory training workshops since the agency’s inception. Historically, improvements in laboratory practices and policies have been measured in CDC hands-on training activities. However, reduction in public health and clinical laboratory training budgets and increasing demands on staff time moved the preferred training format away from hands-on training toward more cost effective online or blended learning formats. Over the past three years, CDC has significantly expanded its portfolio of online laboratory training courses and developed a rigorous evaluation program to document the benefit of all laboratory training formats. By adapting existing evaluation tools to online formats and improving online training designs, the number of participants in laboratory training courses who made a positive change in laboratory practice has increased from 42.8% in 2012 to 55.0% in 2015 (Measure 8.B.3.2a). Through the continuous improvement process implemented with the evaluation program and continued improvement in online course design, CDC anticipates continued increases in the measure’s performance over the next several years.

Public Health Workforce and Career Development

Performance Measures for Long Term Objective: Develop and implement training to provide for competent, sustainable, and empowered public health workforce able to meet emerging and future health challenges.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
8.B.4.2: Increase the number of CDC trainees in state, tribal, local, and territorial public health agencies ^{1,3} (Output)	FY 2015: 288 (Target Not Met but Improved)	487	487	Maintain
8.B.4.3: Increase the number of new CDC trainees who join public health fellowship programs in epidemiology, preventive medicine, public health leadership and management, informatics, or prevention effectiveness, and participate in training at federal, state, tribal, local, and territorial public health agencies ^{2,3} (Output)	FY 2015: 256 (Target Not Met)	359	359	Maintain

⁵¹⁷ <http://www.thecommunityguide.org/>

¹ 8.B.4.2 includes ALL (new and continuing) CDC-funded trainees in EIS, PHPS, PMR/F, Public Health Associate Program (PHAP), Emerging Infectious Diseases (EID) Laboratory Fellowship, CDC/CSTE Applied Epidemiology Fellowship, Health Systems Integration Program (HSIP), Applied Public Health Informatics Fellowship (APHIF), and the Informatics Training-in-Place Program (I-TIPP).

² 8.B.4.3 includes NEW CDC-funded trainees in EIS, PMR/F, PHIFP, PHAP, Prevention Effectiveness Fellowship (PEF), and Presidential Management Fellows (PMF) program.

³ Results reflect FY 2014 PHAP class due to a "gap year" resulting from a change made to PHAP class starting date, beginning with the FY 2014 class.

Performance Trends: CDC's experiential fellowship programs contribute to the public health workforce pipeline and help fill a critical need, as the public health workforce has decreased by at least 63,000 jobs since 2008. In 2014, 82% of CDC's fellowship program graduates pursued careers in public health practice or obtained additional public health education. From FY 2011 to FY 2013, CDC exceeded the targets for its measures focused on training the next generation of the public health workforce (Measures 8.B.4.2 and 8.B.4.3). The Public Health Associates Program (PHAP) transitioned from a summer start date to a fall start-date for the incoming FY 2014 class, creating a "gap-year" that resulted in fewer PHAP trainees reported for FY 2014. The PHAP "gap year" also affected the 2015 class because of the later start date. Therefore, only the 2014 class that started in October 2014 is reflected in the results for Measures 8.B.4.2 and 8.B.4.3. CDC will report two PHAP classes in the FY 2017 . Therefore, CDC expects performance levels to increase in FY 2016 and hold steady in FY 2017. With the increase, CDC will place more trainees in state and local health departments and ensure that trainees are gaining cutting-edge skills that will equip them to meet current challenges (Measure 8.B.4.3). Apart from effects of the "gap-year," CDC sets the targets based on the typical, annual class size for each of the fellowship programs included in these measures.

As of FY 2015, Measure 8.B.4.3 includes CDC's new Laboratory Leadership Service (LLS) fellowship program, a 2-year postdoctoral fellowship that offers intense, applied training in biosafety, quality management systems, and laboratory leadership and management. The LLS includes a competency-based curriculum based on the 2015 published public health laboratory competencies and is modeled on CDC's successful Epidemic Intelligence Service (EIS), and similarly includes a practical, applied service and learning experiences. The inaugural class of seven fellows began in July 2015. The LLS is an important component of CDC's multi-pronged efforts to strengthen the workforce focused on public health laboratory leadership and management. CDC expects to support seven new fellows in FY 2016 and seven more in FY 2017.

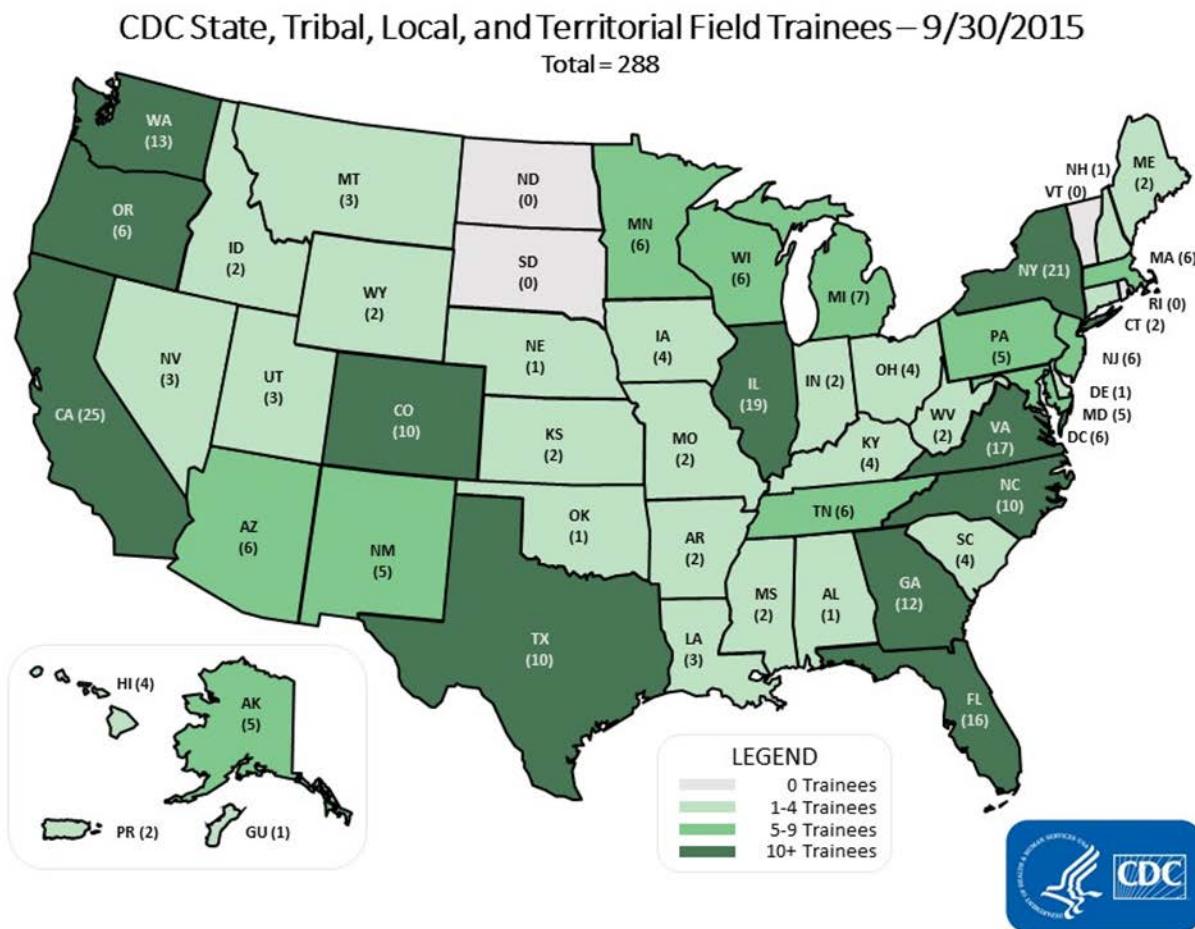
Results and targets for Measure 8.B.4.2 reflect CDC's efforts to strengthen informatics capacity at the state, tribal, local, and territorial (STLT) level. In FY 2013, CDC developed the [Informatics Training-in-Place Program](#)⁵¹⁸ (I-TIPP) which provides informatics training and guidance to current state and local health department staff who are working on Meaningful Use projects. By focusing on current state and local health department staff, CDC helps state and local partners advance current, high-priority informatics projects that may have languished without additional assistance, training, and information-sharing among peers. This training program supplements the informatics training provided through the [Public Health Informatics Fellowship](#)⁵¹⁹ (which places doctoral-level fellows at CDC for two years of intense informatics training) and the Applied Public Health Informatics Fellowship (which places masters-level fellows at STLT agencies for one or two years of applied public health informatics training).

CDC's fellowship programs promote service while learning—fellows fill critical workforce needs at CDC and in STLT public health agencies while training for careers in public health. By FY 2014, CDC increased the number of trainees in STLT public health agencies from 119 trainees in 2009 to 310 by targeting funding to fellowship programs that place fellows in STLT public health agencies rather than at CDC headquarters (Measure 8.B.4.2). This strengthened workforce capacity in several critical disciplines, including applied epidemiology, public health management, and informatics. The results dropped from 401 in FY 2013 to 310 in FY 2014 due to the "gap year" (previously described). Both the 2014 and 2015 PHAP classes will be included in the results for next year;

⁵¹⁸ <http://www.cdc.gov/ophss/csels/dsepd/i-tipp.html>

⁵¹⁹ <http://www.cdc.gov/PHIFP/>

therefore, CDC expects performance levels to increase in FY 2016 and remain steady in FY 2017. As of September 30, 2015, CDC supported 475 fellows, 288 (61%) of whom were placed in state, tribal, local and territorial field assignments in 44 states, Washington D.C., Guam, Puerto Rico, and three tribal locations; the remainder were assigned to CDC.



OCCUPATIONAL SAFETY AND HEALTH

National Occupational Research Agenda (NORA)

Performance Measures for Long Term Objective: Conduct research to reduce work-related illnesses and injuries.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
9.1.1a: Achieve and sustain the percentage of occupational safety and health programs demonstrating effectiveness by scoring 7 out of 10 or greater in external review (Outcome) ¹	FY 2015: 0 (Baseline)	N/A ²	100%	N/A

¹The overall score out of 10 points results from combined individual scores on relevance (1-5) and impact (1-5). For this measure, health programs must demonstrate effectiveness by scoring at least 4 on relevance and 3 on impact.

² Rather than conducting another round of progress reviews on the National Academy recommendations in FY 2016 as reported in the FY 2016 President's Budget, CDC will conduct two entirely new program reviews annually from FY 2017-FY2021, for a minimum of 10 reviews.

Performance Trends: Since 1996, the [National Occupational Research Agenda](#)⁵²⁰ (NORA) has served as a framework to guide occupational safety and health research not only for CDC but for the entire occupational safety and health community. As CDC enters the third decade of NORA, it remains committed to evaluating its relevance, impact and contributions. The most robust method to evaluate these qualities is through peer review. An analysis of five federal research agencies by the National Academy of Sciences found that all five agencies used peer review to evaluate the quality of their research programs. Furthermore, the National Academies of Science recommended that research agencies continue to use this approach.⁵²¹

In FY 2017, CDC is introducing a new measure to demonstrate the effectiveness of occupational safety and health programs based on external reviews by the National Academies of Science (Measure 9.1.1a). The new measure builds on previous external evaluations of eight occupational safety and health programs conducted by the National Academies and subsequent progress reviews conducted by the Board of Scientific Counselors. The previous reviews were helpful in improving programs' impact and their ability to monitor progress. For example, the Construction Program's National Construction Center developed additional metrics to capture changes made due to "research to practice" efforts, which are now used by the NIOSH Office of Construction Safety and Health, Center for Construction Research and Training, and NIOSH construction researchers. In addition, the Respiratory Disease Research Program expanded work to enhance clinicians' recognition of workplace exposures as a cause of asthma and the subsequent clinical evaluation and care of work-related asthma.

Starting in FY 2017, CDC will begin a new set of external peer reviews that focus on NIOSH's current priorities and activities (Measure 9.1.1a). Each year through FY 2021, two occupational safety and health programs will be reviewed by a group of external experts selected by the independent [NIOSH Board of Scientific Counselors](#).⁵²² Each program will be scored on relevance and impact. A total of 10 Sector and Cross-Sector programs will be reviewed over a five year period. CDC will assess the readiness of two new Sector Programs for peer review: Oil and Gas Extraction (which addresses occupational health and safety issues related to hydraulic fracturing, oil drilling, etc.), and Public Safety (which addresses health and safety for law enforcement, emergency medical services, firefighting, and corrections). The evaluations will provide useful feedback to programs on areas of success and challenges to address going forward. In a time of constrained resources, these data help determine the direction and future investment of occupational safety and health research at CDC to maximize public health impact.

⁵²⁰ <http://www.cdc.gov/niosh/nora/>

⁵²¹ Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, Institute of Medicine. (2001). Implementing the Government Performance and Results Act for Research: A Status Report. National Academy Press: Washington, D.C.

⁵²² <http://www.cdc.gov/niosh/bsc/>

Other Occupational Safety and Health Research

Performance Measures for Long Term Objective: Reduce workplace illness, injury, and mortality in targeted sectors.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
9.2.2c: Increase percentage of active coal mines in the U.S. that possess NIOSH-approved plans to perform surveillance for respiratory disease: a) underground mines (Outcome)	FY 2015: 96% (Target Exceeded)	90%	93%	+3
9.2.2d: Increase percentage of active coal mines in the U.S. that possess NIOSH-approved plans to perform surveillance for respiratory disease: b) surface mines (Outcome)	FY 2015: 60% (Baseline)	60%	70%	+10
9.2.3c: Increase the number of product and manufacturing site audits completed to ensure the quality of NIOSH certified respirators (Outcome)	FY 2015: 173 (Target Not Met)	200	250	+50
9.2.3d: Reduce the percentage in respirable coal mine dust overexposures for the tailgate shearer operator (Outcome)	FY 2015: 15.5% (Baseline)	14.7%	13.9%	-0.8
9.2.4: Achieve and sustain the percentage of respondents indicating workplace conditions improved after HHEs were completed (Outcome) ¹	FY 2014: 91% (Historical Actual)	90%	90%	Maintain
9.B: Number of certification decisions issued for personal protective equipment (Output)	FY 2015: 364 (Target Exceeded)	350	400	+50
9.E: Number of research articles published in peer-review publications (Output)	FY 2015: 306 (Target Not Met)	338	315	-23
9.K: Annual NIOSH website visits (Output)	FY 2015: 7,727,483 (Baseline)	7,093,337	8,198,086	+1,104,749
9.L: Number of NIOSH Science Blog subscribers (Output)	FY 2015: 42,495 (Baseline)	44,100	48,900	+4,800

¹This measure is reported as a five-year average because the number of HHEs requested varies and therefore year-to-year fluctuations are normal and expected.

Performance Trends:

Reducing Hazardous Exposures

Exposure to coal mine dust causes various pulmonary diseases, including coal workers' pneumoconiosis and Chronic Obstructive Pulmonary Disease (COPD). CDC's National Institutes for Occupational Safety and Health

(NIOSH) works with coal mines in the United States to develop plans to perform surveillance for pneumoconiosis and COPD. Previously, required medical testing (including periodic chest radiographs and occupational history questionnaires) pertained only to underground coal miners. In August 2014, a new regulation required CDC to also provide periodic lung function testing (called spirometry) and respiratory health assessment questionnaires, and extended health surveillance to workers at surface coal mines (Measures 9.2.2c and 9.2.2d). Therefore, approximately three times as many mines now need approved surveillance plans, and staff that formerly focused on underground mines have been addressing the pressing need of enrolling surface mines in respiratory disease surveillance. Therefore, while the percentage of underground mines that have approved surveillance plans exceeded the FY 2015 target of 90%, CDC will continue its goal of a 90% or greater result for respiratory disease surveillance for underground mines. For surface mines, CDC has set the ambitious goal of raising the number of surface mines with plans from 0% to 70% between FY 2014 and FY 2017. Baseline data show 60% of surface mines had approved plans in FY 2015. The initial level of compliance was achieved after extensive outreach efforts in partnership with the Mine Safety and Health Administration (MSHA). Outreach efforts were directed to surface coal mine operators to raise awareness of the need to establish surveillance plans. NIOSH staff displayed exceptional engagement on the high priority of obtaining and reviewing surface mine plans.

The new regulation also lowers the permissible level of coal dust exposure from 2.0 mg/m³ to 1.5 mg/m³ and changes how dust levels are measured, which will lead to more accurate (and potentially higher) estimates of overexposure starting in FY 2016. Such large methodological changes require a new version of the previous coal mine dust measure which focused on other underground coal mine occupations. The new measure focuses on tailgate shearer operators, who traditionally have shown the greatest percentage of samples that exceed the dust standard (Measure 9.2.3d). Tailgate shearer operators are integral to the longwall mining process, a form of underground coal mining where the operator uses a shear to mine a longwall of coal in a single slice. Tailgate shearer operators are positioned downwind from the cutting machine, exposing them to high levels of dust. The high exposure levels put the operators at risk for developing coal workers pneumoconiosis. CDC's targets align with its goal to reduce the percentage of samples that exceed the dust standard to 11.6% by 2020.

An estimated 20 million workers use Personal Protective Equipment to protect themselves from death, disability, and illnesses. CDC's Personal Protective Technology program provides expertise from many scientific disciplines to advance federal research on respirators and other personal protective technologies for workers. Product and manufacturing site audits ensure that CDC certified respirators achieve their approved level of performance. In 2015, CDC completed 173 audits, down from 311 audits in FY 2014. Despite the decrease in audits from 2014, CDC missed the 2015 target by only two audits. (Measure 9.2.3c). Over the next few years, respirators that do not meet the 2012 Closed-Circuit Escape Respirator rule will be phased out, leaving fewer products to audit. In light of this, CDC has concentrated its efforts on helping manufacturers finalize their respirator design and development by assessing whether products meet the certification test criteria. These collaborations are valuable but do not qualify as audits. Although CDC does not expect closed-circuit escape respirator audit numbers to rise until new respirators are fielded using the new standards, it will improve its performance in the future by conducting other types of respirator audits. Additionally, FY 2015 data demonstrate improvements in the inventory and quality of respiratory protection for workers in all industry sectors through 364 certified respirator decisions, exceeding the target for the fifth year in a row (Measure 9.B). Although demand for respirator decisions remains high, CDC's targets reflect limited personnel resources available to respond to requests, the impact of consensus standards, and advances in technology.

CDC responds to employer, employee, and union requests for workplace Health Hazard Evaluations⁵²³ (HHEs). CDC assesses the workplace and health of employees by reviewing records and/or conducting on-site testing. Based on the findings, CDC recommends ways to reduce hazards and prevent work-related illness. CDC conducts a follow-up survey of HHE participants to evaluate the program, including whether workplace conditions improved as a result of CDC's recommendations (Measure 9.2.4). The percentage of respondents who felt

⁵²³ http://www.cdc.gov/niosh/hhe/pdfs/HHE_2014_Annual_Report.pdf

NIOSH helped improve workplace conditions rose from 85% in FY 2010 to 91% in FY 2014. In FY 2014, CDC also implemented changes to the HHE report format to make it more user friendly. CDC will continue to achieve high performance by providing recommendations that are relevant, feasible, effective, and clearly explained. CDC's targets reflect unique complexities that make it challenging for CDC to achieve and sustain a high level of performance and public health impact. Because HHEs are conducted at the request of employers or workers, the number and nature of the requests and completed evaluations vary each year. This yields year-to-year variations in results, so CDC tracks and reports a five-year average with the goal to achieve improvement in at least 90% of the workplaces where CDC completed HHEs. Additionally, the program interacts with a completely new set of people with each and every HHE.

Expanding NIOSH Influence

NIOSH uses a number of tools to expand the reach of its research and recommendations among partners and stakeholders where achieving direct impact is significantly challenged. These include its website and social media presence, research publications and related promotions, and federal cross-agency and cross sector committee membership.

- Website: The number of visits to the NIOSH website rose steadily from FY 2011 through FY 2015 from 5.72 to 7.73 million visits (Measure 9.K).
- Social Media: [NIOSH's Science Blog](http://blogs.cdc.gov/niosh-science-blog/)⁵²⁴ provides a plain language summary of NIOSH research findings or new guidance, and provides links to more detailed information and other resources elsewhere on the NIOSH website. The number of texting and email subscribers to the NIOSH Science Blog rose from 31,906 in FY 2013 to 42,495 in FY 2015. The Science Blog also had more posts than ever before (77) and more views-per-post (4,900 on average), suggesting that as readership grew, the Science Blog's efficiency also grew. In FY 2015 the NIOSH Science Blog added a popular new feature, "[Workplace Medical Mystery](http://blogs.cdc.gov/niosh-science-blog/category/workplace-medical-mystery/)"⁵²⁵. Readers are given a scenario and clues drawn from an actual case study, and are invited to guess what is causing workers' ill health. The solution is presented later that week along with the supporting science and recommendations for prevention (Measure 9.L).
- Research and Publications:
 - CDC published 306 research articles in peer-reviewed publications in FY 2015, down from 338 articles in 2014 (Measure 9.E). Recently, CDC has placed greater emphasis on sharing research findings through a variety of methods (such as fact sheets and trade journal publications), but remains committed to building the scientific knowledge base through peer-reviewed publications. As part of ongoing efforts to balance scientific publications with outreach efforts, CDC has lowered the FY 2017 target to 315 peer-reviewed journal publications. In FY 2015, CDC published a study on potential workplace reproductive hazards for flight attendants using data from individual flights. The results showed that working during normal sleep hours, high physical job demands and exposure to cosmic radiation may put pregnant flight attendants at higher risk for miscarriage⁵²⁶.
 - CDC also produced 296 information products to expand the reach of many of these publications in FY 2015 with other audiences, such as employers, workers, unions, public health

⁵²⁴ <http://blogs.cdc.gov/niosh-science-blog/>

⁵²⁵ <http://blogs.cdc.gov/niosh-science-blog/category/workplace-medical-mystery/>

⁵²⁶ Grajewski B; Whelan EA; Lawson CC; Hein MJ; Waters MA; Anderson JL; MacDonald LA; Mertens CJ; Tseng C-Y; Cassinelli RT II; Luo L. [2015]. Miscarriage among flight attendants. *Epidemiology* Mar; 26(2):192-203

departments, and the general public. This is significantly higher than previous years, in large part due to the 54 customized versions of the Youth@Work - Talking Safety curriculum created for all U.S. states and territories, and the Miami-Dade School District. Other notable FY 2015 products included the first mobile-friendly guidance document⁵²⁷, an MMWR article on occupational fatalities during the oil and gas industry boom⁵²⁸, and a series of five "Protect Yourself at Work" YouTube videos in Spanish⁵²⁹.

- In FY 2015, other agencies cited CDC research or guidance in their rulemaking 42 times, including the Occupational Safety and Health Administration, Mining Safety and Health Administration, Environmental Protection Agency, Department of Transportation, and others. For example, in FY 2015 the Occupational Safety and Health Administration cited multiple CDC studies in their proposed rule to lower permissible exposure limit of beryllium. The revised limit will lower risk of chronic beryllium disease and lung cancer in construction and shipyard workers, among others.

Consensus standards: CDC participates in voluntary consensus standards committees, which are groups of industry and government representatives that come together to decide on rules of standardization to maximize compatibility, interoperability, safety, and quality. In FY 2015, CDC participated in more than 70 voluntary consensus standards committees that often made use of CDC research findings related to occupational safety and health. For example, National Fire Protection Agency 120: Standard for Fire Prevention and Control in Coal Mines updated requirements in 2015 for sprinkler systems in underground coal mines, taking into account results of NIOSH research on suppression of mine fires and improved sprinkler technologies. It should result in improved fire safety in underground coal mines.

With 49,362 downloads since its release in June 2013, the NIOSH Ladder Safety smartphone app is helping users set safe ladder angles more accurately and properly position their ladders.

⁵²⁷ Anderson, VP. [2015]. Ergonomic solutions for retailers: prevention of material handling injuries in the grocery sector. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-100, 2014 Oct; :1-18 <http://www.cdc.gov/niosh/docs/2015-100/start.html>

⁵²⁸ Mason KL; Retzer KD; Hill R; Lincoln JM. [2015]. Occupational fatalities during the oil and gas boom - United States, 2003-2013. MMWR May; 64(20):551-554

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6420a4.htm>

⁵²⁹ <https://www.youtube.com/user/NIOSHSafetyVideos>

GLOBAL HEALTH

Global HIV/AIDS

Performance measures for Long Term Objective: Partner with ministries of health, international and local partners and other United States Government (USG) agencies to achieve the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) goals of reducing the worldwide rate of new HIV infections and saving lives by focusing on three highly effective, evidence-based HIV interventions: (1) antiretroviral treatment for prevention and health benefits, 2) prevention of mother-to-child transmission; and 3) voluntary medical male circumcision.

Measure	Most Recent Result ¹	FY 2016 Target	FY 2017 Target ¹	FY 2017 +/- FY 2016
10.A.1.5: Increase the number of adults and children with HIV infection receiving antiretroviral therapy (ART) (Output)	FY 2015: 5,841,700 (Target Exceeded)	6,600,000	7,200,000	+600,000
10.A.1.6: Increase the number of HIV+ pregnant women receiving antiretroviral medications, to reduce mother-to-child HIV transmission (Output)	FY 2015: 424,600 (Target Not Met)	425,000	425,000	Maintain
10.A.1.7: Increase the number of males age 15 and over circumcised as part of the minimum package of male circumcision for HIV prevention services (Output)	FY 2015: 1,342,400 (Target Exceeded)	1,050,000	1,050,000	Maintain

¹ Targets and results reflect the revised PEPFAR definitions of support that were implemented in January 2014. The numbers include individuals who receive PEPFAR/CDC support at direct service delivery sites and technical assistance for service delivery improvement sites.

Performance Trends: Global HIV/AIDS funding supports CDC's essential role in implementing the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Creating an AIDS-free generation is a policy priority for the United States. Preventing new HIV infections is achievable and critical to stem the global HIV/AIDS epidemic, even in the absence of a HIV vaccine. To accomplish this goal, CDC focuses on scaling up three high impact interventions that evidence shows can control the HIV epidemic: antiretroviral therapy (ART), prevention of mother-to-child transmission (PMTCT), and voluntary medical male circumcision (VMMC). ART reduces an HIV-infected person's viral load, reducing the risk of sexual transmission to a partner by up to 96%. The initiation of lifelong antiretroviral medication for pregnant women leads to the virtual elimination of mother-to-child transmission and improves the mothers' health. Conclusive scientific evidence shows that circumcision reduces men's risk of HIV acquisition from heterosexual exposure by at least 60%, with numerous additional benefits for themselves and their partners. When scaled-up and used in combination, these three interventions offer a historic opportunity to drive down the worldwide rate of new HIV infections and advance towards achieving an AIDS-free generation.

In FY 2015, CDC collaborated with CDC supported partners in 23 PEPFAR countries to provide life-saving ART for 5,841,700 HIV-infected adults and children, about 61% of all ART provided by PEPFAR. Over four million (4,041,000) of these individuals are receiving direct service delivery support and an additional 1,800,700 are benefiting from essential technical support provided by CDC. This represents a 36% increase compared to FY 2014 in adults and children with advanced HIV infection receiving ART and a 43% increase compared to FY 2013

(Measure 10.A.1.5). CDC's ART target for FY 2016 is 6,600,000 and 7,200,000 in FY 2017. In addition to providing leadership, guidance, and supportive supervision to these countries to foster the rapid scale-up of ART, CDC will work with national governments to encourage adoption of the World Health Organization (WHO) 2015 Guidance to treat all ("Test and Start") HIV-infected individuals regardless of the stage of disease, aiming for rapid initiation of ART. In July 2015, CDC established a consortium for PEPFAR-supported countries with the objectives of sharing knowledge, supporting each other in developing plans and implementing community-based ART and HIV "Test and Start" programs, ultimately providing patients with greater access to treatment. Studies have shown that community-based ART can also improve patients' adherence to ART and strengthen post-ART retention rates.

Historically, prevention-of-mother-to-child HIV transmission (PMTCT) programs have provided antiretroviral medications (ARVs) to HIV-infected women only during the period of pregnancy and breastfeeding to reduce transmission of HIV to infants. Unless clinical testing showed that women needed treatment for their own health, ARVs were discontinued at the end of breastfeeding. In 2013, WHO endorsed "Option B+", a strategy of starting lifelong treatment for all HIV-infected women who were pregnant and breastfeeding. In FY 2014 and FY 2015, CDC supported its partners to transition PMTCT programs from providing ARVs during pregnancy and breastfeeding to implementing lifelong ART programs for HIV-infected women. Results for FY 2015 reflect this transition period, with reporting of both ARVs and ART for pregnant women. As implementation of lifelong treatment for all HIV-infected people becomes the standard of care, many women will already be receiving ART prior to becoming pregnant. Additionally, intensive efforts to prevent new HIV infections among adolescents and young women should also decrease the numbers of women newly identified as HIV-infected at the time of pregnancy. These changes are reflected in future targets.

In FY 2015, CDC collaborated with partners in 24 PEPFAR countries to provide antiretroviral drugs (ARVs), including lifelong ART, to 424,600 HIV-infected pregnant women, a little over 50% of all ARVs/ART provided by PEPFAR to prevent mother-to-child transmission of HIV. More than 301,100 of these women received direct service delivery support and an additional 123,500 benefited from CDC's essential technical assistance. CDC achieved close to 90% of the FY 2015 target for provision of ARVs/ART to pregnant women (Measure 10.A.1.6). During this transition period, CDC identified fewer pregnant women as HIV-positive in FY 2015 (458,500) compared to FY 2014 (500,400), leading to a decrease in the absolute number of pregnant women provided with ARVs/ART. However, overall ARV/ART coverage for PMTCT increased from 88% in FY 2014 to 93% in FY 2015, demonstrating that CDC-supported sites improved service delivery to women who were identified as HIV-infected in FY 2015.

In FY 2014 and FY 2015, CDC programs focused on adoption and implementation of Option B+, initiation of lifelong ART for all HIV-infected pregnant and breastfeeding women. The success of the transition to lifelong ART is demonstrated by a 50% increase in the number of women on lifelong ART attending sites supported by CDC partners from 240,300 in FY 2013 to 360,300 in FY 2014, and an additional 11% increase to 399,850 in FY 2015. The proportion of women in PMTCT settings receiving lifelong ART increased from 72% to 87% of known HIV-infected pregnant women from FY 2014 to FY 2015.

In FY 2016 and FY 2017, CDC plans to reach 425,000 HIV-infected pregnant women with ART. This stable trajectory for PMTCT services reflects the PEPFAR 3.0 policy to focus on preventing HIV infections in adolescent girls and young women in the highest HIV burden settings and to transition away from support for routine HIV testing of all pregnant women in low HIV burden settings. By focusing resources in the areas with the highest HIV burden and by focusing on preventing HIV infection in young women prior to pregnancy, CDC programs may reduce the number of HIV infections among pregnant women and more effectively reach elimination of maternal-to-child transmission of HIV. As part of continuing efforts to improve the quality of HIV services for pregnant and breastfeeding women, CDC will:

- provide critical support to countries as they implement new WHO 2015 guidelines for lifelong ART in all PEPFAR-supported sites;
- continue to optimize service delivery models to improve the retention of pregnant and breastfeeding women and HIV-exposed infants through the end of breastfeeding;
- collaborate with U.S. Government and external partners to ensure commodity availability; and
- collaborate with HIV treatment colleagues to support these women as they continue on lifelong ART.

In FY 2015, CDC-supported partners, in 12 high priority PEPFAR countries, performed 1,342,400 voluntary medical circumcisions of males aged 15 and older by a qualified clinician. About 1.3 million of these males received direct service delivery support and an additional 29,000 benefitted from essential CDC technical support. This represents 129% of the 2015 target and a 360% increase compared to baseline reporting in FY 2011 (Measure 10.A.1.7). CDC collaborates with country programs to scale-up voluntary medical male circumcision (VMMC) by expanding task shifting, increasing the number of dedicated VMMC teams, and supporting mobile services. The four most productive large countries were South Africa, Tanzania, Uganda, and Mozambique. As of September 2015, PEPFAR has provided 8.9 million cumulative circumcisions since 2008, and has committed to providing 11 million additional circumcisions by September 2016 and 13 million by September 2017. As just over 2,000,000 circumcisions are needed annually to achieve PEPFAR's goals for FYs 2016-2017, CDC's targets account for 50% of PEPFAR's annual circumcisions. CDC continues to focus on safety and has developed an adverse events management and reporting guide for use in both VMMC service programs and community health facilities which may see clients in follow up. CDC's Global HIV program is working with the Global Immunization program to help programs address rare cases of tetanus among VMMC clients. This additional step, while important, may slow program acceleration. CDC is also adapting service delivery programs to reach men at higher risk of HIV and continues to expand outreach services to hard-to-reach populations in the highest burden regions.

Global Immunization

Contextual Indicator for Long Term Objective: Help domestic and international partners achieve World Health Organization's goal of global polio eradication.

Contextual Indicator	Most Recent Result	FY 2020 Target
10.B.1.3: Reduce the number of countries in the world with endemic wild polio virus (Outcome)	FY 2014: 2 (Target Not Met but Improved)	0

Performance measure for Long Term Objective: Help domestic and international partners achieve World Health Organization's goal of global polio eradication.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.B.1.2a: Increase the number of children vaccinated with Polio Vaccine as a result of non-vaccine operational support funding to implement national or subnational supplemental immunization campaigns in Asia, Africa, and Europe (Output)	FY 2014: 10,079,874 (Target Exceeded)	18,000,000	19,000,000	+1,000,000

Contextual Indicator for Long Term Objective: Work with global partners to reduce the cumulative global measles-related mortality by 95% compared with CY 2000 estimates (baseline 777,000 deaths) and to maintain elimination of endemic measles transmission in all 47 countries of the Americas.

Contextual Indicator	Most Recent Result	FY 2020 Target
10.B.2.1: Reduce the number of global measles-related deaths ¹ (Outcome)	FY 2014: 114,900 (Target Not Met But Improved)	30,000

¹ The [Measles and Rubella Initiative](#) formulated an improved method for calculating global measles mortality in late 2010 following measles outbreaks in Africa in 2009 and 2010. The actual results from 2009 onward reflect the improved measurement.

Performance measures for Long Term Objective: Work with global partners to reduce the cumulative global measles-related mortality by 95% compared with CY 2000 estimates (baseline 777,000 deaths) and to maintain elimination of endemic measles transmission in all 47 countries of the Americas.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.B.2.2: Maintain number of non-import measles cases in all 47 countries of the Americas as a measure of maintaining elimination of endemic measles transmission (Outcome)	FY 2014: 0 (Target Met)	0	0	Maintain

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.B.2.3: Increase the number of countries that achieve at least 90% immunization coverage in children under 1 year of age for DTP3 (three shot series of vaccines covering diphtheria, tetanus, and pertussis) (Outcome)	FY 2014: 129 (Target Not Met)	143	143	Maintain

Efficiency measure for Global Immunization

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.B.E.1: Increase the percentage of the annual budget that directly supports the program purpose in the field (Efficiency)	FY 2014: 83% (Target Not Met)	≥90%	≥90%	Maintain

Performance Trends: Global immunization funding advances polio eradication and measles mortality reduction and elimination efforts.

CDC is the lead technical monitoring agency for the Independent Monitoring Board of the [Global Polio Eradication Initiative](#)⁵³⁰ (GPEI). The number of countries reporting endemic wild poliovirus (WPV) declined to three countries in FY 2014 (Measure 10.B.1.3) when India was certified polio free in March, in part due to CDC's strategic support to India's Ministry of Health and Family Welfare and GPEI partners. In September 2015, Nigeria was also removed from the list of endemic countries after having recorded more than one year without any wild poliovirus cases. For the remaining two countries, continued circulation of the virus along the Afghanistan-Pakistan border hindered achievement of the FY 2014 WPV target and compounded the challenge of interrupting residual WPV transmission.

Eradicating WPV cases in Pakistan and Afghanistan is vital to preventing re-infection among polio-free countries and requires intensive operational efforts and more dedicated resources per child to reach children in isolated areas. Starting in 2012, CDC implemented emergency measures in the remaining endemic countries to recapture previous gains. In response to an increased availability of donor funds, CDC intensified its efforts by enhancing operations and increasing social mobilization. The enhancements resulted in an emphasis on targeted field consultations, scaling up successful innovations for polio eradication activities, and capacity building through training in accordance with the Global Polio Emergency Action Plan. Together, these activities resulted in a nearly two-thirds decrease in the number of global polio cases between 2011 (650 cases) and 2012 (223 cases). In 2013, outbreaks in the Horn of Africa and Syria pushed the global total to 416 cases. Continued improvement in the Nigeria program along with intensified responses to the outbreaks has resulted in the absence of wild poliovirus in Africa for the first time in history in

As of December 2, 2015, only 60 cases of wild polio have been reported, compared to 315 cases at the same time in 2014.

⁵³⁰ <http://www.polioeradication.org/>

2015. As of December 2nd, 2015, 60 cases of wild polio have been reported, compared to 315 cases at the same time in 2014. Pakistan has reported 43 (72%) of those cases.

Countries at highest risk for polio importation and circulating vaccine-derived poliovirus outbreaks have low routine immunization coverage levels (less than 80%), suboptimal outbreak response, and weak health systems. To respond to this challenge, the [Global Polio Eradication Initiative](#), in consultation with national health authorities, developed the [Polio Eradication Endgame Strategic Plan](#)⁵³¹ (2013-2018). The plan addresses the eradication of all polio disease, whether caused by wild poliovirus or vaccine derived virus. CDC replaced its Oral Polio Vaccine measure with an expanded measure of polio vaccination in FY 2017 (10.B.1.2a). Per Objective 2 of the plan, this measure reflects changes to the composition of the global supply of polio vaccine. It also provides a more accurate measure of polio vaccination by measuring children vaccinated by all types of polio vaccine. The expanded measure reflects CDC's enhanced financial support for operational costs of supplemental vaccination rounds, including social mobilization. The enhanced support has already contributed to Nigeria's removal from the endemic country list, the continent of Africa not reporting a single case since August 2014, and the isolation of polio in Pakistan and Afghanistan. The CDC funds also provide targeted support to increase immunity levels in countries at high risk for polio importation.

Due to CDC and partner polio eradication efforts, the African continent has been free of wild poliovirus for over a year for the first time in history.

In light of concerns that the polio eradication goal would not be achieved, the Executive Board of the WHO declared polio eradication a "programmatic emergency for global public health." As a result, CDC activated its Emergency Operations Center (EOC) for polio eradication in December of 2011 to scale-up its activities and rapidly expand technical expertise, including outbreak prevention and control, disease surveillance reviews, and immunization campaign planning, implementation and monitoring. CDC consults weekly with WHO and the United Nations Children's Fund (UNICEF) to identify needs and determine optimal resource allocation. The absence of Type 3 poliovirus worldwide since November 2012 reflects active collaborations among CDC and its partners. Once six months have passed without a single new polio case in the world, CDC will stand down its EOC activities but continue polio eradication activities until global certification is achieved.

Reducing cumulative global measles-related mortality by 95% compared with CY 2000 estimates presents unique challenges. Global measles mortality data released in late CY 2015 revealed an improvement in vaccine coverage in Africa, but the gap in coverage continues. This gap has led to large scale outbreaks all around the world, reversing some of the consistent gains in measles mortality reduction. Though CDC and its partners did not meet the target for reducing measles related deaths, measles-related mortality declined about 19% from ~145,000 in CY 2013 to ~115,000 in CY 2014. Measles-related mortality has decreased 79% since CY 2000 (Measure 10.B.2.1). In CY 2014, the U.S. recorded 644 people with measles, all of them traceable to importations from other countries. This outbreak has continued into 2015 with 189 cases of measles in 24 states and Washington, D.C., as of November 13, 2015, including one death in Washington State in July 2015, which represents the largest number of cases in the U.S. since measles was eliminated in 2000. Since CY 2008, CDC's collaboration with the Pan American Health Organization has helped ensure cases are contained, hampering a resurgence of measles in the U.S. (Measure 10.B.2.2).

The number of countries that achieve at least 90% immunization coverage in children under one year of age for DTP3 (third dose diphtheria, tetanus, pertussis vaccine) is the globally accepted performance indicator for national immunization programs. An increase in the number of countries achieving this target reflects progress in the global effort, including CDC's work, to strengthen immunization systems. The number of countries meeting this coverage threshold for DTP3 steadily increased from 125 in FY 2008 to 133 in FY 2011 before slipping to 129 in FY 2012 where it has remained through FY 2014 (Measure 10.B.2.3). The decrease comes from

⁵³¹ <http://www.polioeradication.org/resourcelibrary/strategyandwork.aspx>

countries that are unable to maintain gains that pushed them beyond the 90% coverage level, largely due to lack of country ownership and investment. To assist both countries who struggle to maintain gains and those that struggle to reach the 90% target, CDC is working to develop targeted interventions based on supply and demand factors that can impact and increase coverage. For example, CDC is evaluating the effect of text messaging in the Democratic Republic of Congo with various vaccine-resistant religious groups to better understand their concerns and priorities. While gains as measured by 10.B.2.3 were not seen for 2014, CDC saw progress in 31 additional countries that moved towards the 90% target by achieving coverage levels of 80%-85%. The absence of a decrease in the number of countries meeting 90% immunization coverage for DTP3 from FY 2012 to FY 2014 indicates countries are solidifying previous gains. DTP3 immunization activities are closely linked to polio immunization activities, so reductions in polio funding will hamper progress in this area.

In FY 2014, 83% of program funding directly supported field-related activities (Measure 10.B.E.1), a slight improvement over FY 2013 support of 81%. This is the result of increased staffing costs associated with ongoing activation of CDC's EOC for polio eradication and rising administrative and travel costs. CDC continues to review cost reduction options on a monthly basis to minimize administrative overhead while maximizing direct spending for field-related activities. Continued plans to achieve the 90% threshold in FY 2017 include temporarily assigning a higher percentage of staff to the field and increasing the number of days spent in the field. Once active circulation of poliovirus ceases, CDC will return to normal EOC activation staffing levels and begin normal polio eradication activities until global certification is achieved.

Global Health Protection

Following the launch of the Global Health Security Agenda (GHSA) in FY 2014, CDC continues to work closely with US Government and international partners to improve disease prevention, detection, and response. From the ongoing Ebola epidemic in West Africa, to emerging infectious disease threats like MERS-CoV and chikungunya, it is essential that all nations are prepared to identify and address these threats. CDC's Global Public Health Protection Program prepares countries to prevent, detect and respond to public health threats. CDC assists countries in building foundational country-level public health capacity through Global Health Security, supporting advanced regional capacity building through Global Disease Detection, and assisting countries in the development of National Public Health Institutes to consolidate public health functions in an efficient organization.

CDC works with countries at all stages of public health capacity development—from working with countries to build basic national public health capacities to collaborating with other global public health leaders to address shared threats. Through all levels of engagement, the end goals are the same—protecting Americans at home from threats that emerge overseas while also protecting the US from the threat posed by solitary US capacity to respond.

Performance measure for Long Term Objective: Build outbreak detection and response public health capacity in support of the [International Health Regulations](#) (2005).

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.E.1: Increase the percentage of outbreak and possible Public Health Emergencies of International Concern assistance requests that are handled in a timely manner (within 24 hours) (Outcome) ¹	FY 2014: 59% (Target Not Met)	83%	83%	Maintain

¹Starting in FY 2017, CDC targets and results will reflect annual data instead of cumulative data.

Performance Trends: The [Global Disease Detection](#)⁵³² (GDD) monitoring and evaluation program captures quarterly data to monitor progress and assess the impact of GDD Centers. CDC increased the proportion of outbreak and possible Public Health Emergencies of International Concern assistance requests handled in a timely manner (within 24 hours) from a baseline of 70% in FY 2009 to 79% in FY 2011. However, timely handling of requests hovered between 72% in FY 2012 and 73% in FY 2013 and dropped to 59% in FY 2014 (Measure 10.E.1). Contributing to the drop in FY 2014, GDD centers responded to more than 319 outbreaks (the highest number of outbreaks recorded since the beginning of the program), while also providing significant laboratory and surveillance support to West African countries affected by Ebola. Performance for this measure is affected by the volume of requests received, type of assistance requested, location of the outbreak, and maturity of the GDD Center providing the response. As a result of these dynamics, the trend

In 2015, CDC's Global Public Health Protection Program supported more than 1,400 deployments to 28 countries. These activities included support for Syrian Refugees in Turkey and Jordan, Cholera response in South Sudan, and support to the Ebola epidemic in West Africa.

⁵³² <http://www.cdc.gov/globalhealth/healthprotection/gdd/index.html>

reflects peaks and valleys instead of steady continuous improvement. Of the existing 10 GDD Centers, those that have been in existence the longest, have the highest rates of responding within 24 hours. For example, China and Thailand each responded to all of their requests for assistance (more than 100 total responses) in less than 24 hours in 2014. The newer Centers have a slower average response time. The four newest GDD Centers (India, South Africa, Bangladesh, and Georgia) began reporting monitoring and evaluation data into the system in FY 2012 and FY 2013. As these centers become more established, their capacity to respond to outbreaks increases, improving their average response time. Both Kenya and Bangladesh improved the percentage of responses initiated within 24 hours between 2013 and 2014.

GDD Centers have been actively engaged in supporting the response to Ebola in West Africa throughout 2014-2015. CDC Staff (including locally employed staff) from all 10 GDD Centers have provided support to the Ebola response, including deployments of CDC Staff, improving lab capacity for testing (through deployment of mobile laboratories), and developing preparedness and response plans with host countries.

In FY 2015, in addition to the Ebola response, outbreak responses included: unknown acute encephalopathy syndrome in India; human H5N1 influenza in Cambodia and H7N9 influenza in China; MERS coronavirus in Saudi Arabia, Jordan, Qatar, and South Korea; Crimean-Congo hemorrhagic fever in Uganda and Georgia; orthopox in Georgia; dengue in Angola, Kenya and Tanzania; meningitis in Ghana and Ethiopia; and chronic kidney disease in El Salvador and Guatemala.

Performance measures for Long Term Objective: To increase the number of public health staff skilled in epidemiology and surveillance in low and middle-income countries.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.F.1a: Increase epidemiology and laboratory capacity within global health ministries through the Field Epidemiology Training Program (FETP) New Residents (Outcome)	FY 2014: 402 (Target Not Met but Improved)	430	430	Maintain
10.F.1b: Increase epidemiology and laboratory capacity within global health ministries through the Field Epidemiology and Laboratory Training Program (FELTP) Total Graduates (Outcome)	FY 2014: 3,618 (Target Exceeded)	3,700	4,100	+400

Performance Trends: Since 1980, CDC has developed international [Field Epidemiology Training Programs](#)⁵³³ (FETPs) serving more than 60 countries that have graduated over 3,600 epidemiologists. In FY 2014, CDC did not meet its targets for new residents. However, the number of new residents increased by more than 33% over FY 2013 results, and CDC exceeded its target for total, cumulative graduates (Measures 10.F.1a and 10.F.1b). On average, 80% of FETP graduates work within their Ministry of Health after graduation and many assume key leadership positions—some examples include the National Director of Tuberculosis program and National Director of Chronic Disease program in the Dominican Republic, the Secretary General of the National Health Security Office, and Director General of the Department of Disease Control in Thailand, and the Deputy Director of the National Malaria Control Program in Ghana. FETP graduates strengthen sustainable public health capacity in their countries, which is critical in transitioning U.S.-led global health investments to long-term host country ownership. In FY 2014, FETP graduates and residents participated in approximately 424 outbreak investigations,

⁵³³ <http://www.cdc.gov/globalhealth/healthprotection/fetp/index.htm>

over 340 planned investigations, and approximately 500 surveillance activities. CDC is planning for a level number of new residents in FY 2017 based on current participation and funding levels. FETP activities are supported by funding from CDC appropriations and inter-agency agreements with the Department of Defense, Department of State, and USAID. Policy changes within those agencies may affect the future number of FETPs supported, which may require adjustments to targets. CDC is working closely with Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) to implement the accreditation process for the FETPs, which will help maintain the quality of FETPs globally.

In FY 2015, FETP advisors, residents, and graduates supported operations and capacity development in West Africa as part of CDC's response to the Ebola crisis. For instance, more than 40 residents and graduates from the FETP program in the Democratic Republic of the Congo assisted with the response in Guinea. FETP residents also assisted non-affected countries like Cameroon and Ethiopia with Ebola preparedness and training, while also supporting contact tracing and investigations in the three affected countries of Guinea, Sierra Leone, and Liberia. In addition, CDC created FETP programs in West Africa, focused on training local health staff in principles of applied epidemiology. Twelve residents have graduated with an addition 30 in training. FETP activities serve a key role in implementation of the Global Health Security Agenda, especially for the priority area of Workforce Development which aims to build a "...workforce including... at least one trained field epidemiologist (or equivalent) per 200,000 population..." to support public health response and protection.

Parasitic Diseases and Malaria

CDC Contextual Indicators for Long Term Objective: Decrease the rate of deaths from all causes in children under five in the President's Malaria Initiative⁵³⁴ (PMI) target countries.

Contextual Indictors	Most Recent Result	FY 2020 Target
10.C.1: Increase the percentage of children under five years old who slept under an insecticide-treated bed net the previous night in PMI target countries (Outcome)	FY 2014: 46.0% (Target Not Met)	85% ³

³PMI was implemented in each of the 19 focus countries by 2012. Therefore starting in FY 2014, data from all 19 countries were included to calculate the median, using the most recent estimate available from each country.

Budget Output Measure for Long Term Objective: Decrease the rate of deaths from all causes in children under five in the President's Malaria Initiative (PMI) target countries.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.C.A: The number of CDC authored publications that inform the global evidence for malaria control and prevention programs (Output)	FY 2014: 77 (Target Exceeded)	65	75	+10

CDC Performance Measure for Long Term Objective: To deliver timely and accurate reference diagnostic laboratory services for the detection of parasites in specimens submitted by domestic and international public health partners to CDC.

⁵³⁴ <http://www.pmi.gov/>

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
10.C.4: The percentage of laboratory test results reported within the expected turn-around time (two weeks) upon receipt by CDC labs (Outcome)	FY 2014: 96% (Target Exceeded)	90%	90%	Maintain

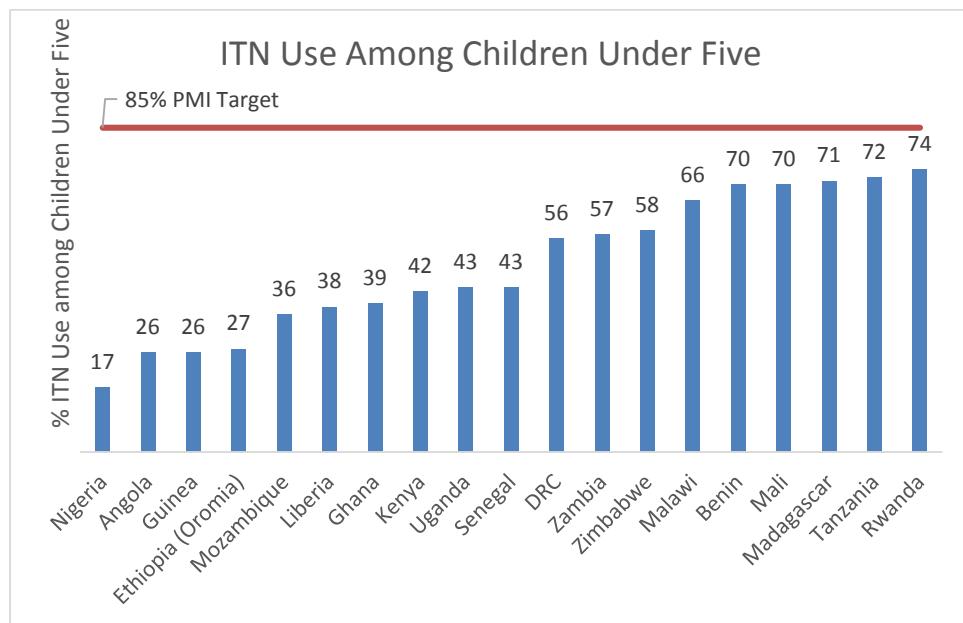
Performance Trends: Malaria prevention and treatment tools are among the most cost-effective interventions available to improve global maternal and child health and survival. CDC's research informs the development of new tools to manage and mitigate threats from drug and insecticide resistance, guides future program and policy decisions, and builds the capacity of host country governments through strategic partnerships.

Based on evidence from CDC research over the last two decades, global malaria prevention and control programs continue to promote cost-effective interventions and scale-up efforts. These interventions include (1) intermittent preventive treatment in pregnancy (IPTp), (2) insecticide-treated bed nets (ITNs) and indoor residual spraying (IRS) to protect individuals and communities from infected mosquitoes, and (3) artemisinin combination therapy (ACT) to treat individuals diagnosed with malaria.

While CDC and its partners did not meet the FY 2014 [President's Malaria Initiative](#)⁵³⁵ (PMI) performance target for Measure 10.C.1, results modestly improved and continued to narrow the gap to the target. PMI countries scaled up the use of malaria prevention and treatment tools overall, expanding PMI to an additional four countries in 2007 and another eight countries in 2008, and fully expanding to the current 19 countries and the Greater Mekong Sub region as of 2012. Compared to the FY 2008 baseline, the percentage of children under five years old who slept under an insecticide-treated bed net the night before increased from 13% to 46% (Measure 10.C.1). While no countries have achieved the 85% goal, several countries are closing the gap and we anticipate this trend will continue the longer countries have been a part of PMI and achieved full scale up of interventions.⁵³⁶

⁵³⁵ <http://www.pmi.gov/>

⁵³⁶ The chart for ITN use among children under five and IPTp2 coverage is from the President's Malaria Initiative eighth annual report to congress (April 2014) found at http://www.pmi.gov/docs/default-source/default-document-library/pmi-reports/pmireport_final.pdf?sfvrsn=16



* Data shown are from the most recent nationwide household survey conducted in the country

In 2012, the global recommendation for IPTp during pregnancy changed from two or more doses during pregnancy to multiple doses delivered monthly. Baseline coverage data related to the new recommendation does not exist, and as of 2015, there are no plans to revise the survey tools to collect information on the new monthly recommended doses. Therefore, CDC has retired its measure for IPTp during pregnancy (Measure 10.C.3).

CDC tracks the number of authored publications that contribute to the global evidence base for malaria control and prevention programs. For example, in September 2015, CDC published results from a study in Kenya that compared the efficacy and safety of two alternative strategies for prevention and treatment of malaria in pregnant women to the current standard of care, intermittent preventive treatment in pregnancy with the drugs sulphadoxine-pyrimethanamine (IPTp, SP). Results showed that in areas of high SP drug resistance, use of an alternative drug combination, dihydroartemisinin-piperaquine or DP, was promising in reducing risk of malaria and cases of malaria and anemia. Studies will be conducted in other countries to further assess safety, impact, and feasibility.

The time between research initiation and publication of results typically exceeds a 12-month period, and as a result, the number of publications varies from year to year. The number of peer-reviewed papers published increased from 68 in FY 2013 to 77 in FY 2014 (Measure 10.C.A), and CDC continued to develop global policy documents and guidelines during that time. Although, the number of peer-reviewed papers published has increased, it is difficult to estimate the exact time between research initiation and publication (peer-reviewed papers actually decreased from FY 2010 to FY 2012). Therefore, CDC's targets remain ambitious as they account for the publication development timeline.

In addition to the Ninth Annual PMI Report to Congress, CDC co-authored several technical reports including the [WHO World Malaria Report](http://www.who.int/malaria/publications/world_malaria_report_2014/en/)⁵³⁷ (2014), the [Malaria Rapid Diagnostic Test Performance](http://www.who.int/malaria/publications/atoz/9789241507554/en/)⁵³⁸ (Round 5), and the [revised guidance on temporary malaria control measures in Ebola-affected countries](http://apps.who.int/iris/bitstream/10665/141493/1/WHO_HTM_GMP_2014.10_eng.pdf)⁵³⁹. Each of these reports summarizes critical surveillance and monitoring and evaluation data that will inform global policy and

⁵³⁷ http://www.who.int/malaria/publications/world_malaria_report_2014/en/

⁵³⁸ <http://www.who.int/malaria/publications/atoz/9789241507554/en/>

⁵³⁹ http://apps.who.int/iris/bitstream/10665/141493/1/WHO_HTM_GMP_2014.10_eng.pdf

programming. Current research includes strengthening the role and use of rapid diagnostic tests and exploring the potential use of insecticide-treated wall linings. DPDM recently completed a Phase III vaccine trial of the RTS,S malaria vaccine in Kenya. RTS,S is the most clinically advanced malaria vaccine candidate in the world. The final results showed that vaccination with RTS,S, followed by a booster dose of RTS,S after 18 months decreased the number of malaria cases in children by 36% and young infants by 26% over a period of four years across all trial sites. CDC, in collaboration with scientists in Kenya, oversaw one of 11 study sites in this multisite trial.

While malaria and other parasitic diseases have a tremendous impact on global morbidity and mortality, they are a significant health concern in the United States. due to increased international travel, importations, and domestically acquired infections. CDC's parasitic disease labs serve as global and national resources for ensuring efficient and high-quality analyses which are essential to timely and accurate diagnosis and treatment. In FY 2014, CDC analyzed and reported results for 96% of submitted specimens in a timely manner (approximately two weeks from the time of receipt by CDC labs), up from 91% in FY 2013 and exceeding the 90% target (Measure 10.C.4). The FY 2017 target holds performance steady at 90% until FY 2015 results are available in April 2016.

CDC's Kenya Phase III vaccine trial of the RTS,S malaria vaccine, the most clinically advanced malaria vaccine candidate in the world, showed vaccination, followed by a booster dose, after 18 months, decreased the number of malaria cases in children by 36% and young infants by 26% over a period of four years across all trial sites.

CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT

Buildings and Facilities

Performance Measures for Long Term Objective: Improve efficiency and sustainability of CDC Facilities.¹

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
12.E.2: Increase the percent of CDC facilities (5,000 square feet and above) that meet the Guiding Principles for High Performance and Sustainable Federal Buildings (Efficiency)	FY 2015: 28.63% Square Footage (Target Exceeded)	17%	18%	+1
12.E.1a: Improve energy (E) consumption per square foot (Efficiency)	FY 2015: 27.0% (Baseline) ²	29.5%	32%	+2.5
12.E.1b: Improve water (W) consumption per square foot (Efficiency)	FY 2015: 30.1% (Target exceeded)	18%	20%	+2

¹Targets are set by HHS and align to Executive Order-13693.

²Re-baselined per FEMP task force recommendations.

Performance Measures for Long Term Objective: Improve CDC's Buildings and Facilities Office's processes and performance.¹

Measure	Most Recent Result	FY 2016 Target	FY 2017 ³ Target	FY 2017 +/- FY 2016
12.2.1c: Improve Condition Index (CI), as measured by the ratio of the functional replacement value (FRV) of an asset with its backlog of maintenance and repair (BMAR) needs (Output)	FY 2015: 91.06 CI (Target Exceeded)	90.0 CI	90.0 CI	Maintain
12.2.1d: Reduce non-mission dependency, as measured by the percentage of real property assets that are not deemed directly necessary to support the Agency's mission (Output)	FY 2015: 3.85% (Target Not Met)	2%	2%	Maintain
12.2.1e: Improve building utilization ² (Output)	FY 2015: 7.69% (U) (Target Not Met)	5.00% (U)	5.00% (U)	Maintain

Measure	Most Recent Result	FY 2016 Target	FY 2017 ³ Target	FY 2017 +/- FY 2016
12.2.1f: Improve buildings and facilities operating costs (Output)	FY 2015: \$12.80/sq. ft. (Target Not Met But Improved)	10.29 /sq. ft.	10.29/sq. ft.	Maintain

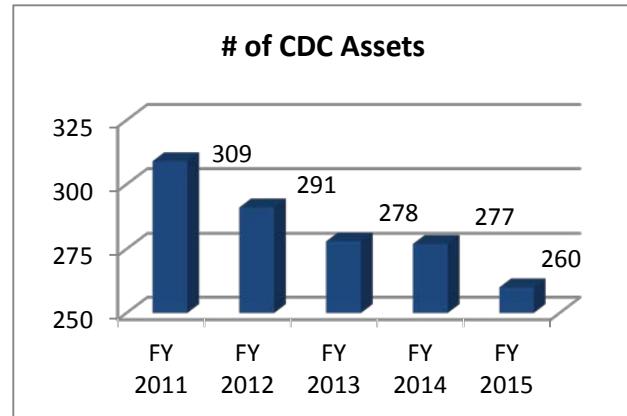
¹Targets are set by HHS and align to Executive Order 13327; the Federal Real Property Council defines the metrics

²Under-utilized (U); The Federal Real Property Council removed the metric Over-utilization (O) for FY 2013 and forward.

³Projected only, targets do not exist from FRPC for beyond FY 2016.

Performance Trends: CDC's Buildings and Facilities Office equips CDC to carry out its mission in safe, sustainable, and efficient operating facilities. Key performance updates include:

- Water consumption (12.E.1b) - CDC is currently reaping the results of a two-year (FY 2014-2015) water usage study for the Roybal campus. Since completion of the water usage study and its remediation actions, CDC estimates a reduction of 85 million gallons of water use per year, totaling almost 45% of water used on the Roybal campus. This has resulted in savings of over two million dollars in reduced water usage.
- Energy Consumption (12.E.1a) – Based on recommendations from the Federal Energy Management Program (FEMP), CDC established a new baseline in FY 2015, which reflects the impact of the Ebola response activities and related visitation. CDC's targets reflect various projects underway to improve performance in this area.
- CDC Increased the percentage of sustainable facilities far beyond HHS targets (Measure 12.E.2), from just over 24% in FY 2014 to over 28% in FY 2015. CDC received Guiding Principle (G.P.) Compliant status for Building 107 in FY 2015. Measured by gross square feet, CDC has reinforced its position as a leader in sustainable buildings with over 28% in G.P. compliant buildings by area. For a detailed overview of "Guiding Principles", please visit the GSA website on sustainable design: <http://www.gsa.gov/portal/content/136543>.
- Maintained the largest, mission-critical, and mission dependent assets at a high level, with a weighted average of 97.37 for FY 2015. CDC met the condition index (CI) target for FY 2015, rising from a CI of 87.89 in FY 2014 to 91.06 (Measure 12.2.1c). The rise in un-weighted CI from FY 2014 to FY 2015 was achieved by identifying several small assets for demolition at the NIOSH Pittsburgh and Ohio campuses. While all of these assets have yet to be completely demolished, their status has been downgraded and maintenance reduced. The total number of constructed, active, owned buildings in CDC's inventory was reduced from 175 in FY 2014 to 163 in FY 2015.



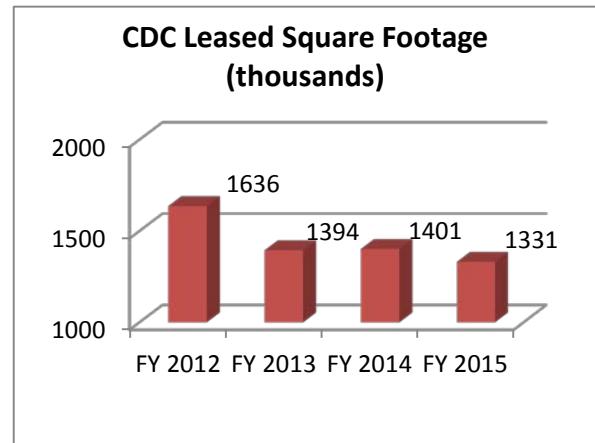
- Continued to compress office space to meet the utilization rate standard of 170 usable square feet per occupant (Measure 12.2.1.e), but did not meet the target for under-utilization (U). CDC results decreased slightly from 7.58% in FY 2014 to 7.69% in FY 2015. This is primarily due to a difference in the metric calculation relative to CI above.

- The Under-utilization metric actually counts Leased, Government, active, inactive, and slated for demolition buildings. Therefore, buildings identified for demolition as noted in the CI metric above will count against the utilization metric until they are completely demolished. The metric should improve in FY 2016 after these buildings are demolished.

CDC did not meet its Mission Dependency target (Measure 12.2.1d) for FY 2015 for similar reasons. Buildings identified for demolition or declared inactive prior to identifying for demolition are counted in this metric. The results for FY 2016 should improve when these buildings are demolished.

CDC's operating costs improved from \$13.13/sq.ft. in FY 2014 to \$12.80/sq.ft. in FY 2015. This did not meet the metric, but CDC's laboratories have disproportionately higher operating costs compared to other assets.

Laboratory buildings comprise approximately 44% of the total asset inventory's square footage. The operating cost targets did not take high-operating-cost laboratory assets into account and the metric has only changed by \$0.53 since FY 2005. CDC has previously performed benchmarking studies that indicate our asset portfolio is in the medium range of operating costs for similarly equipped, institutional and private portfolios. CDC continues to compress its office space (i.e., better floor layouts and smaller cubicles) to meet the new utilization rate standards. Overall, CDC has reduced leased square footage of buildings and structures by approximately 500,000 gross square feet from FY 2011 through FY 2013. Leased square footage for FY 2015 decreased to 1331 thousand square feet due to consolidating/terminating several leases.



The CDC Lawrenceville Campus Master Plan 2015-2025 was completed. Program consolidation and relocation of staff out of lease space onto the CDC Chamblee campus, during FY 2015, improved the overall campus utilization rate. Vacated lease space was utilized for CDC's required rapid response to the Ebola outbreak.



Public Health Leadership and Support

State, Tribal, Local and Territorial Support

Performance Measures for Long Term Objective: Improve the capacity and performance of state, tribal, local and territorial public health agencies to more efficiently and effectively manage and deliver high quality programs and services to protect the public's health.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
11.B.4.1a (State): Increase the percentage of nationally PHAB ¹ accredited state public health agencies (Intermediate Outcome)	FY 2015: 24% (Target Exceeded)	31%	40%	+9
11.B.4.1b (Local): Increase the percentage of nationally PHAB ¹ accredited local public health agencies (Intermediate Outcome)	FY 2015: 4% (Target Not Met)	8.6%	10%	+1.4

¹Public Health Accreditation Board

Performance Trends: The CDC Office for State, Tribal, Local and Territorial Support (OSTLTS) provides technical assistance, tools, training, information, and funding to state, tribal, local and territorial public health departments and organizations to improve effectiveness and efficiency in delivery of public health services. One major strategy for achieving these goals is to assist health departments in meeting national public health standards and achieving national public health accreditation through the independent [Public Health Accreditation Board](#) (PHAB).

CDC provided the following in FY 2015:

- Funding and support to PHAB to advance and continuously improve the national accreditation program.
- Funding and support to 79 health departments through the local and tribal Accreditation Support Initiatives as of FY 2014. Sixty percent of these have applied for accreditation and 19% have since been accredited. Results indicate that even these small investments (\$4,000-\$40,000) can have significant impact and accelerate a health department's ability to meet these national consensus standards. As of December 2015, CDC funded an additional 33 local, tribal and territorial health departments for accreditation readiness activities.
- Funding for collaborations with national public health partners to advance these goals by providing technical assistance, developing tools, and providing other kinds of accreditation readiness support.

The national accreditation process was launched in 2011, and currently 45% of the US population is being served by an accredited health department. From FY 2014 to FY 2015, the percentage of state and locally accredited PHAB health departments doubled (Measure 11.4.1a-b). As of November 2015, 84 local and 12 state health departments achieved public health accreditation (up from 48 local and six state health departments in FY 2014), and another 250 health departments have formally applied for accreditation. Eighty-six percent (86%) of states and 45% of local health departments indicate they have applied or are preparing to apply for accreditation.

CDC expects continued increases in accredited health departments. Data from health departments suggest that accreditation enhances collaboration, accountability, transparency, and knowledge of local data and health issues. Policy changes with strong potential health impact reflect local partnerships from accreditation readiness efforts. Current policy changes include a smoke-free ordinance in one county and a healthy food policy with recreation concession services in another.

In FY 2017, CDC will continue to support state and local health departments to strengthen public health practice through national public health accreditation.

Communications

Performance Measure for Long Term Objective: Improve access to and reach of CDC's scientific health information among key audiences to maximize health impact.

Measure	Most Recent Result	FY 2016 Target	2017 Target	FY 2017 +/- FY 2016 Target
11.B.1.1c: Increase health behavior impact of CDC.gov (Outcome)	FY 2015: 86% ¹ (Target not Met)	90%	90%	Maintain

¹Does not include individuals who responded "N/A"

Performance Trends: The Pew Research Center's Internet & American Life Project estimates that 87% of adults used the internet in 2014, and that 72% of those adults used the internet to find health information. However, not all health information meets the needs of consumers or changes behavior. CDC.gov consistently ranks among the top major federal websites by demonstrating high user satisfaction scores measured by American Customer Satisfaction Index (ACSI). CDC uses the satisfaction scores to improve its web site and ensure that its audiences are satisfied with the usability of the site, credibility of the information, and functionality of the web tools (such as content syndication). In addition to tracking its overall performance, CDC surveys web users to understand how likely they are to change behavior based on information found on CDC.gov. From FY 2010 to FY 2015, visitors indicating positive health impact and behavior change after visiting CDC.gov increased from 68% to 86% (Measure 11.B.1.1c). In particular, this measure helps CDC's web and health communication specialists understand the impact of materials placed on CDC.gov and assess how audiences use the content provided. This data allows CDC to continuously improve its web content. CDC recently implemented a mobile satisfaction ACSI survey which will provide additional data on behavior change of those visiting CDC websites on mobile devices.

CDC.gov's monthly satisfaction score of 82, as of Nov 2015, continues to earn CDC a "top performer" rating among 100 participating federal.

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

State and Local Preparedness and Response Capability

Performance Measures for Long Term Objective: Enhance and sustain preparedness and response capability across state, local, and territorial health departments.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016 Target
13.4.2: Sustain the percentage of state public health agencies that are prepared to use materiel contained in the SNS as demonstrated by evaluation of standard functions as determined by CDC (Outcome)	FY 2014: 100% (Target Met)	N/A ¹	N/A ¹	Maintain
13.5.2: Increase the percentage of state public health laboratories that directly receive CDC Public Health Emergency Preparedness funding that can correctly subtype <i>E. coli</i> O157:H7 and submit the results into a national reporting system within four working days for 90% of the samples received (Output)	FY 2014: 90% (Target Exceeded) ²	87%	87%	Maintain
13.5.3: Increase the percentage of public health agencies that directly receive CDC Public Health Emergency Preparedness funding that can convene, within 60 minutes of notification, a team of trained staff that can make decisions about appropriate response and interaction with partners (Outcome)	FY 2014: 96% (Target Exceeded)	96%	96%	Maintain

¹CDC is transitioning to a new medical countermeasure assessment and using data collected July 2015 – June 2016 to establish the baseline. CDC will use that baseline data to help set targets for FY 2017/the PHEP budget period that begins July 1, 2017.

²CDC results based on jurisdictions (N=18) that allocated PHEP funding for pulsed-field gel electrophoresis (PFGE) *E.coli* activities.

Performance Trends: CDC utilizes Public Health Emergency Preparedness (PHEP) awardee-reported data to aid jurisdictions in identifying preparedness gaps and in developing targeted strategies to improve performance across operations. Planning and successfully executing a large-scale response requiring distribution and dispensing of medical countermeasures is a key preparedness and response indicator for states and localities. To evaluate the effectiveness of these activities, CDC reviews preparedness and response planning criteria for each PHEP awardee. In July 2014, CDC transitioned from primarily assessing medical countermeasure planning to also measuring operational readiness. The new assessment, the medical countermeasure [operational readiness review](#)⁵⁴⁰ (ORR), measures a jurisdiction's ability to successfully execute a large-scale response requiring distribution and dispensing of medical countermeasures. The ORR builds upon the medical countermeasure

⁵⁴⁰ https://www.ndhealth.gov/EPR/PHP/MCM%20ORR%20Guidance_FINAL.pdf

planning progress PHEP awardees have made over the years and helps identify medical countermeasure response operational capabilities as well as gaps that may require more targeted technical assistance. CDC has consistently met or exceeded its target to sustain local-level medical countermeasure dispensing capability since FY 2009 (Measure 13.4.2).

FY 2017 targets will be based on expected implementation of the new ORR measurement tool, which will replace the current measurement tool for Measure 13.4.2 in 2016. The FY 2014 implementation of the new tool served as a pilot, which CDC used to gather feedback from awardees to improve the new tool and the overall review process. CDC considers the data collected during the pilot as provisional data that will not be released or tied to any benchmarks. CDC released a refined ORR measurement tool in July 2015 and will use data collected through June 2016 to establish baseline data for all PHEP jurisdictions. As such, there will be a lag in data between the current and new measure until baseline data can be obtained for the ORR. CDC will not be able to report 2015 results and beyond for current Measure 13.4.2, but will begin reporting on the revised measure in FY 2017.

Measure 13.5.2 reflects the ability of states and select localities to detect and determine the extent and scope of potential outbreaks to minimize their impact. Rapid diagnostic testing and timely lab reporting allows for the swift removal of harmful products; decreasing cases of illness and duration of exposure for consumers. *E. coli* remains a serious public health concern in the United States and testing performance is used as an indicator for other threats and a measure of awardee capability. In FY 2014, 90% of PHEP-funded public health laboratories correctly subtyped *E. coli* and submitted results to PulseNet within four working days (Measure 13.5.2), up from 87% in FY 2013. Although the FY 2014 result continues a trend of exceeding annual targets for accurate *E. coli* subtyping and reporting since FY 2010, it reflects a change in the data collection system and is not expected to be duplicated in future years. FY 2016-2017 targets remain conservative to account for this exception.

The ability to assemble key staff for timely decision-making and the establishment of effective incident management structures are essential components of a public health emergency response. In FY 2014, 96% of PHEP-funded public health agencies convened trained staff within 60 minutes of notification to make decisions regarding partner engagement and incident response (Measure 13.5.3), exceeding the FY 2014 target and representing a seven percentage point increase from FY 2012. Using preparedness and response techniques honed in a recent PHEP exercise, the Ohio Department of Health (ODH) quickly triaged 18 botulism cases to intensive care units in five different hospitals in response to an

In February 2015, PHEP-funded staff rapidly mobilized the public health emergency management system for a West Virginia oil spill which contaminated the area's primary water source. Subsequently, 2,000 residents received potable water and procedures on treating their water once the system restarted.

April 2015 outbreak associated with home-canned potatoes. CDC delivered large supplies of botulinum antitoxin to ODH approximately 10 hours after receiving the request. PHEP resources and guidance also enabled Ohio to quickly mobilize and activate its emergency operations center to facilitate information exchange between regional healthcare entities, state entities, and federal partners. State epidemiology, surveillance, and medical countermeasure planning staff worked together to quickly distribute antitoxin to several hospitals where patients were being transferred. ODH also maintained consistent cold chain management of the antitoxin, per CDC public health preparedness capability standards, safely distributing the lifesaving antitoxin. Preparedness planning and coordinated action on the part of state and federal agencies made the quick and effective outbreak response possible. CDC will continue to work with awardees to improve results and achieve future targets.

Performance Measures for Long Term Objective: Integrate and enhance existing surveillance systems at the local, state, national, and international levels to detect, monitor, report, and evaluate public health threats.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016 Target
13.1.3: Increase the number of Laboratory Response Network (LRN) member laboratories able to use their current Laboratory Information Management System (LIMS) for LRN-specific electronic data exchange (Output)	FY 2015: 45 (Target Exceeded)	45	52	+7
13.1.1b: Increase the percentage of national Emergency Department visits captured in the syndromic surveillance platform to improve the representativeness of syndromic surveillance data.(Output)	FY 2015: 47% (Baseline)	55%	65%	+10

Performance Trends: Since FY 2009, CDC has steadily increased [Laboratory Response Network](#)⁵⁴¹ (LRN)-specific electronic data exchange capacity of member labs, growing from 34 labs in FY 2014 to 45 labs in FY 2015, which exceeded the FY 2015 target (Measure 13.1.3). While 100% of LRN labs are capable of exchanging data through the LRN Results Messenger (RM), CDC encourages labs to send data directly from their own data systems to CDC's LRN data system, thus enhancing interoperability between these systems. CDC's enhanced [Laboratory Information Management System Integration \(LIMSi\) project](#)⁵⁴² supports these state-level laboratory improvements.

LIMSi allows labs to quickly respond to public health threats by leveraging and building on labs' existing systems and workflow, facilitating interoperability with other public health partners, improving data quality, and reducing double data entry in RM through integration. CDC continues to incorporate feedback from participating laboratories to further enhance the LIMSi implementation process. Additionally, CDC fosters partnerships with the major Public Health LIMSi vendors to repackage the LRN configurations, reducing costs and providing more timely implementations. CDC estimates the total LRN LIMSi implementations will expand to include at least 47 out of 130 (36%) labs by the end of FY 2017.

CDC's [National Syndromic Surveillance Program \(NSSP\)](#)^{543,544} is a partnership among local, state, and national public health programs supporting timely exchange of syndromic data and information at the jurisdiction level. This enables partners to detect and characterize disease outbreaks, as well as other hazardous events or conditions of public health concern, in turn strengthening regional and national situational awareness.

Through a National Syndromic Surveillance [Community of Practice](#)⁵⁴⁵ and a cloud-based suite of shared analytic tools and services, public health programs are able to collectively investigate disease threats that cross jurisdictions. CDC recruits jurisdictions to participate in the program through Data Use Agreements; allowing

⁵⁴¹ <http://www.bt.cdc.gov/lrn/>

⁵⁴² <http://www.cdc.gov/phinf/tools/lrn/>

⁵⁴³ <http://www.cdc.gov/nssp/index.html>

⁵⁴⁴ As of FY 2015, the Biosense program is now referenced as the National Syndromic Surveillance Program.

⁵⁴⁵ <http://www.phconnect.org>

states to share patient symptom data obtained from hospital emergency departments within their geographic area. CDC established a new measure in FY 2015 to reflect activities aimed at increasing the utility and value of the NSSP and its platform by increasing the representativeness of data captured within the platform. As of December 2015, data from approximately 47% of the nation's emergency department visits contributed information to the platform (Measure 13.1.1b).

Performance Measures for Long Term Objective: Enhance and sustain nationwide and international laboratory capacity to gather, ship, and screen and test samples for public health threats and to conduct research and development that lead to interventions for such threats.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016 Target
13.3.1: Sustain the percentage of Laboratory Response Network (LRN) laboratories that have demonstrated ability to rapidly detect select biological threat agents	FY 2015:97% (Target Exceeded)	92%	92%	Maintain

Performance Trends: Laboratory Response Network (LRN) proficiency testing ensures laboratories within the network have the ability to rapidly identify biological threat agents. This includes performing LRN assays using agent-specific testing algorithms and available electronic resources to submit results. In FY 2015, CDC exceeded the expected target passing rate by five percent for LRN laboratories participating in proficiency testing (Measure 13.3.1), although slightly lower than FY 2014 results of 98%. Future targets will remain fixed at 92% due to the increased complexity of proficiency testing protocols and the release of new assays, both of which are expected to challenge future pass rates.

Strategic National Stockpile

Performance Measures for Long-Term Objective: Assure an integrated, sustainable, nationwide response and recover capacity to limit morbidity and mortality from public health threats

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016 Target
13.4.5: Number of trained and ready preparedness and response teams available for response to multiple events (Output)	FY 2015:22 (Target Exceeded)	15	15	Maintain
13.4.6: Percentage of inventory accuracies attained by using quality inventory management systems (Outcome)	FY 2015: 99.79% (Target Exceeded)	97%	97%	Maintain

Performance Trends: CDC manages and distributes Strategic National Stockpile (SNS) medical countermeasures utilizing promising practices and innovative solutions. These improvements are driven by various initiatives across the spectrum of SNS-funded activities and result in reduced management costs for stockpiled medical countermeasures and increased operational efficiency. In FY 2016 and beyond, CDC is increasing coordination and collaboration with commercial supply chain partners. This work will build on successful collaboration during the Ebola response to better integrate visibility and utilization of public and private medical countermeasure supplies and meet urgent requirements with limited available resources.

Mitigating morbidity and mortality in a public health emergency requires skilled and prepared state and local partners to effectively utilize stockpiled medical countermeasures (MCM). CDC trains and supports partners to receive, distribute, and dispense MCMs through a broad range of technical assistance activities funded through SNS appropriations. These activities include:

- developing and delivering program guidance, informational documents, and IT systems;
- training for MCM response activities through a catalog of on-site, invitational travel, online, or mixed medium opportunities for efficient and effective development of federal, state, and local responders;
- planning and reviewing programs by SNS subject matter experts (SMEs);
- consulting for federal, state and local emergency response exercises including consulting on advance planning, simulations with SNS containers and products, full scale implementation, and evaluation
- establishing and strengthening public-private partnerships to integrate private resources into public health response plans for effective dispensing of SNS MCMs; and
- providing timely, accurate and relevant information to clinicians to respond to emerging threats and public health emergencies.

CDC is continuing to evaluate more effective measures of readiness to deploy subject matter experts for direct on site assistance in medical logistics and supply chain management during a public health emergency. Measure 13.4.5 reflects a target of 15 responder teams which is the number required to support maximum deployment and rest rotations for simultaneous responses in multiple jurisdictions across the country. The result for this measure reflects the total number of teams that could be supplied by deployment-ready volunteers who have been medically cleared, trained, and evaluated to be capable of performing the assigned positions. In FY 2015,

In April 2015, CDC deployed 50 vials of botulinum antitoxin to the Ohio Department of Health in just over 10 hours for the treatment of 18 cases of botulism reported in an outbreak of the foodborne illness. Ohio state epidemiology, surveillance, and medical countermeasure planning staff worked together to quickly and safely distribute the antitoxin to several hospitals within the region where patients were transferred; resulting in timely treatment of exposed individuals.

CDC exceeded the target requirement by seven teams, reflecting an increasing number of staff volunteering to deploy in support of state and local public health partners during an emergency. This situation provides CDC with added flexibility, but does not alter the number of required deployable teams. As CDC evaluates alternative methods to measure the readiness of SNS staff to respond to emerging threats, the current measure and target will be maintained through FY 2017.

Inventory accuracy is critical to CDC's ability to account for the \$6.5 billion-worth of medical countermeasures

stockpiled in the SNS. CDC has exceeded its target since FY 2010 at or above the 97 percentile (Measure 13.4.6); however this measure captures errors in product shelving and relocation within storage locations, such that it is very sensitive to warehouse operations and processes. Warehousing errors involving a small quantity of high value MCMs may result in an error rate of more than one percent and a potential inability to continuously exceed 99% accuracy from year to year. Ongoing enhancements to the SNS automated inventory management system will better equip CDC to sustain and increase inventory accuracy. This series of enhancements are projected to be completed in FY 2016. Goals include increased automation and reporting capabilities, reduced manual entries, and increased efficiency and productivity for system users. CDC will evaluate the effectiveness and utility of system enhancements through the implementation phase, and again in FY 2017, following the completion of the project. Additionally, CDC has engaged with the Institutes of Medicine (IOM) to review SNS distribution systems and other important components of SNS operations. This review may result in the identification of opportunities to improve the SNS processes and infrastructure which impacts this measure.

Working Capital Fund

Performance Measures for Working Capital Fund.

Measure	Most Recent Result	FY 2016 Target	FY 2017 Target	FY 2017 +/- FY 2016
15.2.2: Maintain the percent of invoices paid on time (Efficiency)	FY 2015: 99.7% (Target Exceeded)	98%	98%	Maintain
15.5.1: Reduce the variance between annual revenues and annual costs (Efficiency)	FY 2015: 3% (Target Not Met)	1%	1%	Maintain
15.5.2: Reduce the variance between estimated and actual cost (Efficiency)	FY 2015: 0.4% (Target Exceeded)	2%	2%	Maintain
15.5.3 Decrease the percent of bills that require correction (Efficiency)	FY 2015: 20% (Target Met)	15%	10%	-5

Performance Trends: CDC's Office of Financial Resources actively supports CDC's goals and customers through fiscal stewardship and financial strategy by providing financial services, budgetary and legislative guidance, and quality assurance. CDC has secured an unqualified audit opinion on the agency's financial statements each year since FY 1999.

Moreover, CDC has maintained a 98% prompt payment level since FY 2008 (Measure 15.2.2), which is pursuant to the U.S. Treasury Department's Prompt Payment rule requiring federal agencies to pay vendors in a timely manner. The Prompt Payment rule assesses late interest penalties against agencies that pay vendors after a payment due date. By paying 99% of invoices on time, CDC successfully limited interest payments to \$5.25 per \$1,000,000 in total payments in FY 2015, a 35% reduction over FY 2014, and a 58% reduction from FY 2013.

In FY 2014, CDC began implementation of the Working Capital Fund (WCF), which aims to achieve greater efficiency and transparency in the provision of Agency-wide business support services. CDC has three associated measures of focus: (1) reduce the variance between annual revenues and annual costs (Measure 15.5.1); (2) reduce the variance between estimated and actual cost (Measure 15.5.2); and (3) decrease the percent of monthly bills that require correction (Measure 15.5.3).

FY 2015 data indicates that, while the WCF remained solvent by collecting more revenue than costs incurred, the annual variance between revenue and cost increased from one percent (FY 2014 baseline) to three percent (Measure 15.5.1). Currently, CDC estimates costs for business service support 18 months prior to final obligations being made. Because CDC is still building trend data, its FY 2014 baseline could be an outlier when considered with broader trend data. Therefore, CDC established targets aligned with its baseline of one percent but absent trend data. Once FY 2016 results become available in December 2016, CDC will analyze its trend data and re-assess targets.

In measuring performance from a Center, Institute, Office (CIO) perspective, the original cost estimate varied 0.4 percent from the actual costs charged (Measure 15.5.2) in FY 2015. While this suggests the WCF has the ability to accurately forecast costs, targets remain above baseline (0.5 percent) as CDC does not yet have enough data to establish a trend and better inform targets. Due to continued process improvements, CDC met the target of correcting 20% of monthly bills (Measure 15.5.3). Improved performance is expected in future years as the data owners become more proficient in submitting data consistently. CDC expects its data systems will continue to be refined as implementation moves forward and, as a result, it is likely that the measures will similarly evolve.

FY 2017 DISCONTINUED MEASURES TABLE

Measure 3.3.2a: Reduce the incidence (per 100,000 population) of healthcare associated invasive Methicillin-resistant *Staphylococcus aureus* (MRSA) infections (Outcome)

FY	Target	Result
2016	Discontinued	Nov 30, 2017
2015	10.83	Nov 30, 2016
2014	12.18	17.3 (Target not met but improved)
2013	13.53	18.28 (Target Exceeded)
2012	Set Baseline	18.74 (Baseline)
2011	N/A	20.06 (Historical Actual)
2010	N/A	21.76 (Historical Actual)

Measure 3.3.2a is being retired and replaced with a measure that provides more useful data, depicting a more accurate and focused national estimated rate of healthcare associated MRSA bacteremia infections, which is the most common type of invasive MRSA infection. The revised measure will incorporate National Healthcare Safety Network (NHSN) data into the reporting and is consistent with the measures and targets that have been put forth in the HHS Action Plan to Prevent Healthcare-Associated Infections (HAIs).

Measure ID 3.4.2: Increase the proportion of applicants for U.S. immigration screened for tuberculosis by implementing revised tuberculosis technical instruction (TBTI). (Outcome)

FY	Target	Result
2016	Discontinued	N/A
2015	100%	100%
2014	85 %	98% (Target Exceeded)
2013	72 %	84 % (Target Exceeded)
2012	70 %	78 % (Target Exceeded)
2011	55 %	68 % (Target Exceeded)
2010	50 %	60 % (Target Exceeded)

CDC's TBTI measure is being retired in FY 2015 as its target of 100% of applicants for U.S. immigration screened for tuberculosis has been achieved. It is being replaced a new measure: "Increase the proportion of U.S.-bound refugees with at least one dose of age-appropriate routine vaccinations." Improving refugee vaccination is a key public health priority for CDC.

Measure 4.6.2: Reduce per capita cigarette consumption in the U.S. per adult age 18+ (Outcome)

FY	Target	Result
2015	Discontinued	N/A
2014	986	1,071 (Target Not Met but Improved)
2013	1,062	1,129 (Target Not Met but Improved)
2012	1,150	1,196 (Target Not Met but Improved)
2011	1,232	1,232 (Target Met)
2010	1,511	1,278 (Target Exceeded)

A major conclusion of the 50th anniversary Surgeon General's Report released in 2014 was that "the burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden." CDC replaced measure 4.6.2 with the FY 2014-FY 2015 APG measure (4.6.2a), a more comprehensive measure of tobacco consumption.

Measure ID 4.11.3: Increase the proportion of the diabetic population with an A1c value less than 7%. (Outcome)

FY	Target	Result
2016	Discontinued	N/A
2014	55.6 %	Dec 31, 2016
2012	54.6 %	48.2 % (Target Not Met)

Scientific experts are examining if a specific A1c value of 7% is appropriate for all of the diabetic population as an indication of glycemic control. Therefore, this measure is being replaced with a more representative measure of diabetes management, aiming to improve A1c, blood pressure, cholesterol, and smoking cessation in adults with diabetes.

Measure 6.K: Number of states in which the Healthy Housing/Lead Poisoning Surveillance System (HHLPPSS) has been deployed. (Output)

FY	Target	Result
2016	Discontinued	N/A
2015	23	23 (Target Met)
2014	18	21 (Target Exceeded)
2013	18	20 (Target Exceeded)
2012	Set Baseline	18 (Baseline)

FY	Target	Result
2011	N/A	17 (Historical Actual)

The current FOA focuses on lead surveillance and targeted interventions, but it does not require health departments to use the HHLPPS. CDC has replaced this budget output measure with a program performance measure to better align with the FOA's required activities and reporting.

Measure ID 8.A.E.1: Reduce the number of months from the end of data collection to data release on the internet (Outcome and Efficiency)

FY	Target	Result
2016	Discontinued	N/A
2015	Discontinued	N/A
2014	Discontinued	N/A
2013	Discontinued	N/A
2012	9.4	Mar. 1, 2016
2011	9.5	17 (Target Not Met)

Measure 8.A.E.1 is an average of timeliness for all NCHS data collection systems, and thus depended on all systems releasing data in a timeframe that allowed for reporting. This resulted in no new data to report for two fiscal years as data from some surveys were delayed due to changes in data collection methods. By replacing with a measure on vital statistics (mortality, natality) timeliness, CDC expects to have results for updating on an annual basis.

Measure 8.B.3.2: Increase the percentage of public health and clinical laboratory professionals who improve laboratory policies and practices as a result of participating in CDC laboratory training workshops (Outcome)

FY	Target	Result
2016	Discontinued	N/A
2015	75.0 %	79.3%
2014	70.0 %	73.8% (Target Exceeded)
2013	55.0 %	64.2 % (Target Exceeded)
2012	Set Baseline	58.0 % (Baseline)
2011	N/A	56.0 % (Historical Actual)

Measure 8.B.3.2 is based on CDC's hands-on-training activities. However, CDC has expanded its laboratory training activities to include all formats of online and classroom based training activities. CDC proposes to replace this measure with Measure 8.B.3.2a, which allows for more significant reporting on training impact.

Measure 9.1.1: Increase the effectiveness of the implementation of the recommendations from the National Academies reviews (Outcome)

FY	Target	Result
2016	100% of the [7] evaluated CDC NIOSH programs will receive a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews.	100% of the [7] evaluated CDC NIOSH programs will receive a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews. (In Progress)
2014	100% of the [7] evaluated CDC NIOSH programs will receive a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews. (In Progress)	100% of the [7] evaluated CDC NIOSH programs received a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews. (In Progress)
2012	50% of the [8] evaluated CDC NIOSH programs will receive a score of 2 out of 5 or better, and 50% of these will receive a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews. ⁵⁴⁶	100% of the [7] evaluated CDC NIOSH programs received a score of 4 out of 5 or better based on an external review of their progress implementing recommendations from their National Academies reviews. (Target Exceeded)
2010	Develop implementation plans in response to National Academies recommendations	Develop implementation plans in response to National Academies recommendations (Target Met) (Target Met)

This measure has come to its natural conclusion. The National Academies reviews were conducted in 2005-2008, and NIOSH has spent much of the last decade responding to the recommendations. Beginning in FY 2017, a new round of reviews will commence. NIOSH will broaden the reviews to at least 10 programs.

Measure 9.1.2a: Increase the number of research and intervention projects that were based on surveillance information (Output)

FY	Target	Result
2016	Discontinued	Jun 30, 2017
2015	Increase the number of research and intervention projects that were based on surveillance information (Output)	Jun 30, 2016
2014	130	181 (Target Exceeded)
2013	130	170 (Target Exceeded)
2012	Evaluate the role that tracking information had in designing research and intervention projects	129 (Target Met)
2011	Evaluate the role that tracking information had in designing research and intervention projects	121 (Target Met)

⁵⁴⁶ The result reflects a correction to the FY 2015 President's Budget.

FY	Target	Result
2010	Evaluate the role that tracking information had in designing research and intervention projects	163 research and intervention projects were based on surveillance information (Target Met)
2009	Evaluate the role that tracking information had in designing research and intervention projects	189 research and intervention projects were based on tracking information (Target Met)

This measure no longer reflects NIOSH's approach to the selection of research projects and evaluations. While CDC tracks significant milestones for its research to ensure effective project management, CDC will not include these milestones as formal performance measures but will continue to highlight significant accomplishments achieved through its research.

Measure 9.1.2b: Increase the number of projects that use surveillance information to demonstrate the success of NIOSH research (Output)

FY	Target	Result
2016	Discontinued	Jun 30, 2017
2015	Increase the number of projects that use surveillance information to demonstrate the success of NIOSH research (Output)	Jun 30, 2016
2014	57	69 (Target Exceeded)
2013	55	71 (Target Exceeded)
2012	B) Identify the role that follow-up tracking information can have in assessing the success of interventions.	55 (Target Met)
2011	B) Identify the role that follow-up tracking information can have in assessing the success of interventions.	57 (Target Met)
2010	B) Identify the role that follow-up tracking information can have in assessing the success of interventions.	52 intervention projects used surveillance information to demonstrate the success of intervention strategy (Target Met)
2009	Identify the role that follow-up tracking information can have in assessing the success of interventions	51 intervention projects used tracking information to demonstrate the success of intervention strategy (Target Met)

This measure no longer reflects NIOSH's approach to the selection of research projects and evaluations. While CDC tracks significant milestones for its research to ensure effective project management, CDC will not include these milestones as formal performance measures but will continue to highlight significant accomplishments achieved through its research.

Measure 9.2.2a: Reduce rate of non-fatal workplace injuries among youth ages 15-17 (Outcome)

FY	Target	Result
2016	Discontinued	Dec 31, 2016

FY	Target	Result
2015	3.7	3.5 (Target Exceeded)
2014	3.7	3.5 (Target Exceeded)
2013	4.2	3.8 (Target Exceeded)
2012	4.2	3.7 (Target Exceeded)
2011	4.2	3.3 (Target Exceeded)
2010	4.2	3.8 (Target Exceeded)
2009	4.4	4.2 (Target Exceeded)

Changes in this rate are subject to economic and other external factors beyond the control of NIOSH. Injury rates for youth are driven, in part, by the recent recession, which has resulted in lower employment rates for young workers. NIOSH will take a broader approach to increase awareness and basic knowledge of workplace safety and health among a variety of new workers. For example, the Safe-Skilled-Ready initiative promotes eight core competencies among workers before they join the U.S. workforce for the first time or start a new job so they have the skills they need to stay safe on the job and to contribute to a safe, healthy, and productive workplace.

Measure 9.2.3a: Percent reduction in respirable coal dust overexposure (Outcome)

FY	Target	Result
2016	Discontinued	Dec 31, 2016
2015	55%	72%
2013	N/A	65%
2012	N/A	57%
2009	30%	27%

The Mine Safety and Health Administration (MSHA) published a new regulation that will lower the permissible level of respirable coal mine dust exposure to 1.5 mg/m³ on August 1, 2016. This rule also significantly changes the instrumentation and methodology for how dust levels will be measured. Such large changes require the development of a new performance metric in order to realistically monitor the progress of the dust control research program. Historically, the longwall tailgate shearer operator occupation has had the greatest percentage of samples that exceeded the 2.0 mg/m³ dust standard. It is anticipated that this same occupation will have the greatest difficulty in complying with the 1.5 mg/m³ dust standard.

Measure 10.B.1.2: Increase the number of children reached with Oral Polio Vaccine (OPV) as a result of non-vaccine operational support funding provided to implement OPV mass immunization campaigns in Asia, Africa, and Europe (Output)

FY	Target	Result
2016	Discontinued	N/A
2015	Discontinued	N/A

FY	Target	Result
2014	55,000,000	10,079,874
2013	55,000,000	7,241,657 (Target Not Met)
2012	51,400,000	18,741,507 (Target Not Met)

Per Objective 2 of the Global Polio Eradication Initiative (GPEI) Endgame, the composition of the global supply of polio vaccine will change starting in CY 2015. One dose of inactivated polio vaccine (IPV) is being introduced in the national immunization schedules of GAVI-eligible countries in FY 2015-FY 2016. In CY 2016, trivalent Oral Polio Vaccine (OPV) will be withdrawn and replaced with bivalent OPV.

Measure 10.C.3: Increase the percentage of women who have received two or more doses of intermittent preventive treatment during pregnancy (IPTp) among women that have completed a pregnancy in the last two years. (Outcome)

FY	Target	Result
2015	Discontinued	N/A
2014	85 % (median)	29% (median) (Target Not Met)
2013	85 % (median)	25 % (median) (Target Not Met)
2012	85 % (median)	39 % (median) (Target Not Met but Improved)

In 2012, the global recommendation for IPTp during pregnancy changed from two or more doses during pregnancy to multiple doses delivered monthly. Baseline coverage data related to the new recommendation does not exist, and as of 2015, there are no plans to revise the survey tools to collect information on the new monthly recommended doses.

12.1.1: Maintain Earned Value Management (EVM) index values of one for capital and repair/repair/improvement projects based on scope, schedule, and cost. (Output)

FY	Target	Result
2016	Discontinued	Dec 31, 2016
2015	1.00±0.08	1.00 (Target Exceeded)
2014	1.00±0.08	1.00 (Target Exceeded)
2013	1.00±0.08	1.02 (Target Exceeded)
2012	1.00±0.08	1.02 (Target Exceeded)
2011	N/A	1.01 (Target Exceeded)

Measure 12.1.1 does not meet the primary reason for its use: a Long-Term Objective for improving CDC's processes and performance. As a former Key Performance Indicator (KPI), the measure plateaued years ago and is actually not appropriate for the projects executed within CDC.

12.2.1a: Improve work order closure rates. (Output)

FY	Target	Result
2016	Discontinued	Dec 31, 2016
2015	91 %	93 % (Target Exceeded)
2014	91 %	93 % (Target Exceeded)
2013	91 %	93 % (Target Exceeded)
2012	91 %	93 % (Target Exceeded)
2011	91 %	94 % (Target Exceeded)

Measure 12.2.1a is a transactional metric and is not reflective in any way of a Long-Term Objective to improve CDC's processes and performance.

Measure ID 12.E.2b: Increase the percent of CDC facilities (5,000 square feet and above) that meet the Guiding Principles for High Performance and Sustainable Federal Buildings ⁵⁴⁷ (Efficiency) (No. of Buildings)

FY	Target	Result
2017	Discontinued	N/A
2016	17%	N/A
2015	15%	9.7% (Target Not Met)
2014	9.4%	8.2% (Target Not Met)
2013	N/A	6.6% (Target Not Met)

HHS stopped the requirement to quantify this metric by number of buildings. CDC instead will continue to measure the percentage of Guiding Principle compliant facilities using square footage.

Measure 13.1.1a: Increase the proportion of jurisdictions contributing data into BioSense 2.0 to improve the national picture of population health. (Output)

FY	Target	Result
2016	Discontinued	Dec 31, 2016
2015	84.0%	68% (Target Exceeded)
2014	71.0%	68.0% (Target Not Met but Improved)
2013	51.0%	65.0% (Target Exceeded)

⁵⁴⁷ Per the HHS Sustainable Buildings Plan this calculation is based on square footage.

FY	Target	Result
2012	38.0%	57.0% (Target Exceeded)
2011	N/A	13.0% (Historical Actual)
2010	N/A	13.0% (Historical Actual)

Measure 13.1.1a is being retired and replaced with a measure that better reflects activities towards increasing the utility and value of the National Syndromic Surveillance Program (NSSP) and its platform by increasing the representativeness of data captured within the platform. This new measure will provide a more robust reflection of the key initiatives of the CDC Surveillance Strategy.

CDC CONTRIBUTIONS TO HHS PERFORMANCE

The FY 2017 HHS Performance Plan includes a total of 22 CDC-associated measures. CDC contributes measures to four FY 2016–2017 federal Agency Priority Goals, leveraging its expertise in surveillance and promotion of evidence-based practices. CDC leads key activities for 19 measures in the FY 2014-FY 2018 HHS Strategic Plan.

CDC contributions to Agency Priority Goals, FY 2016- 2017

CDC Component	Program	Measure	HHS SP
National Center for Emerging and Zoonotic Infectious Diseases	Food Safety	By December 31, 2017, working with federal, state, local, tribal, and industry partners, improve preventive controls in food production facilities and reduce the incidence rate (reported cases per 100,000 population per year) of Listeria monocytogenes (Lm) infections by 8%. ¹	3.E
National Center for Chronic Disease Prevention and Health Promotion	Tobacco	By December 31, 2017, reduce the annual adult combustible tobacco consumption in the United States from 1,277 cigarette equivalents per capita to 1,127 cigarette equivalents per capita, which will represent an approximate 12% decrease from the 2013 baseline (CDC GPRA measure 4.6.2a) ¹ .	3.D
National Center for Emerging and Zoonotic Infectious Diseases	Healthcare Associated Infections/Antibiotic Resistance	Increase the percent of hospitals that report implementation of antibiotic stewardship programs that comply with all of the CDC Core Elements for Hospital Antibiotic Stewardship Programs by 50% (CDC GPRA measure 3.2.5)	1.B
National Center for Injury Prevention and Control	Opioid/Prescription Drugs	By September 30th, 2017, address opioid-related overdose death and opioid use disorder through the three priority areas of reforming opioid prescribing practices, increasing the use of naloxone, and expanding access to and use of MAT for opioid use disorders. ¹	3.D

¹CDC contributes to these shared goals but does not lead them.

CDC contributions to the FY 2017 HHS Performance Plan

CDC Component	Program	Measure	HHS SP
National Center for Emerging and Zoonotic Infectious Diseases	National Health Care Safety Network and Healthcare-Associated Infections	Reduce the central line-associated bloodstream infection (CLABSI) standardized infection ratio (3.3.3)	1.B
National Center for Emerging and Zoonotic Infectious Diseases	National Health Care Safety Network and Healthcare-Associated Infections	Increase the number of hospitals and other selected health care settings that report into the National Healthcare Safety Network (3.3.4)	1.B
National Center for Chronic Disease Prevention and Health Promotion	Coordinated Chronic Disease Grant	Increase the proportion of adults who engage in leisure time physical activity (4.11.9)	1.C
Office of Surveillance, Epidemiology, and Laboratory Services	Laboratory	Increase the percentage of public health agencies that can receive production Electronic Laboratory Reporting (ELR) Meaningful Use-compliant messages from certified Electronic Health Record (EHR) technology used by eligible hospitals (8.B.1.3a)	1.F
Office of Surveillance, Epidemiology, and Laboratory Services	Epidemiology	Increase monitoring of awareness and use of the Guide to Community Preventive Services, and Task Force findings and recommendations (8.B.2.5)	2.D
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	Domestic HIV/AIDS prevention and research	Increase the number of states that report all CD4 and HIV viral load values for surveillance purposes (2.2.4)	2.E
Office of Surveillance, Epidemiology, and Laboratory Services	Public Health Workforce and Career Development	Increase the number of CDC trainees in state, tribal, local, and territorial public health agencies (8.B.4.2)	2.E
Center for Global Health	Field Epidemiology and Laboratory Training and sustainable Management Development	Increase epidemiology and laboratory capacity within global health ministries through the Field Epidemiology (and Laboratory) Training Program (FELTP) (10.F.1a-b)	2.E
National Center for Chronic Disease Prevention and Health Promotion	Tobacco	Reduce the proportion of adolescents (grades 9-12) who are current cigarette smokers (4.6.5)	3.D
National Center for Chronic Disease Prevention and Health Promotion	Tobacco	Reduce the proportion of adults (aged 18 and over) who are current cigarette smokers (4.6.3)	3.D
National Center for Immunization and Respiratory Diseases	Immunization (Section 317)	Sustain immunization coverage of at least 90% in children 19 to 35 months of age for one dose of MMR vaccine (1.2.1c)	3.E

CDC Component	Program	Measure	HHS SP
National Center for Immunization and Respiratory Diseases	Immunization (Section 317)	Increase the percentage of adults aged 18 years and older who are vaccinated annually against seasonal influenza (1.3.3a)	3.E
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	Domestic HIV/AIDS prevention and research	Reduce the proportion of persons with an HIV diagnosis at later stages of disease within three months of diagnosis (2.1.8)	3.E
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention	Tuberculosis	Decrease the rate of cases of TB among U.S.-born persons (per 100,000 population) (2.8.1)	3.E
National Center for Emerging and Zoonotic Infectious Diseases	National Health Care Safety Network and Healthcare-Associated Infections	Reduce invasive healthcare-associated Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) infections (3.3.2b)	3.E
Center for Global Health	Global HIV/AIDS	Increase the number of adults and children with advanced HIV infection receiving antiretroviral therapy (10.A.1.5)	3.E
Office of Public Health Preparedness and Response	Division of State and Local Readiness	Increase the percentage of public health agencies that directly receive CDC Public Health Emergency Preparedness funding that can convene within 60 minutes of notification a team of trained staff that can make decisions about appropriate response and interaction with partners (13.5.3)	3.F
Office of Surveillance, Epidemiology, and Laboratory Services	Epidemiology	Increase the electronic media reach of CDC Vital Signs through use of mechanisms such as the CDC website and social media outlets, as measured by page views, social media followers, and texting and email subscribers (8.B.2.2)	4.B

SUPPLEMENTARY TABLES

OBJECT CLASS TABLE – DIRECT

(dollars in thousands)	FY 2016 Enacted	FY 2017 Request	FY 2017 +/- FY 2016
Personnel Compensation:			
Full-Time Permanent(11.1)	\$780,264	\$792,755	\$12,491
Other than Full-Time Permanent (11.3)	\$109,625	\$111,379	\$1,754
Other Personnel Comp. (11.5)	\$37,230	\$37,826	\$596
Military Personnel (11.7)	\$74,056	\$75,241	\$1,185
Special Personal Service Comp. (11.8)	\$6,794	\$6,821	\$27
Total Personnel Compensation	\$1,007,968	\$1,024,021	\$16,053
Civilian personnel Benefits (12.1)	\$295,197	\$299,920	\$4,723
Military Personnel Benefits (12.2)	\$50,290	\$51,095	\$805
Benefits to Former Personnel (13.0)	\$576	\$585	\$9
Subtotal Pay Costs	\$1,354,030	\$1,375,621	\$21,590
Travel (21.0)	\$52,312	\$53,253	\$942
Transportation of Things (22.0)	\$12,116	\$12,334	\$218
Rental Payments to GSA (23.1)	\$31,622	\$32,191	\$569
Rental Payments to Others (23.2)	\$1,175	\$1,196	\$21
Communications, Utilities, and Misc. Charges (23.3)	\$50,754	\$51,667	\$914
NTWK Use Data TRANSM SVC (23.8)	\$38	\$39	\$1
Printing and Reproduction (24.0)	\$3,059	\$3,114	\$55
Other Contractual Services (25)	\$1,377,006	\$1,032,433	(\$344,573)
<i>Advisory and Assistance Services (25.1)</i>	<i>\$781,176</i>	<i>\$580,207</i>	<i>(\$145,404)</i>
<i>Other Services (25.2)</i>	<i>\$267,008</i>	<i>\$200,609</i>	<i>(\$66,399)</i>
<i>Purchases from Government Accounts (25.3)</i>	<i>\$303,800</i>	<i>\$315,826</i>	<i>(\$79,148)</i>
<i>Operation and Maintenance of Facilities (25.4)</i>	<i>\$62,119</i>	<i>\$43,467</i>	<i>(\$10,893)</i>
<i>Research and Development Contracts (25.5)</i>	<i>\$52,828</i>	<i>\$41,840</i>	<i>(\$10,485)</i>
<i>Medical Services (25.6)</i>	<i>\$30,895</i>	<i>\$23,152</i>	<i>(\$7,742)</i>
<i>Operation and Maintenance of Equipment (25.7)</i>	<i>\$41,044</i>	<i>\$72,331</i>	<i>(\$18,127)</i>
<i>Subsistence and Support of Persons (25.8)</i>	<i>\$194</i>	<i>\$146</i>	<i>(\$49)</i>
<i>Consultants, other and misc (25.9)</i>	<i>\$25,237</i>	<i>\$18,912</i>	<i>(\$6,324)</i>
Supplies and Materials (26.0)	\$411,202	\$426,828	\$15,626
Equipment (31.0)	\$70,478	\$71,746	\$1,269
Land and Structures (32.0)	\$8,218	\$8,218	\$0
Investments and Loans (33.0)	\$0	\$0	\$0
Grants, Subsidies, and Contributions (41.0)	\$2,897,411	\$2,897,411	\$0
Insurance Claims and Indemnities (42.0)	\$1,297	\$1,297	\$0
Interest and Dividends (43.0)	\$25	\$25	\$0
Refunds (44.0)	\$0	\$0	\$0
Subtotal Non-Pay Costs	\$4,916,715	\$4,591,755	(\$324,960)
Total Budget Authority	\$6,270,745	\$5,967,376	(\$303,369)
Average Cost per FTE			
Civilian FTEs	8,219	8,219	0
Civilian Average Salary and Benefits	\$150	\$152	\$2
Percent change	N/A	2%	N/A
Military FTEs	853	853	0
Military Average Salary and Benefits	\$146	\$148	\$2
Percent change	5%	2%	-3%
Total FTEs¹	9,072	9,072	0
Average Salary and Benefits	\$149	\$152	\$3
Percent change	N/A	2%	N/A

¹ The FY 2017 Congressional Justification reflects 8,219 Direct FTE versus 8,208 FTE in MAX. The above estimates are accurate.

OBJECT CLASS TABLE – REIMBURSABLE

(dollars in thousands)	FY 2016 Enacted	FY 2017 Request
Personnel Compensation:		
Full-Time Permanent(11.1)	\$51,565	\$51,565
Other than Full-Time Permanent (11.3)	\$20,722	\$20,722
Other Personnel Comp. (11.5)	\$5,792	\$5,792
Military Personnel (11.7)	\$9,981	\$9,981
Special Personal Service Comp. (11.8)	\$595	\$595
	Total Personnel Compensation	\$88,655
		\$88,655
Civilian Personnel Benefits (12.1)	\$25,041	\$25,041
Military Personnel Benefits (12.2)	\$8,140	\$8,140
Benefits to Former Personnel (13.0)	\$141	\$141
	Subtotal Pay Costs	\$121,977
		\$121,977
Travel (21.0)	\$22,798	\$22,798
Transportation of Things (22.0)	\$4,367	\$4,367
Rental Payments to GSA (23.1)	\$2,053	\$2,053
Rental Payments to Others (23.2)	\$201	\$201
Communications, Utilities, and Misc. Charges (23.3)	\$2,363	\$2,363
Printing and Reproduction (24.0)	\$263	\$263
Other Contractual Services:		
Advisory and Assistance Services (25.1)	\$122,046	\$122,046
Other Services (25.2)	\$14,036	\$14,036
Purchases from Government Accounts (25.3)	\$74,305	\$74,305
Operation and Maintenance of Facilities (25.4)	\$5,002	\$5,002
Research and Development Contracts (25.5)	\$3,493	\$3,493
Medical Services (25.6)	\$10,061	\$10,061
Operation and Maintenance of Equipment (25.7)	\$10,159	\$10,159
Subsistence and Support of Persons (25.8)	\$0	\$0
Consultants, other and misc (25.9)	\$9,698	\$9,698
	Subtotal Other Contractual Services	\$248,799
		\$248,799
Supplies and Materials (26.0)	\$57,141	\$57,141
Equipment (31.0)	\$7,202	\$7,202
Land and Structures (32.0)	\$0	\$0
Investments and Loans (33.0)	\$0	\$0
Grants, Subsidies, and Contributions (41.0)	\$27,382	\$27,382
Insurance Claims and Indemnities (42.0)	\$20,180	\$20,180
Interest and Dividends (43.0)	\$0	\$0
Refunds (44.0)	\$1,596	\$1,596
	Subtotal Non-Pay Costs	\$394,345
	Total Budget Authority	\$516,322
Reimbursable FTEs	1,743	1,743
Military FTEs	71	71
Total FTEs	1,814	1,814

OBJECT CLASS TABLE – PREVENTION AND PUBLIC HEALTH FUND

(dollars in thousands)	FY 2016 Enacted	FY 2017 Request	FY 2017 +/- FY 2016
Personnel Compensation:			
Full-Time Permanent(11.1)	\$21,855	\$23,133	\$1,278
Other than Full-Time Permanent (11.3)	\$1,748	\$1,850	\$102
Other Personnel Comp. (11.5)	\$608	\$643	\$36
Military Personnel (11.7)	\$1,252	\$1,325	\$73
Special Personal Service Comp. (11.8)	\$10	\$11	\$1
Total Personnel Compensation	\$25,473	\$26,962	\$1,489
Civilian personnel Benefits (12.1)	\$7,655	\$8,102	\$448
Military Personnel Benefits (12.2)	\$626	\$663	\$37
Benefits to Former Personnel (13.0)	\$0	\$0	\$0
Subtotal Pay Costs	\$33,754	\$35,727	\$1,973
Travel (21.0)	\$330	\$349	\$19
Transportation of Things (22.0)	\$56	\$59	\$3
Rental Payments to GSA (23.1)	\$1,318	\$1,396	\$77
Rental Payments to Others (23.2)	\$6	\$7	\$1
Communications, Utilities, and Misc. Charges (23.3)	\$1,435	\$1,519	\$84
NTWK Use Data TRANSM SVC (23.8)	\$0	\$0	\$0
Printing and Reproduction (24.0)	\$11	\$12	\$1
Other Contractual Services:			
Advisory and Assistance Services (25.1)	\$136,796	\$144,794	\$7,998
Other Services (25.2)	\$5,873	\$6,216	\$343
Purchases from Government Accounts (25.3)	\$33,549	\$35,511	\$1,962
Operation and Maintenance of Facilities (25.4)	\$1,478	\$1,565	\$86
Research and Development Contracts (25.5)	\$7,220	\$7,642	\$422
Medical Services (25.6)	\$13	\$14	\$1
Operation and Maintenance of Equipment (25.7)	\$1,893	\$2,004	\$111
Subsistence and Support of Persons (25.8)	\$513	\$543	\$30
Consultants, other and misc (25.9)	\$142	\$151	\$8
Subtotal Other Contractual Services	\$187,478	\$198,439	\$10,961
Supplies and Materials (26.0)	\$56,436	\$59,736	\$3,300
Equipment (31.0)	\$888	\$940	\$52
Land and Structures (32.0)	\$331	\$350	\$19
Investments and Loans (33.0)	\$0	\$0	\$0
Grants, Subsidies, and Contributions (41.0)	\$610,251	\$645,931	\$35,679
Insurance Claims and Indemnities (42.0)	\$4	\$5	\$0
Interest and Dividends (43.0)	\$0	\$0	\$0
Refunds (44.0)	\$0	\$0	\$0
Subtotal Non-Pay Costs	\$858,546	\$908,743	\$50,197
Total Budget Authority	\$892,300	\$944,470	\$52,170
Average Cost per FTE¹			
Civilian FTEs			
Civilian Average Salary and Benefits	\$139	\$147	\$8
Percent change	N/A	6%	N/A
Military FTEs			
Military Average Salary and Benefits	\$94	\$99	\$6
Percent change	N/A	6%	NA
Total FTEs	250	250	0
Total Average Salary²	\$135	\$143	\$5
Percent change	N/A	6%	N/A

¹ PPHF FTEs based on direct hire estimates² PPHF Civilian Avg. Salary only includes partial compensation

SALARIES AND EXPENSES

(dollars in thousands)	FY 2016 Enacted	FY 2017 Budget	FY 2017 +/- FY 2016
Personnel Compensation:			
Full-Time Permanent(11.1)	\$780,264	\$792,755	\$12,491
Other than Full-Time Permanent (11.3)	\$109,625	\$111,379	\$1,754
Other Personnel Comp. (11.5)	\$37,230	\$37,826	\$596
Military Personnel (11.7)	\$74,056	\$75,241	\$1,185
Special Personal Service Comp. (11.8)	\$6,794	\$6,821	\$27
Total Personnel Compensation	\$1,007,968	\$1,024,021	\$16,053
Civilian personnel Benefits (12.1)	\$295,197	\$299,920	\$4,723
Military Personnel Benefits (12.2)	\$50,290	\$51,095	\$805
Benefits to Former Personnel (13.0)	\$576	\$585	\$9
Subtotal Pay Costs	\$1,354,030	\$1,375,621	\$21,590
Travel (21.0)	\$52,312	\$53,253	\$942
Transportation of Things (22.0)	\$12,116	\$12,334	\$218
Rental Payments to Others (23.2)	\$1,175	\$1,196	\$21
Communications, Utilities, and Misc. Charges (23.3)	\$50,754	\$51,667	\$914
Printing and Reproduction (24.0)	\$3,059	\$3,114	\$55
Other Contractual Services:	\$1,351,769	\$1,013,521	(-\$344,573)
Advisory and Assistance Services (25.1)	\$580,207	\$434,803	(\$145,404)
Other Services (25.2)	\$267,008	\$200,609	(\$66,399)
Purchases from Government Accounts (25.3)	\$315,826	\$236,678	(\$79,148)
Operation and Maintenance of Facilities (25.4)	\$43,467	\$32,574	(\$10,893)
Research and Development Contracts (25.5)	\$41,840	\$31,355	(\$10,485)
Medical Services (25.6)	\$30,895	\$23,152	(\$7,742)
Operation and Maintenance of Equipment (25.7)	\$72,331	\$54,204	(\$18,127)
Subsistence and Support of Persons (25.8)	\$194	\$146	(\$49)
Supplies and Materials (26.0)	\$411,202	\$426,828	\$15,626
Subtotal Non-Pay Costs	\$1,882,388	\$1,561,914	(-\$320,473)
Rental Payments to GSA (23.1)	\$31,622	\$32,191	\$569
Total, Salaries & Expenses and Rent	\$3,268,040	\$2,969,726	(-\$298,883)
Direct FTE¹	9,072	9,072	0

¹ The FY 2017 Congressional Justification reflects 9,072 Direct FTE versus 9,062 FTE in MAX. The above estimates are accurate.

DETAIL OF FULL-TIME EQUIVALENT EMPLOYMENT (FTE)^{1,2}

	FY 2015 Civilian	FY 2015 CC	FY 2015 Total	FY 2016 Civilian	FY 2016 CC	FY 2016 Total	FY 2017 Civilian	FY 2017 CC	FY 2017 Total
Immunization and Respiratory Diseases	592	60	652	592	60	652	592	60	652
Direct	590	60	625	590	60	625	590	60	625
Reimbursable	2	-	2	2	-	2	2	-	2
HIV/AIDS, Viral Hepatitis, STI and TB Prev.	1,053	97	1,150	1,053	97	1,150	1,053	97	1,150
Direct	1,047	95	1,142	1,047	95	1,142	1,047	95	1,142
Reimbursable	6	2	6	6	2	6	6	2	6
Emerging and Zoonotic Infectious Diseases	962	137	1,099	975	137	1,112	975	137	1,112
Direct	916	132	1,048	929	135	1,061	929	135	1,061
Reimbursable	46	5	51	46	5	51	46	5	51
Chronic Disease Prevention and Health Promotion	844	85	929	844	85	929	844	85	929
Direct	828	84	912	828	84	912	828	84	912
Reimbursable	16	1	17	16	1	17	16	1	17
Birth Defects, Developmental Disabilities, Disability and Health	193	8	201	193	8	201	193	8	201
Direct	193	8	201	193	8	201	193	8	201
Reimbursable	-	-	-	-	-	-	-	-	-
Environmental Health	407	41	448	407	41	448	407	41	448
Direct	354	32	386	354	32	386	354	32	386
Reimbursable	53	9	62	53	9	62	53	9	62
Injury Prevention and Control	219	22	241	228	22	250	228	22	250
Direct	218	22	240	227	22	249	227	22	249
Reimbursable	1	-	1	1	-	1	1	-	1
Public Health Scientific Services	885	99	984	885	99	984	885	99	984
Direct	813	97	910	813	97	910	813	97	910
Reimbursable	72	2	74	72	2	74	72	2	74
Occupational Safety and Health	1,025	97	1,122	1,025	97	1,122	1,025	97	1,122
Direct	1,022	96	1,188	1,022	96	1,188	1,022	96	1,188
Reimbursable	3	1	4	3	1	4	3	1	4
Global Health	925	152	1,077	925	152	1,077	925	152	1,077
Direct	872	129	1,001	872	129	1,001	872	129	1,001
Reimbursable	53	23	76	53	23	76	53	23	76
Public Health Preparedness and Response	545	80	625	545	80	625	545	80	625
Direct	543	80	623	543	80	623	543	80	623
Reimbursable	2	-	2	2	-	2	2	-	2
Cross-Cutting Activities and Program Support	2,289	47	2,336	2,290	46	2,336	2,290	46	2,336
Direct	800	19	819	801	18	819	801	18	819
PHLS	800	19	819	801	18	819	801	18	819
BSS	-	-	-	-	-	-	-	-	-
Reimbursable	1,489	28	1,517	1,489	28	1,517	1,489	28	1,517
PHLS	3	-	3	3	-	3	3	-	3
BSS	1,486	28	1,514	1,486	28	1,514	1,486	28	1,514
CDC Total	9,939	925	10,864	9,962	924	10,886	9,962	924	10,886
CDC Direct Total	8,196	854	9,050	8,219	853	9,072	8,219	853	9,072
CDC Reimbursable Total	1,743	71	1,814	1,743	71	1,814	1,743	71	1,814

¹ CDC FTE only. Excludes ATSDR.² The FY 2017 Congressional Justification reflects 10,886 FTE versus 10,876 FTE in MAX. The above estimates are accurate.

DETAIL OF POSITIONS^{1,2,3}

(dollars in millions)	FY 2015 Actual	FY 2016 Base	FY 2017 Budget
Executive Level⁴			
Executive level I			
Executive level II			
Executive level III			
Executive level IV			
Executive level V			
Subtotal			
Total-Executive Level Salary			
ES-6			
ES-5			
ES-4			
ES-3			
ES-2			
ES-1			
Total - SES	35	30	30
Total - SES Salary	\$5,417,019	\$5,326,955	\$5,338,765
GS-15	718	673	653
GS-14	1,979	1,910	1,851
GS-13	2,890	2,773	2,725
GS-12	1,550	1,457	1,477
GS-11	869	814	794
GS-10	52	50	47
GS-9	473	447	461
GS-8	54	45	48
GS-7	345	382	379
GS-6	55	50	52
GS-5	191	242	238
GS-4	34	18	14
GS-3	21	7	5
GS-2	3	1	1
GS-1	0	0	0
Subtotal	9,234	8,869	8,745
Total - GS Salary	\$829,970,857	\$939,303,100	\$875,692,928
Average ES level			
Average ES salary			
Average GS grade	12.0	12.0	12.0
Average GS salary	89,882	105,909	100,136
Average Special Pay Categories			
Average Comm. Corps Salary	86,751	94,761	99,480
Average Wage Grade Salary	53,511	61,994	62,180

1 Includes special pays and allowances

2 Totals do not include reimbursable FTEs

3 This table reflects "positions" not full-time equivalent(s) (FTEs)

4 Executive level data not available

PROGRAMS PROPOSED FOR ELIMINATION

The following table shows the programs proposed for elimination in the President's FY 2017 Budget request. The Budget prioritizes health programs that have a demonstrated record of success or that hold significant promise for increasing accountability and improving health outcomes. Following the table is a brief summary of each program and the rationale for its elimination.

Program	FY 2016 Enacted Level (in millions)
Preventive Health and Health Services Block Grant	\$160.0
Occupational Safety and Health – Education and Research Centers	\$28.5
Occupational Safety and Health—Agriculture, Forestry, and Fishing	\$25.0
Prostate Cancer	\$13.2
Academic Centers for Public Health Preparedness	\$8.2
Chronic Fatigue Syndrome	\$5.4
Total Reduction Amount	\$240.3

Preventive Health and Health Services Block Grant (-\$160.0 million)

The FY 2017 budget request eliminates the Preventive Health and Health Services Block Grant (PHHSBG). These activities may be more effectively and efficiently implemented through the State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health program, which provides resources to states to coordinate activities across categorical funding streams. When the PHHSBG was first authorized in 1981, there were minimal resources within CDC's budget allocated for categorical programs such as heart disease, diabetes, immunizations, and obesity, and many states did not receive funding from CDC to support prevention of chronic disease. However, since 1981, categorical programs at CDC have grown and can better address these public health threats. Elimination of this program provides an opportunity to find savings, while expanding core public health activities for other CDC priorities.

Occupational Safety and Health – Education and Research Centers (-\$28.5 million)

The FY 2017 budget request eliminates funding for Education and Research Centers (ERCs). Originally created almost 40 years ago, the ERC program has addressed the limited number of academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The ERCs' reach and impact have grown substantially across the nation since the program's inception, increasing awareness of the importance of coursework specializing in these areas. Although the budget does not include funding for the federal portion of these grants, CDC will continue to provide scientific and programmatic expertise to the ERCs as requested.

Occupational Safety and Health—Agriculture, Forestry, and Fishing (-\$25.0 million)

The FY 2017 Budget request eliminates funding for the National Occupational Research Agenda (NORA) Agriculture, Forestry, and Fishing (AgFF) sector. Although this program has made positive contributions, given the relation to CDC's mission and the ability to have a national impact on improved outcomes, the AgFF has been proposed for elimination in a limited-resource environment.

Prostate Cancer (-\$13.2 million)

The FY 2017 budget request eliminates funding for prostate cancer activities. While the evidence on prostate cancer screening remains unclear, CDC has conducted extensive research and developed materials to help doctors better communicate with their patients about informed decision making related to prostate cancer

screening and treatment. The proposed elimination will not impact CDC's ability to collect data on national prostate cancer incidence through the National Program of Cancer Registries.

Academic Centers for Public Health Preparedness (-\$8.2 million)

The FY 2017 budget request reflects the elimination of the Academic Centers for Public Health Preparedness. CDC will continue to support research and training for public health preparedness through the public health preparedness and response research agenda. Eliminating funding for these centers allows CDC to prioritize funding for state and local health departments through the Public Health Emergency Preparedness (PHEP) cooperative agreement.

Chronic Fatigue Syndrome (-\$5.4 million)

The FY 2017 budget request reflects the elimination for Chronic Fatigue Syndrome (CFS). The goal of CDC's current CFS program is to develop tools to gather and analyze surveillance data and to educate clinicians and the population based on the results of evidence-based studies. Over the past five years, NIH has been funded at a similar level to conduct biomedical research on CFS. CFS affects between one and four million people in the US, and this funding could be used to have a greater programmatic impact across CDC.

CDC FULL TIME EQUIVALENTS FUNDED BY THE AFFORDABLE CARE ACT

(dollars in millions)	ACA Sec.	2013 Total	2013 FTEs	2014 Total	2014 FTEs	2015 Total	2015 FTEs	2016 Total	2016 FTEs	2017 Total	2017 FTEs
PPHF Program^{1,2}											
Healthcare-associated Infections (HAI)	4002	\$11.8	0.0	\$12.0	6.4	\$12.0	6.4	\$12.0	6.4	\$12.0	6.4
Million Hearts	4002	\$4.6	0.3	\$4.0	2.1	\$4.0	2.1	\$4.0	2.1	\$4.0	2.1
National Early Care Collaboratives	4002	\$0.0	0.0	\$4.0	1.0	\$4.0	1.0	\$4.0	1.0	\$4.0	1.0
Public Health Workforce	4002	\$15.6	91.0	\$0.0	0.0	\$0.0	0.0	\$0.0	0.0	\$36.3	236.0
Total		\$32.0	91.3	\$20.0	9.5	\$20.0	9.5	\$20.0	9.5	\$56.3	245.5

¹Excludes employees or contractors who: Are supported through appropriations enacted in laws other than PPACA and work on programs that existed prior to the passage of PPACA; Spend less than 50% of their time on activities funded by or newly authorized in ACA; or who work on contracts for which FTE reporting is not a requirement of their contract, such as fixed price contracts.

²CDC tracks total contract costs for ACA activities in the Affordable Care Act Object Class Table but does not track individual contract staff.

(dollars in millions)	ACA Sec.	2013 Total	2013 FTEs	2014 Total	2014 FTEs	2015 Total	2015 FTEs	2016 Total	2016 FTEs	2017 Total	2017 FTEs
ACA Program^{1,2}											
Childhood Obesity	4306	\$0.0	1.1	\$0.0	1.1	\$0.0	0.0	\$10.0	0.0	\$0.0	0.0
Medical Monitoring in Libby, MT	10323	\$4.0	1.1	\$4.0	0.9	\$4.0	0.9	\$4.0	0.9	\$4.0	0.9
Total		\$4.0	2.2	\$4.0	2.0	\$4.0	0.9	\$14.0	0.9	\$4.0	0.9

¹Excludes employees or contractors who: Are supported through appropriations enacted in laws other than PPACA and work on programs that existed prior to the passage of PPACA; Spend less than 50% of their time on activities funded by or newly authorized in ACA; or who work on contracts for which FTE reporting is not a requirement of their contract, such as fixed price contracts.

²CDC tracks total contract costs for ACA activities in the Affordable Care Act Object Class Table but does not track individual contract staff.

PHYSICIANS' COMPARABILITY ALLOWANCE (PCA) WORKSHEET

	PY 2015 (Actual)	FY 2016 (Estimates)	FY 2017* (Estimates)
1) Number of Physicians Receiving PCAs	2	2	2
2) Number of Physicians with One-Year PCA Agreements	0	0	0
3) Number of Physicians with Multi-Year PCA Agreements	2	2	2
4) Average Annual PCA Physician Pay (without PCA payment)	\$180,600	\$180,600	\$180,600
5) Average Annual PCA Payment	\$28,000	\$28,000	\$28,000

6) Number of Physicians Receiving PCAs by Category (non-add)	FY 2015 (Actual)	FY 2016 (Estimates)	FY 2017* (Estimates)
Category I Clinical Position			
Category II Research Position	2	2	2
Category III Occupational Health			
Category IV-A Disability Evaluation			
Category IV-B Health and Medical Admin.			

- 7) If applicable, list and explain the necessity of any additional physician categories designated by your agency (for categories other than I through IV-B). Provide the number of PCA agreements per additional category for the PY, CY and BY.

Not applicable.

- 8) Provide the maximum annual PCA amount paid to each category of physician in your agency and explain the reasoning for these amounts by category.

\$30,000. All of CDC's physicians who are eligible for PCA funds are in Category II, Research. CDC currently has two SES physicians for whom PCA is appropriate and necessary.

- 9) Explain the recruitment and retention problem(s) for each category of physician in your agency (this should demonstrate that a current need continues to persist).

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)

CDC has found that SES salaries do not meet the threshold to attract top level senior officials for critical science-focused positions who are appointed under SES. PCA is needed to continue to attract and retain those top level physicians.

- 10) Explain the degree to which recruitment and retention problems were alleviated in your agency through the use of PCAs in the prior fiscal year.

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)

The use of PCA has enabled successful recruitment of physicians to key positions at CDC. It is anticipated that failure to offer PCA funds to CDC physicians could result in an increase in turnover.

- 11) Provide any additional information that may be useful in planning PCA staffing levels and amounts in your agency.

It is expected that PCA will continue through 2016 for the two SES members currently receiving PCA. The need will remain to pay PCA to any new physicians appointed under SES. Market pay will be utilized for all new accessions for physicians appointed under Title 5.

FY 2015 INTRAMURAL AND EXTRAMURAL OBLIGATIONS^{1,2}

(dollars in thousands)

Major CDC Program	Extramural³	Intramural	Grand Total
Agency for Toxic Substances and Disease Registry (ATSDR)	\$28,441	\$45,864	\$74,305
Birth Defects, Developmental Disabilities, Disability and Health	\$91,572	\$39,878	\$131,451
CDC-Wide Activities and Program Support	\$220,569	\$80,014	\$300,582
Chronic Disease Prevention and Health Promotion	\$1,012,400	\$180,128	\$1,192,528
Emerging and Zoonotic Infectious Diseases	\$216,508	\$185,980	\$402,488
Energy Employees Occupational Illness Compensation Program Act	\$41,828	\$8,501	\$50,329
Environmental Health	\$102,579	\$75,790	\$178,369
Global Health	\$219,659	\$205,131	\$424,790
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	\$902,832	\$212,102	\$1,114,934
Immunization and Respiratory Diseases	\$661,348	\$135,217	\$796,564
Injury Prevention and Control	\$127,335	\$42,679	\$170,014
National Institute for Occupational Safety and Health	\$146,512	\$187,959	\$334,471
Public Health Preparedness and Response	\$864,198	\$488,036	\$1,352,234
Public Health Scientific Services (PHSS)	\$226,125	\$253,234	\$479,359
Vaccines for Children	\$3,805,988	\$39,399	\$3,845,387
World Trade Center Health Programs (WTC) ⁴	\$119,910	\$169,688	\$289,598
Grand Total⁵	\$8,787,804	\$2,349,600	\$11,137,404

1 Obligations may vary from appropriated amounts due to multi-year funding.

2 Does not include obligations from \$1.771 billion in one-time emergency funding appropriated in FY 2015 for the U.S. Government response to contain, treat and prevent the spread of Ebola.

3 All contracts are classified Extramural in the analysis supporting this table. Working Capital Fund transfers, which are classified as "Intra-agency services," are displayed as Intramural.

4 WTC amount reflects total program obligations and does not include NYC reimbursement.

5 Working Capital Fund (WCF) amounts are included in Major CDC Program Grand Total

USER FEES AND CRADA

Activity	FY 2015 Actual	FY 2016 Estimate ¹
Cooperative Research and Development Agreement (CRADA)	\$1,721,149	\$1,721,149
Emerging & Zoonotic Infectious User Fees	\$182,538	\$182,538
Global Health DPD User Fees	\$10,000	\$10,000
Health Statistics User Fees	\$2,210,137	\$2,210,137
NIOSH Respirator Certification Program	\$382,958	\$382,958
Vessel Sanitation Program	\$3,065,755	\$3,065,755
Grand Total	\$7,572,538	\$7,572,538

¹ FY 2016 Estimate amount based on FY 2015 Actual cash collections

CDC FY 2017 WORKING CAPITAL FUND EXHIBITS

The Joint Explanatory Statement accompanying the Consolidated Appropriations Act, 2014 (P.L. 113-76) included requirements for CDC to provide breakouts of select Working Capital Fund details. The below reflects the FY 2017 estimated Working Capital Fund budget estimate by major object class.

FY 2017 CDC Working Capital Fund Budget Estimate

OC Number	Object Class Description	Total
11/12	Personnel Compensation/Benefits	\$212,340,188
21	Travel	\$1,665,401
22	Transportation of Things	\$820,156
23	Rent, Communication & Utilities	\$78,960,075
24	Printing and Reproduction	\$54,656
25	Other Contractual Services	\$238,726,887
26	Supplies & Materials	\$1,725,343
31	Equipment	\$6,688,855
32	Land and structures	\$3,675,570
42	Insurance Claims	\$11
Grand Total		\$544,657,142

FY 2013-2017 PB CONSOLIDATED CDC GRANTS TABLE

These funds are awarded by formula.

Δ

These funds are not awarded by formula.

●

These funds are awarded partially by formula.

‡

	FY 2013 Actual	FY 2014 Final	FY 2015 Final	FY 2016 Estimate	FY 2017 PB	2017 +/-2016
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Immunization Cooperative Agreements (BA and PPHF)	Δ					
- Number of Awards	64	64	64	64	64	0
- Total Awards	\$340.14	\$278.40	\$369.77	\$369.77	\$319.43	-\$50.34
Influenza Planning and Response ELC Grants (BA)	●					
- Number of Awards	56	56	56	56	56	0
- Total Awards	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$0.00
HIV Prevention with Health Departments Grants	Δ					
- Number of Awards	61	61	61	61	61	0
- Total Awards	\$334.05	\$341.18	\$345.16	\$345.16	\$345.16	\$0.00
HIV Surveillance Grants	Δ					
- Number of Awards	59	59	59	59	59	0
- Total Awards	\$57.52	\$57.52	\$57.73	\$58.00	\$58.00	\$0.00
HIV Prevention Projects for Community-Based Organizations Grants	●					
- Number of Awards	131	131	90	90	90	0
- Total Awards	\$39.87	\$38.45	\$43.22	\$43.35	\$43.35	\$0.00
HIV Capacity-Building Assistance Grants	●					
- Number of Awards	28	21	21	21	21	\$0.00
- Total Awards	\$18.63	\$23.10	\$23.10	\$23.10	\$23.10	\$0.00
HIV Prevention for Adolescent and School Health Grants	●					
- Number of Awards	42	42	42	42	42	0
- Total Awards	\$9.29	\$12.91	\$13.02	\$13.02	\$13.02	\$0.00
Viral Hepatitis Cooperative Agreement Grants	●					
- Number of Awards	52	52	52	52	TBD	TBD
- Total Awards	\$8.68	\$8.63	\$8.65	\$8.70	\$9.64	0.937
Sexually Transmitted Disease Prevention Cooperative Agreement Grants	Δ					

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- Number of Awards	59	59	59	59	59	0
- Total Awards	\$95.04	\$95.04	\$94.09	\$94.09	\$94.09	\$0.00
TB Prevention and Control Cooperative Agreement Grants Δ						
- Number of Awards	62	62	61	61	61	0
- Total Awards	\$75.73	\$77.12	76.51	76.01	76.01	0
National Healthcare Safety Network Grant ●						
- Number of Awards	6	6	6	9	9	0
- Total Awards	0.669	\$3.00	\$3.00	\$4.50	\$4.50	\$0.00
Food Safety Grant ●						
- Number of Awards	57	57	57	57	57	0
- Total Awards	\$10.98	\$15.52	\$19.52	\$21.52	\$21.52	0
ACA/PPHF Healthcare-Associated Infections Grants ●						
- Number of Awards	50	50	52	56	56	0
- Total Awards	\$9.74	\$9.74	\$9.49	\$9.49	\$9.49	0
State Public Health Actions Grants †						
- Number of Awards	51	51	51	51	TBD	TBD
- Total Awards	\$67.57	\$100.55	\$100.20	\$100.20	TBD	TBD
The State and Local Public Health Actions Grants (1422) ●						
- Number of Awards	0	21	21	21	TBD	TBD
- Total Awards	\$0.00	\$70.00	\$70.00	\$70.00	TBD	TBD
Pacific and Caribbean Island Grants ●						
- Number of Awards	0	8	8	8	8	0
- Total Awards	\$0.00	\$2.96	\$2.96	\$2.96	\$2.96	\$0.00
Comprehensive Approach to Good Health and Wellness in Indian Country Grants ●						
- Number of Awards	0	22	23	23	49	26
- Total Awards	\$0.00	\$14.00	\$14.00	\$14.00	\$26.40	\$12.40
National Diabetes Prevention Program Grants ●						
- Number of Awards	6	6	6	TBD	TBD	TBD
- Total Awards	0	\$6.75	\$6.75	\$16.00	\$16.00	\$0.00
Paul Coverdell National Acute Stroke Registry Program Grants ●						

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- Number of Awards	11	11	9	9	9	0
- Total Awards	\$3.81	\$3.93	\$6.74	\$6.74	\$6.74	\$0.00
WISEWOMAN Grants						•
- Number of Awards	21	22	21	21	21	0
- Total Awards	\$15.98	\$16.48	\$13.78	\$15.98	\$15.98	\$0.00
School Health Grants for Non-Governmental Organizations						•
- Number of Awards	7	7	7	4	4	0
- Total Awards	\$1.74	\$1.74	\$1.73	\$1.40	\$1.40	\$0.00
REACH Grants						•
- Number of Awards	6	49	49	49	40-50	N/A
- Total Awards	\$35.00	\$35.00	\$35.00	\$35.00	\$20.00	(\$15.00)
Prevention Research Centers Grants						•
- Number of Awards	37	26	26	26	26	0
- Total Awards	\$18.14	\$19.50	\$19.06	\$19.06	\$19.06	\$0.00
Arthritis State Grants						•
- Number of Awards	12	12	12	12	12	0
- Total Awards	\$4.87	\$4.87	\$3.99	\$3.99	\$3.99	\$0.00
Lupus Grants						•
- Number of Awards	3	4	5	5	5	0
- Total Awards	\$3.23	\$3.19	\$4.37	\$4.37	\$4.37	\$0.00
Pregnancy Risk Assessment Monitoring System (PRAMS) Grants						•
- Number of Awards	41	41	41	50	50	0
- Total Awards	\$5.86	\$5.86	\$5.86	\$7.00	\$7.00	\$0.00
Tobacco Prevention and Control						†
- Number of Awards	51	51	51	51	51	0
- Total Awards	\$60.32	\$60.32	\$57.97	\$57.97	\$57.97	\$0.00
National Breast and Cervical Cancer Early Detection Program (NBCCEDP) Grants						†
- Number of Awards	67	67	67	67	TBD	TBD
- Total Awards	\$151.44	\$151.44	\$149.94	\$149.94	TBD	TBD
Colorectal Cancer Control Program (CRCCP) Grants						•

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- Number of Awards	29	29	31	31	31	0
- Total Awards	\$23.50	\$22.80	\$23.55	\$23.55	\$20.52	-\$3.03
National Program of Cancer Registries (NPCR) Grants •						
- Number of Awards	48	48	48	48	TBD	TBD
- Total Awards	\$37.42	\$37.42	\$38.32	\$37.42	TBD	TBD
National Comprehensive Cancer Control Program (NCCCP) Grants •						
- Number of Awards	65	65	65	65	TBD	TBD
- Total Awards	\$22.06	\$21.91	\$21.01	\$21.01	TBD	TBD
Oral Health State Grants •						
- Number of Awards	21	21	21	29	29	0
- Total Awards	\$5.97	\$5.97	\$6.24	\$8.38	\$8.38	\$0.00
Birth Defects and Surveillance of Fetal Deaths Grants •						
- Number of Awards	31	25	30	29	28	-1
- Total Awards	\$8.71	\$7.86	\$8.71	\$8.44	\$8.44	\$0.00
Fetal Alcohol Syndrome Grants •						
- Number of Awards	25	18	15	14	11	-3
- Total Awards	\$3.81	\$3.81	\$4.00	\$3.64	\$3.64	\$0.00
Folic Acid Grants •						
- Number of Awards	2	2	3	2	2	0
- Total Awards	\$0.65	\$0.48	\$0.58	\$0.50	\$0.50	\$0.00
Spina Bifida Surveillance and Research Grants •						
- Number of Awards	15	18	4	2	4	2
- Total Awards	\$0.68	\$0.50	\$0.55	\$0.52	\$0.59	\$0.07
Infant Health Grants •						
- Number of Awards	6	7	11	7-12	7-12	0
- Total Awards	\$0.90	\$0.88	\$1.33	\$1.33	\$1.33	\$0.00
Infant Health (Hearing Loss) Grants •						
- Number of Awards	6	7	3	2-4	2-4	0
- Total Awards	\$0.90	\$0.88	\$0.50	.300-.600	.300-.600	\$0.00
Autism Grants •						
- Number of Awards	20	21	17	14-17	14-17	0

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- Total Awards	\$12.64	\$10.19	\$13.38	\$13.38	\$13.38	\$0.00
Disability and Health Grants						•
- Number of Awards	18	18	18	16-20	16-20	0
- Total Awards	\$5.40	\$5.40	\$5.40	\$5.40	\$5.40	\$0.00
Early Hearing Detection and Intervention (EHDI) Grants						•
- Number of Awards	52	52	52	52	42	-10
- Total Awards	\$7.80	\$7.04	\$7.77	\$7.77	\$6.70	(\$1.07)
Tourette Syndrome Grants						•
- Number of Awards	1	1	1	1	1	0
- Total Awards	\$0.78	\$0.80	\$0.90	\$0.90	\$0.90	\$0.00
Attention Deficit Hyperactivity Disorder Grants						•
- Number of Awards	1	1	1	1	1	0
- Total Awards	\$0.78	\$0.80	\$0.85	\$0.85	\$0.85	\$0.00
Project to Learn About Youth (PLAY) Mental Health Grants						•
- Number of Awards	2	4	3	1	2	1
- Total Awards	\$0.40	\$1.10	\$0.75	\$0.28	\$0.55	\$0.28
Fragile X Syndrome Grants						•
- Number of Awards	2	1	4	4	4	0
- Total Awards	\$0.75	\$0.66	\$0.75	\$0.75	\$0.75	\$0.00
Muscular Dystrophy Grants						•
- Number of Awards	4	8	9	9	9	0
- Total Awards	\$2.10	\$3.21	\$3.19	\$3.19	\$3.19	\$0.00
Spina Bifida Grants						•
- Number of Awards	17	14	14	14	14	0
- Total Awards	\$1.19	\$1.05	\$1.72	\$1.72	\$1.72	\$0.00
Congenital Heart Defects (CHD) Grants						•
- Number of Awards	4	6	7	7	7	0
- Total Awards	\$1.18	\$1.95	\$2.45	\$2.45	\$2.45	\$0.00
Public Health Approach to Blood Disorders Grants						•
- Number of Awards	19	5	4	4	4	0
- Total Awards	\$8.11	\$1.30	\$0.84	\$0.84	\$0.84	\$0.00

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Hemophilia Grants							•
- Number of Awards	0	0	2	2	2	0	
- Total Awards	\$0.00	\$0.00	\$1.14	\$1.14	\$1.14	\$0.00	
Thalassemia Grants							•
- Number of Awards	8	2	5	5	5	0	
- Total Awards	\$1.90	\$0.57	\$0.85	\$0.85	\$0.85	\$0.00	
Behavioral Risk Factor Surveillance System (BRFSS) Grants							•
- Number of Awards	56	56	57	57	57	0	
- Total Awards	\$13.20	\$13.25	\$13.90	\$13.20	\$13.20	\$0.00	
National Notifiable Diseases Surveillance System (NNDSS) Grants							•
- Number of Awards	64	63	61	63	63	0	
- Total Awards	\$10.05	\$10.25	\$9.47	\$10.25	\$10.25	\$0.00	
Grants to State-based Laboratory Biomonitoring Programs							•
- Number of Awards	3	6	6	6	6	0	
- Total Awards	\$5.00	\$5.00	\$5.00	\$5.00	\$5.00	\$0.00	
Grants to Implement and Improve SCID Testing							•
- Number of Awards	3	3	4	4	4	0	
- Total Awards	\$0.85	\$0.85	\$0.95	\$0.95	\$0.95	\$0.00	
ALS Research Grants							•
- Number of Awards	0	0	2	3	3	0	
- Total Awards	\$0.00	\$0.00	\$0.80	\$1.20	\$1.20	\$0.00	
Climate and Health Grants							•
- Number of Awards	18	18	18	23	23	0	
- Total Awards	\$3.62	\$3.62	\$3.62	\$4.78	\$4.78	\$0.00	
Safe Water Grants							•
- Number of Awards	11	11	19	19	19	0	
- Total Awards	\$1.60	\$1.60	\$2.46	\$2.46	\$2.46	\$0.00	
Drought Grants							•
- Number of Awards	N/A	N/A	N/A	5	5	0	
- Total Awards	N/A	N/A	N/A	\$0.75	\$0.75	\$0.00	
Environmental Health Specialists Network							•

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- Number of Awards	15	15	8	8	8	0	
- Total Awards	\$2.33	\$2.33	\$1.54	\$1.54	\$1.54	\$0.00	
Tracking Network Grants							
- Number of Awards	24	26	26	26	16	-10	
- Total Awards	\$14.30	\$22.61	\$22.61	\$22.61	\$14.00	-\$8.61	
Asthma Grants to Health Departments							
- Number of Awards	40	23	23	26	26	0	
- Total Awards	\$12.87	\$13.90	\$13.90	\$15.70	\$15.70	\$0.00	
Asthma Grants to Non-governmental Organizations							
- Number of Awards	4	4	4	4	4	0	
- Total Awards	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.00	
Childhood Lead Poisoning Grants							
- Number of Awards	0	35	35	35	38	3	
- Total Awards	\$0.00	\$11.00	\$9.45	\$10.99	\$11.93	\$0.94	
Rape Prevention and Education Grants							
- Number of Awards	57	55	55	55	55	0	
- Total Awards	\$38.26	\$35.45	\$32.04	\$32.04	\$32.04	\$0.00	
Essentials for Childhood Grants							
- Number of Awards	5	5	5	5	5	0	
- Total Awards	\$0.87	\$0.87	\$0.87	\$0.87	\$0.87	\$0.00	
National Centers of Excellence in Youth Violence Prevention							
- Number of Awards	6	6	5	5	5	0	
- Total Awards	\$6.24	\$6.24	\$5.86	\$6.23	\$6.23	\$0.00	
DELTA FOCUS Grants							
- Number of Awards	10	10	10	10	10	0	
- Total Awards	\$3.91	\$3.91	\$3.91	\$3.91	\$3.91	\$0.00	
National Violent Death Reporting System (NVDRS) Grants							
- Number of Awards	18	31	31	TBD	51	TBD	
- Total Awards	\$3.66	\$7.55	\$7.70	TBD	\$18.47	TBD	
PDO Prevention for States Grants							
- Number of Awards	N/A	N/A	16	51	51	0	

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- Total Awards	N/A	N/A	\$14.44	TBD	TBD	TBD
Core Violence and Injury Prevention Program Grants						●
- Number of Awards	20	20	20	TBD	TBD	TBD
- Total Awards	\$6.84	\$6.84	\$6.84	TBD	TBD	TBD
Injury Control Research Centers Program Grants						●
- Number of Awards	11	10	10	10	10	0
- Total Awards	\$8.74	\$7.62	\$7.62	\$7.62	\$7.62	\$0.00
NORA Grants						‡
- Number of Awards	113	111	69	71	42	-29
- Total Awards	\$57.49	\$54.99	\$36.80	\$37.55	\$15.76	-\$21.79
Other Occupational Safety and Health Grants						‡
- Number of Awards	65	56	108	112	94	-18
- Total Awards	\$33.40	\$37.95	\$58.67	\$59.73	\$31.23	-\$28.50
Global Immunizations Cooperative Agreements						●
- Number of Awards	5	4	7	7	9	2
- Total Awards	\$84.48	\$103.20	\$134.78	\$140.78	\$140.78	\$0.00
Global Disease Detection and Emergency Response Cooperative Agreements						●
- Number of Awards	36	33	33	38	38	0
- Total Awards	\$11.80	\$10.96	\$10.96	\$10.96	\$10.96	\$0.00
Public Health Emergency Preparedness Grants (All PHEP awards combined)						Δ
- Number of Awards	62	62	62	62	62	0
- Total Awards	\$584.70	\$611.75	\$611.75	\$616.75	\$616.75	\$0.00
BioSense/NSSP Grants						●
- Number of Awards	34	34	31	31	31	0
- Total Awards	\$6.74	\$6.70	\$6.56	\$6.56	\$6.56	\$0.00

SIGNIFICANT ITEMS

SIGNIFICANT ITEMS IN FY 2016 CONSOLIDATED APPROPRIATIONS ACT CONFERENCE REPORT

Significant items for inclusion in the FY 2017 Centers for Disease Control and Prevention Congressional Justification from the Consolidated Appropriation Act, 2016 (P.L. 114-113).

Diabetes, Heart Disease and Stroke

The agreement provides a significant increase to support Diabetes, Heart Disease and Stroke prevention. The agreement expects funding to support communities with the highest burden of disease, as adjusted for population, and to use risk factor reduction measures. The agreement requests a report in the fiscal year 2017 budget request on how funds will be provided to address the highest burden. (p. 17)

Action taken or to be taken

CDC recognizes that the burden of chronic diseases, including cancer, heart disease and stroke, diabetes, and arthritis is significant and pervasive. Thus, CDC considers burden as a key factor in determining funding levels for state chronic disease prevention programs. CDC understands and shares the view of Congress that burden should serve as a significant criterion for chronic disease funding decisions.

Currently, the CDC's major chronic disease prevention program funding opportunity announcements (FOAs)⁵⁴⁸ include a base funding amount to ensure adequate support of state chronic disease prevention efforts, which is then modified based on burden of disease factor, typically defined by disease or risk factor rates or by poverty level as a proxy for burden. CDC also includes language in its FOAs that directs grantees to focus their efforts on addressing health disparities by serving geographic areas and populations within their jurisdictions that experience high burden of disease.

CDC will re-compete the majority of its chronic disease prevention FOAs in FY 2017 and 2018. CDC will continue to adjust funding formulas to better incorporate burden of disease factors as appropriate to specific state grant programs funded in national FOAs—i.e., those programs that fund all 50 states and DC. The programs that have FOAs in this category include breast and cervical cancer, heart disease and stroke, diabetes, nutrition, physical activity and obesity, school health and tobacco. The categorical lines supporting these programs account for 63% of CDC's chronic disease prevention funding in FY 2015. The components of the formula will include the following:

- Core amount of funding for every state
- Apply a percentage based on burden of disease or risk factors
- Apply a percentage based on population size
- Develop a funding range that allows CDC to recognize higher quality applications and grantee capacity to meet program goals

CDC will monitor individual grantee performance over the duration of the grant. CDC may make adjustments to funding levels based on the actual performance of the grantees after the initial award year.

Obesity

The agreement requests an update in the fiscal year 2017 budget request on the evidence-based practices CDC is undertaking to reduce obesity, which should include education and outreach related to the role of fruit and vegetable consumption in reducing obesity in at-risk populations, including both adult and pediatric populations. (p. 17)

⁵⁴⁸ Major FOAs are those that fund all 50 states and DC

Action taken or to be taken

CDC addresses obesity through implementation of evidence-based strategies designed to increase positive behaviors, including strategies to increase consumption of fruits and vegetables.

- CDC's program to reduce obesity in high obesity areas supports land grant universities in states that have counties with prevalence rates of adult obesity greater than 40%. Residents of these communities may have less access to healthy foods and fewer opportunities to be physically active. If improvements are made and continued, these programs can have long-term positive effects on the health of residents in these counties.
- Many state health departments funded through CDC's cross-cutting State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity, and Associated Risk Factors and School Health are focused on improving access to fresh fruits and vegetables. These grantees support programs that work with farmers, distributors, and retailers on strategies to increase the supply of healthy foods available through farmers markets, in corner and small stores, and in cafeterias, vending machines, and concessions. For example, the Better Bites program in Kentucky brought healthier meal options to 4,550 state employees and 1,500 daily visitors at three state-operated cafeterias.
- CDC investments have improved nutrition and physical activity practices in the early childhood education (ECE) setting. CDC continues to work with every state, many localities, and thousands of ECE providers across the nation to adopt and implement recommended obesity prevention standards.
- CDC recently announced the availability of funding to support a new childhood obesity research demonstration project. Two awards totaling \$8.5 million are anticipated to be awarded for a 28 month funding period (June 1, 2016 – September 29, 2018). This FOA extends a previous demonstration project which examined whether a multi-level, multisector, coordinated strategy involving primary care and evidence-based public health interventions could help low-income children and their families increase healthier behaviors and halt or reverse overweight and obesity. The new project will test a model of quality clinical childhood obesity management for U.S. low-income children, especially those enrolled in or eligible for health care coverage under the Children's Health Insurance Program (CHIP) or Medicaid

Tobacco Prevention

The agreement provides support for CDC's comprehensive efforts to reduce tobacco use. The agreement requests an update in the fiscal year 2017 budget request identifying all CDC programs that provide support for tobacco control or prevention activities and requests that CDC explore ways to reduce duplication with tobacco prevention programs and activities not funded in the specific tobacco-funding line. The CDC is urged to coordinate with the National Institutes of Health (NIH) to identify meritorious tobacco research opportunities for NIH to consider through its peer-reviewed process and its existing portfolio funding level. (p. 18)

Action taken or to be taken

CDC programs that provide support for tobacco control or prevention activities are listed below.

CDC's Office on Smoking and Health

CDC's Office on Smoking and Health (OSH) leads federal efforts for comprehensive tobacco prevention and control. OSH provides leadership for a comprehensive, broad-based approach to achieving its vision of a world free from tobacco-related death and disease. Important elements of this approach include state-based, community-based, and health systems-based interventions; cessation services; marketing; policy development and implementation; laboratory-based tobacco product research; surveillance; and evaluation. OSH works

closely with other CDC divisions and programs to ensure that CDC's tobacco portfolio is complementary and that all efforts are science based.

- FY 2015 funding: \$216,492,000 (Budget Authority and Prevention Fund)

CDC's National Center for Environmental Health

CDC's National Center for Environmental Health uses its unique expertise in measurement science to rapidly develop and apply critical new tests for addictive and toxic substances from tobacco products. Supported with funding from CDC's Tobacco funding line, to the laboratory works to detect and track the smoking rate through laboratory measurement and harmful exposures from tobacco products among Americans. The lab is also supported with funding from the FDA's Center for Tobacco Products to provide scientific measurements that are crucial for effective tobacco regulation, including information on regulated tobacco products and exposures among active U.S. tobacco users.

- FY 2015 funding from OSH: \$4,700,000 (Budget Authority)

CDC's Chronic Disease Community Grants

Through Partnerships to Improve Community Health (PICH) and Racial & Ethnic Approaches to Community Health (REACH), CDC strengthens efforts in towns, cities, counties and tribal areas to help communities prevent chronic disease and promote healthy living. These programs address risk factors that contribute to chronic conditions including tobacco use and exposure; poor nutrition; physical inactivity; and lack of access to opportunities for chronic disease prevention, risk reduction, and disease management. Information about these awards can be found in the Community Programs budget request section.

- FY 2015 funding: Because tobacco is integrated into a combined chronic disease prevention approach, it is not possible to delineate the amount of funding used to support tobacco activities through these programs.

Global Health

Global health funding for tobacco supports CDC's up to three mini grants focused on building epidemiology capacity for tobacco control. The mini grants offer participants a one year field experience and mentorship. The funds also support some tobacco surveillance.

- FY 2015 funding: \$125,000 (Budget Authority)

Preventive Health and Health Services Block Grant

The Preventive Health and Health Services Block Grant provides all 50 states, the District of Columbia, two American Indian tribes, and eight U.S. territories with funding to address their unique public health needs in innovative and locally defined ways. This program gives grantees the flexibility to use funds to respond rapidly to emerging health issues and to fill funding gaps in programs that deal with leading causes of death and disability.

- FY 2015 funding: Four states and one Territory used PHHS Block Grant funding to support tobacco prevention and control activities. The total amount of funding used was \$1,061,201 in Prevention Funds.

Surveillance

CDC conducts and supports a number of surveys on tobacco use, smoking cessation, secondhand smoke exposure, and other tobacco-related topics among youth, adults, and specific populations.

- FY 2015 funding: Funding for surveys conducted by OSH is included in the FY 15 funding line provided above. Because some CDC surveys—such as the National Health Interview Survey, National Health and Nutrition Examination Survey and Youth Risk Behavior Surveillance System—include additional topics to tobacco, it is not possible to delineate tobacco specific funding.

CDC agrees with the Committee on the importance of collaborating with the NIH, as well as other HHS agencies to conduct research and surveillance on tobacco control and prevention. CDC's complementary role includes expanding the science base of effective tobacco control through pivotal and well-established surveillance and evaluation systems of tobacco use and related behaviors among youth and adults, including the National Youth Tobacco Survey, National Health Interview Survey, and National Health and Nutrition Examination Survey. CDC translates this science into best practices that help the public health community—including states—plan, implement, evaluate, and sustain their tobacco prevention and control programs. This guidance helps ensure that these programs are cost-effective and successful.

Opioid Prescription Drug Overdose (PDO) Prevention Activity

The agreement commends CDC for its leadership in expanding efforts combatting prescription and opioid drug overdoses. The agreement directs the CDC Director to implement these activities based on population-adjusted burden of disease criteria, including mortality data (age adjusted rate), as significant criteria when distributing funds for the State POC Prevention activities. The CDC is expected to adhere to the conditions identified in the fiscal year 2015 Appropriations Act and explanatory statement as CDC expands beyond prescription drugs and into the broader category of opioids. The agreement assumes these funds will be distributed via a competitive mechanism and not merely a mathematical formula or standard allocation to each State. (p. 22-23)

Action taken or to be taken

This information is provided in the National Center for Injury Prevention and Control (NCIPC) budget narrative, Injury Prevention Activities budget request section.

Cross-cutting Coordination with NIH

CDC is expected to provide an update in the fiscal year 2017 budget request on how CDC's programs coordinate with NIH Institutes and Centers to share scientific gaps related to activities supported in NIH research portfolios, reduce duplication of effort, and prevent overlapping core mission focus area. (p. 29)

Action taken or to be taken

As the nation's prevention agency and a leader in improving health around the world, CDC is committed to reducing the leading causes of death, disability, and injury. CDC staff work 24/7 around the world to save lives, protect people, and save money through prevention. To achieve maximum public health impact, CDC conducts research; implements strategic, evidence-based programs; and monitors results through ongoing data collection. CDC leverages its scientific and public health expertise to assist federal partners, such as National Institutes of Health (NIH), in their efforts to address research related to health promotion and disease prevention supported through their own research portfolios. CDC continually works with NIH to describe the current state of the science and identify gaps in knowledge in order to better inform and coordinate the public health research agenda at the Institutes and Centers of the NIH. CDC and NIH scientific leaders serve as ex officio members of each other's scientific councils or advisory committees to assure coordination of investments. Below are examples of this ongoing coordination.

- Antimicrobial resistance (AMR) has been identified as an increasingly serious threat to global public health. AMR is resistance of a microorganism to an antimicrobial drug that was previously effective, making standard treatments ineffective. The use and misuse of antimicrobial drugs accelerates the emergence of drug-resistant strains. CDC is working closely with NIH and the Biomedical Advanced Research and Development Authority (BARDA) on a prize contest designed to spur development of AMR diagnostic tests that would be of great utility in combating the development and spread of antibiotic-resistant bacterial infections. CDC is providing expertise as it relates to tracking antimicrobial resistance, preventing antimicrobial resistant infections, and improving antibiotic use.
- Through citizen science and crowdsourcing, the Federal Government and nongovernmental organizations engage the American public in addressing societal needs and accelerating science, technology, and innovation. CDC and NIH are working together to co-develop a public health vision for cross-sector acceleration and scaling of open innovation methods such as citizen science and crowdsourcing. In the September 30, 2015 Memorandum from the Office of Science and Technology Policy, agencies are to coordinate and catalog agency-specific citizen science and crowdsourcing projects. CDC and NIH are working collaboratively on plans for implementing the memo's directives.
- In consultation with NIH and the State Department, CDC led development of guidance on when to seek Office of General Counsel review of Material Transfer Agreements (MTAs) between HHS Operational Divisions (OPDIVs) and foreign government agencies or their instrumentalities. The resulting guidance is intended to help mitigate risk from the plethora of policy and treaty issues implicated with international material transfers.
- The identities of HHS products and services are valuable assets and should be protected. Slogans, names, logos, and graphics--anything used to identify a product or a service may benefit from trademark protection. The NIH Office of General Counsel has many years of experience providing trademark services across HHS. CDC has partnered with the NIH Office of General Counsel in order to receive trademark services to protect CDC products and services.

In summary, CDC is committed to working with the NIH and its Institutes and Centers to share scientific gaps and coordinate the public health research agenda to achieve maximum impact.

Laboratories

The CDC is directed to provide a specific CDC-wide consolidated laboratory funding table in the fiscal year 2017 budget and future budget requests. The single consolidated table shall (at a minimum) identify for each Center and its specific program activities that fund laboratory activity, funding levels provided to State, Regional, and other laboratory activity requested, for the current, and prior three budget years. It should include a narrative section describing CDC's process to coordinate the various laboratory funding activities across the Centers to support laboratory capabilities, upgrades, and other related initiatives that are linked to measurable laboratory goals and objectives across CDC. The agreement urges CDC to work with its State and Regional laboratory partners to explore ways to consolidate, streamline, and improve the ability for laboratories to most effectively utilize CDC provided funds. (p. 30)

Action taken or to be taken

This information will be provided as a Report to Congress.

Sodium Consumption

The agreement notes that a growing body of evidence suggests low sodium consumption can lead to health problems in healthy individuals. The U.S. and Canadian governments each established Federal Dietary Reference Intake (DRI) Committees that work to identify DRI needs and coordinate government sponsorship of DRI reviews. The DRI's reflect nutrient reference values, and are based on significant, new, and relevant data. In August 2014, four nutrient areas for updated ORs were selected, including sodium. The agreement requests an update in the fiscal year 2017 budget request on the timeline and plan for the update of the DRI for sodium. (p. 31)

Action taken or to be taken

CDC is actively engaged with the Institute of Medicine to determine next steps and timelines for the DRI process. Once initiated, DRI reviews typically have a timeline of 18 to 24 months.

Public Health Leadership and Supporting Details

The agreement reiterates the request from last year and directs the CDC Director to include in the fiscal year 2017 and future budget requests specific details of each budget activity supported with these funds, including functions, mission, full time employees, bonus, travel costs, and other typical object class data and information for each separate activity supported through the Public Health Leadership and Support funding line. (p. 31)

Action taken or to be taken

This information is provided in the CDC-Wide budget narrative, Public Health Leadership and Support budget request section.

SIGNIFICANT ITEMS IN FY 2016 APPROPRIATIONS REPORTS - HOUSE

Significant items for inclusion in the FY 2017 Centers for Disease Control and Prevention Congressional Justification from the House Appropriations Committee, L-HHS Subcommittee.

AMD

The Committee expects CDC to communicate more clearly in the fiscal year 2017 budget request on how all its lab capacity upgrades and AMD initiatives are linked to measurable improvements in public health and preparedness. (p.36)

Action taken or to be taken

This information is provided in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) budget narrative, Advanced Molecular Detection (AMD) budget request section.

CDC-WIDE

The Committee reinforces its expectation for CDC to work with state, local and tribal health officials to move forward with the plan for a single web-based data collection information technology platform for CDC programs to reduce the voluntary reporting burden on states and reduce CDC's total operational costs of its independent program data collection actions. (p.36) Action taken or to be taken

Action taken or to be taken

This information is provided throughout the Public Health Scientific Services (PHHS) budget narrative and within the narrative summary.

Childhood Immunizations

The Committee requests CDC to include an updated Section 317 Immunization Program report in the fiscal year 2017 budget request. The update should include the 2017 cost estimate, an estimate of State, local, and tribal operations funding, as well as a discussion of the evolving role of the 317 program as expanded coverage for vaccination becomes available from private and public sources over the next several years.(p. 37)

Action taken or to be taken

CDC appreciates the Committee's recognition of the important public health role CDC's immunization program plays in ensuring high vaccination rates and low rates of vaccine-preventable diseases (VPDs). CDC's priorities for the Section 317 Immunization Program are to: 1) preserve core public health immunization infrastructure at the local, state, and federal levels; 2) make strategic investments to enhance the immunization infrastructure and evidence base and improve efficiency; and 3) maintain an adequate amount of vaccine purchase to provide a vaccination safety net for uninsured adults, and for response to VPD outbreaks and other vaccine urgent needs.

The Section 317 Immunization Program plays an important role in ensuring high vaccination rates and low rates of vaccine-preventable diseases. Enacted in 1962 to protect the American people from VPDs, Section 317 has evolved throughout its fifty year history to address our nation's most important vaccination needs and gaps. Today, Section 317 helps support the local, state, and national public health systems and experts that will continue to make essential contributions following the full implementation of the health insurance reforms of the Affordable Care Act. The Affordable Care Act makes important expansions to insurance coverage for immunization services. Following Affordable Care Act implementation, the Section 317 Program will continue to address the public health functions that are necessary to ensure that the right vaccines are given to the right people at the right time to best protect their health, the health of their communities, and prevent resurgence of life-threatening disease. More importantly, Section 317 continues to be the mainstay of the U.S. childhood

immunization program—regardless of the payer of the vaccine given—by ensuring that childhood vaccination is accessible, safe and effective, and used in the best way to protect the nation’s most precious national resource for the future.

Hepatitis C (HCV) Screening

The Committee commends CDC for working to integrate recommended viral hepatitis screening in primary care provider services. The Committee urges CDC to continue outreach to underserved populations through screening activities in non-clinical and public health settings. (p.38)

Action taken or to be taken

CDC estimates that of the approximately 3.5 million people living with hepatitis C, at least 50% do not know they are infected. Therefore, many hepatitis C-infected persons have not even received the most basic care, including assessments of infection, liver health, and potential benefit from treatment. The availability of a rapid test for hepatitis C virus (HCV) antibody and other strategies enables wider access to testing in settings such as physician offices, hospital emergency departments, health department clinics, and substance use disorder settings; however, follow-up testing is needed to determine whether someone is currently infected with hepatitis C. To improve the HCV testing, care, treatment, and cure of affected persons (also known as the care cascade), CDC is supporting community-based programs, known as Test and Cure Hepatitis C, which strengthen primary care provider capacity to diagnose and cure hepatitis C infection among populations most impacted. A priority of these activities is building testing, care, and treatment capacity in settings that serve low income communities and persons who would have otherwise limited access to health care. Because of advances in treatment, with a modest increase in capacity to improve hepatitis testing, linkage to care, and treatment, implementation of CDC and U.S. Preventive Services Task Force (USPSTF) recommendations for HCV testing will save an estimated 321,000 lives.

Identifying the estimated 1.4 million people in the U.S. with hepatitis B and linking them to care and treatment remains a major public health challenge. CDC has supported community-based test and care projects to improve the capacity of health-care providers serving persons born in countries where hepatitis B infection is common. There is a tremendous health disparity among ethnic populations in the United States, with certain Asian American/Pacific Islander populations comprising 5% of the U.S. population, but 50% of those living with hepatitis B infection. The test and care projects are designed to identify persons with chronic hepatitis B and link them to high-quality, medical care. This care is especially important for hepatitis B-infected pregnant women who, without proper medical services, can easily pass the virus to their infants. Key project activities include screening and case finding activities; culturally appropriate community outreach, patient navigation, and other support services; training of primary care staff to enhance screening, management, and referral practices; and implementation of activities to increase community and health professional awareness of hepatitis B.

HIV Prevention Activities

The Committee understands most CDC HIV prevention funding is distributed to the primary implementers of prevention activities. The Committee requests CDC to evaluate its prevention program funding to determine if the current mix successfully reaches the most at-risk individuals to best ensure early detection with targeted interventions. Further, the review should examine methods, with available total HIV funding, to increase the reliance on state, local, and tribal public health departments and efforts to increase the use of burden of disease as a significant criteria factor in making funding allocation decisions and awards. The Committee requests an update on this review in the fiscal year 2017 budget request. (p.38)

Action taken or to be taken

Consistent with the National HIV/AIDS Strategy, which calls on federal agencies to implement approaches that make the greatest difference in reducing HIV, CDC uses a High Impact Prevention (HIP) approach to focus its HIV prevention portfolio. CDC has looked carefully at the populations, geographic areas and risk groups most affected or at risk for HIV. In 2014, among adults and adolescents in the United States and six U.S. territories, CDC data show that:

- State rates of diagnoses of HIV Infection averaged 16.6 per 100,000 population. Some Southern states were much higher – Louisiana at 36.6 and Florida at 31.3.
- 67% of diagnosed infections were attributed to male-to-male sexual contact, and 17% were attributed to heterosexual contact for females and 8% for males.
- For males: 40% of newly diagnosed infections were in blacks/African Americans, 29% were in whites, and 26% were in Hispanics/Latinos; for females: 61% of newly diagnosed infections were in blacks/African Americans, 18% were in Hispanics/Latinos, and 18% were in whites.

The majority of CDC's extramural HIV prevention funding is awarded to health departments through the Comprehensive HIV Prevention Program for Health Departments. This program provides approximately \$339 million a year to state and local health departments around the country. Funds are allocated according to an algorithm based on HIV burden; states with higher numbers of persons living with HIV receive more funding. This investment builds public health departments' capacities to increase HIV testing, refer and link HIV-positive people to medical care and other essential services, and to increase program monitoring and accountability with the flexibility they need to direct resources to areas of greatest concern. Jurisdictions that receive resources from this program are expected to target funding and HIV prevention efforts according to the epidemiological profile of their state and to redirect resources as needs change (e.g., changing epidemiological trends or for a localized outbreak). State and local health departments are required to direct significant resources to areas with 30% or greater of the burden of disease within their state. CDC uses many methods, including annual reports submitted by the state and local health departments, to monitor their progress and to confirm that jurisdictions are using their funding and supporting HIV prevention efforts according to their state epidemiological data.

CDC recently did an analysis of data reported by health departments regarding how CDC HIV Prevention funding that is spent on activities aimed at specific groups is targeted. According to this analysis, approximately 51% of targeted funding was focused on prevention with gay and bisexual men, 15% on heterosexual females, and 12% on heterosexual males. Approximately 70% of funds were focused on males and 24% on females. When looking at funding by racial and ethnic groups, approximately 45% of domestic HIV prevention funding was targeted to prevention among the African American community, 20% was focused on white populations, and 23% on Hispanic/Latino communities. CDC will continue to examine the resource allocation patterns of its grantees.

HIV Screening

CDC is encouraged to work with States that scored low on the goals to Increase HIV Testing and Reduce Late State Diagnosis in order to improve the rates of persons with HIV that know their status and are enabled to seek appropriate care and prevent transmission. (p.38)

Action taken or to be taken

CDC's policies, research, and programs have promoted the importance of people living with HIV (PLWH) knowing their HIV status so that they can receive life-saving HIV medical care, maintain health, and reduce transmission of HIV. Routine HIV screening, repeat screening for those likely to be at high risk for HIV, and targeted HIV testing efforts have reduced the number of persons with undiagnosed HIV infection. As a result of expanded HIV testing efforts, most Americans with HIV are now aware of their infection. CDC estimates that 87 percent of PLWH are aware, up from 81 percent in 2006. CDC remains focused on making HIV testing simple, accessible,

and routine. Testing is a core and required component of all CDC funding to health departments and community-based organizations (CBOs).

Increasing the percentage of PLWH who know their HIV status will require increased testing in many settings and targeting those individuals most at risk. CDC is working to increase the number of health care providers who implement the recommendations of both the US Preventive Services Task Force and CDC for routine HIV screening of all patients' ages 13-64 years and at least annual HIV screening of persons at high risk for HIV infection. Public health needs to: (1) increase testing efforts for the age-group 13–24 years (the age group with the highest prevalence of undiagnosed infections) and (2) work with clinical care providers to increase HIV screening for patients in all health care settings. In addition, it is important that CDC continue to support state health departments and CBOs to conduct HIV testing in populations and neighborhoods with high HIV prevalence and to disseminate information about the advantages of testing and early treatment. CDC also supports health departments and their funded CBOs by providing culturally and linguistically appropriate packaging and dissemination of best programmatic practices and tools, provision of training and technical assistance, and facilitation of peer-to-peer mentoring. In addition, through an interagency agreement with HRSA, the AIDS Education and Training Centers serve as primary providers of capacity building services for health departments implementing expanded HIV testing.

Finally, CDC's multi-year Act Against AIDS campaign encourages increased HIV testing among all Americans, with special efforts targeting African Americans, Hispanics/Latinos, and gay and bisexual men. In December 2015, CDC launched the Doing It campaign, a new national HIV testing and prevention campaign designed to motivate all adults to get tested for HIV and know their status as a part of the Act Against AIDS initiative. The campaign delivers the message that HIV testing should be a part of everyone's regular health routine to keep themselves, their partners, and their communities healthy. It includes videos, palm cards, social media, posters, and public service announcements from community leaders and celebrities.

Tuberculosis (TB) Elimination

The Committee notes that in 1987, HHS established an Advisory Committee for the Elimination of TB with a goal of TB elimination by 2010. The Committee requests CDC to review its resource allocation in preparation for the fiscal year 2017 budget request to ensure it supports appropriate control that can eventually eliminate TB in the United States. Further, the Committee requests an update in the fiscal year 2017 budget request on how CDC's TB program directs resources to state, local, and tribal public health departments to provide for adequate diagnostic, treatment and prevention education tools. The update should outline the plan and how the resources in the request will accomplish the goal. (p.38)

Action taken or to be taken

CDC directs resources to state, local, and territorial public health departments through a funding formula that was developed to ensure that resources are distributed according to TB burden. The formula addresses number and complexity (for example, HIV-positive, drug resistant) of TB cases in the state, laboratory service workload, and training needs. CDC's TB program consultants work with grantees to ensure that TB programs and laboratories prioritize their federal funding to address the goals and objectives of the program.

The United States declared its intention to eliminate TB (defined as no more than one case per million population) in this country in 1989. The United States has reported declining numbers of cases of TB disease every year since 1993, and in 2014 reported an all-time low 9,421 new cases. TB has been difficult to eliminate, as up to 13 million people in the United States have latent TB infection (LTBI). LTBI has no symptoms and cannot be transmitted from one person to another. Without treatment, LTBI develops into TB disease in about 5 to 10% of those infected. In fact, most U.S. TB cases result from reactivated LTBI and not new transmission. Untreated LTBI creates a reservoir of potential new cases of TB disease.

Modeling studies suggest that the United States can only reach its goal of TB elimination if there is a significant increase in LTBI testing and treatment. While priority for existing TB resources must be given to identifying and treating persons with active TB, there are now better tools to reduce LTBI. The introduction of short-course treatment for infection (3HP) creates a unique opportunity to make advances towards elimination. CDC is exploring avenues to increase targeted testing and treatment for LTBI in the United States.

Guideline for Disinfection and Sterilization in Healthcare Facilities

The Committee is concerned that according to the CDC 2014 National and State Healthcare-Associated Infections Progress Report, the U.S. did not meet the healthcare-associated infection (HAI) prevention goals for 2013. The Committee requests that within 120 days, CDC shall update its 2008 Guideline for Disinfection and Sterilization in Healthcare Facilities to incorporate more recent peer-reviewed literature regarding the role of the healthcare environment in the spread of antibiotic-resistant bacteria and the current best practices for containment that have been demonstrated in health facility environments. The Committee understands new technologies now exist that were not considered when the guidelines were last updated. (p. 39)

Action taken or to be taken

CDC is committed to protecting patients and healthcare personnel from infections, promoting safe, quality care across all healthcare settings, and addressing the role of the environment to reduce the spread of antibiotic resistance bacteria. CDC has begun discussions with key stakeholders on this topic, but significant work still needs to be done. Having evidence-base guidelines and recommendations is important to CDC and the agency's guideline production is a key component of ensuring the safety of healthcare in the United States.

CDC produces guidelines using mechanisms that ensure transparency, consistency and freedom from conflicts of interest. As part of the guideline development process, peer-reviewed published research is gathered and evaluated during the initial systematic literature review and during the analysis, drafting, and public comment period(s). The literature review process involves retrieving and reviewing all related articles, extracting and analyzing relevant data, evaluating the evidence using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology, developing evidence summaries, weighing the harms/benefits related to each potential recommendation, and producing draft recommendations. CDC also gets input from the Healthcare Infection Control Practices Advisory Committee (HICPAC) which provides advice to CDC and the Secretary of HHS on the development of new guidelines and on updating of existing CDC guidelines.

Recognizing the need for timeliness of evidence based recommendations to inform quality healthcare and patient safety, CDC is prioritizing topics within guidelines for faster, segmental updating, including parts of the guideline in question. This is in order to avoid embarking on what is at minimum a 3-5 year process and instead, address the needs of patients and healthcare providers as expeditiously as possible.

Hand Hygiene

The Committee encourages CDC to improve hand hygiene habits to help prevent the spread of germs and infectious disease. The Committee requests an update in the fiscal year 2017 budget request on how CDC has incorporated the use of hand sanitizers, including Alcohol Based Hand Rubs (ABHRs), into its hand hygiene programs when hand washing is not readily accessible. (p.39)

Action taken or to be taken

This information is provided in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) budget narrative, Core Infectious Disease budget request, HAI sub-section.

Lyme Disease

The Committee encourages CDC to consider expanding activities related to developing sensitive and more accurate diagnostic tools and tests for Lyme disease, including evaluating emerging diagnostic methods and improving the utilization of adequate diagnostic testing; expanding its epidemiological research to determine the frequency and nature of the long-term complications of Lyme disease; improving surveillance and reporting of Lyme disease to produce more accurate data on its incidence; and evaluating the development of a national reporting system. (p. 40)

Action taken or to be taken

CDC is working in all of the areas highlighted in the report and will continue to expand these activities. To expand CDC's activities related to developing sensitive and more accurate diagnostic tools and tests for Lyme disease, CDC maintains and distributes upon request a comprehensive serum panel for the purpose of developing and evaluating new diagnostics tests for Lyme disease. CDC will continue efforts to identify unique diagnostic biomarkers and will work with the National Institutes of Health and the Food and Drug Administration to facilitate development and approval of improved Lyme diagnostic tests. Additionally, CDC recently launched a study to detect and identify novel tick-borne pathogens causing illness in the U.S.

To expand epidemiological research and improve surveillance and reporting of Lyme and other tick-borne diseases, CDC completed support of a 5-year research study aimed at identifying and characterizing long-term and potentially chronic complications associated with Lyme disease infection. CDC expects the results to be published in the near future. CDC has also recently expanded the diagnostic biomarker work mentioned above to investigate the metabolic pathways that are potentially implicated in patients with long-term complications following Lyme disease treatment. The goal of the work is to enhance our understanding of post-treatment Lyme disease syndrome and identify the safest and most effective treatment options.

Lyme disease has been a nationally notifiable disease since 1991, and cases are reported to CDC each year through the National Notifiable Diseases Surveillance System (NNDSS). Thus, the principal challenge for surveillance is not the lack of a reporting system but rather assuring that cases are captured and entered into the system. To this end, CDC is funding health departments in over a dozen high incidence states to improve surveillance and reporting for Lyme and other tick-borne illnesses. This funding supports improved reporting by both physicians and laboratories. In addition, through our Emerging Infections Program, CDC is funding research studies in three states to better determine why and to what degree Lyme disease cases are under-reported. This work is designed to evaluate the degree of underreporting for Lyme disease and investigate alternatives to traditional surveillance that may relieve reporting burden. CDC continues to fund and conduct research to validate the most effective prevention methods and approaches for use by individuals and communities, to distribute newly-developed prevention resources and toolkits for prevention education, and to develop a healthcare provider education program based on validated, scientifically-proven research.

Burden of Disease

The Committee expects CDC to use the burden of disease (age-adjusted population) as a significant criteria for activities funded through the Chronic Disease programs and to ensure applicants identify the expected level of community burden reductions, tracked, and reported. (p.41)

Action taken or to be taken

CDC recognizes that the burden of chronic diseases, including cancer, heart disease and stroke, diabetes, and arthritis is significant and pervasive. Thus, CDC considers "burden"—or the inequitable distribution of chronic disease—as one factor in determining funding levels for state chronic disease prevention programs. CDC understands and shares the view of Congress that burden should serve as a significant criterion for chronic disease funding decisions.

Currently, CDC's major chronic disease prevention program funding opportunity announcements (FOAs)⁵⁴⁹ include a base funding amount to ensure adequate support of state chronic disease prevention efforts. This is then modified based on burden of disease, typically defined by disease or risk factor rates or by poverty level as a proxy for burden. CDC's chronic disease prevention programs also includes language in its FOAs that directs grantees to focus their efforts on addressing health disparities by serving populations that experience high burden of disease.

CDC will re-compete the majority of its chronic disease prevention FOAs in FY 2017 and 2018. CDC will continue to adjust funding formulas to better incorporate burden of disease factors to specific state grant programs funded in national FOAs—i.e. those programs that fund all 50 states and Washington D.C. The programs that have FOAs in this category include breast and cervical cancer, heart disease and stroke, diabetes, nutrition, physical activity and obesity, school health and tobacco. The categorical lines supporting these programs account for 63% of CDC's chronic disease prevention funding in FY 2015. The components of the formula will include the following:

- Core amount of funding for every state
- Apply a percentage based on burden of disease or risk factors
- Apply a percentage based on population size
- Develop a funding range that allows CDC to recognize higher quality applications and grantee capacity to meet program goals

CDC will monitor individual grantee performance over the duration of the grant. CDC may make adjustments to funding levels based on the actual performance of the grantees after the initial award year.

Cardiomyopathy

The Committee understands the risk of sudden cardiac arrest is highest among those with undiagnosed cardiomyopathy. The Committee continues support to increase awareness through appropriate public health mechanisms and encourages CDC to consider methods to increase support. The Committee requests an update in the fiscal year 2017 budget request on on-going and planned activities related to pediatric cardiomyopathy. (p.41)

Action taken or to be taken

CDC recognizes the burden of undiagnosed cardiomyopathy. At present, CDC does not have a program to undertake steps to address pediatric cardiomyopathy from a public health perspective. CDC has, however, engaged in specific activities to address pediatric cardiomyopathy. CDC scientists recently reviewed materials from the Children's Cardiomyopathy Foundation and supported a CDC partnership with that organization for Children's Cardiomyopathy awareness month in September 2015. In the past, CDC has collaborated with NIH to establish a Sudden Death in the Young registry that will capture sudden deaths due to cardiomyopathy. The purpose of this collaboration is to review registry variables to ensure appropriate data is captured and assess current data capabilities and future needs. CDC also developed a factsheet highlighting trends in cardiomyopathy rates among children.

Division of Oral Health (DOH)

The Committee expects DOH to support clinical and public health interventions that target pregnant women and young children at highest risk for dental caries. A recent study demonstrates such approaches can result in cost-savings to State Medicaid programs. We further encourage CDC to work across HHS to improve the coordination of oral health surveillance in a manner that reliably measures and reports health outcomes. (p.42)

⁵⁴⁹ Major FOAs are those that fund all 50 states and DC

Action taken or to be taken

The CDC Division of Oral Health (DOH) supports national surveillance and effective population-based strategies that promote oral health and prevent disease. CDC supports interventions that are evidence-based, specifically community water fluoridation and dental sealants. Community water fluoridation benefits people of all ages and socioeconomic groups, including those difficult to reach through other public health programs and private dental care. Systematic reviews of studies have found that fluoridation prevents at least 25% of tooth decay in adults and youth. The application of dental sealants on permanent molars soon after they appear (generally around 6 years of age) reduces decay in these teeth by 81% approximately two years after placement. Delivering sealants to high-risk children saves Medicaid as much as \$6 per tooth sealed over a 4-year period. DOH supports school-based sealant programs that target schools with high populations of low income children at higher risk of dental decay.

DOH also supports states that provide oral health education and fluoride varnish application to younger children. However, there are no population-based strategies (other than fluoridation) for children under five and pregnant women that have an evidence base of effectiveness. DOH continues to review the science and evaluate the effectiveness of our state oral health grants to identify refinements that maximize effective use of funds to improve the oral health of all Americans.

DOH continues to engage with partners across the Agency and the Department to improve coordination and increase efficiency, especially around oral health surveillance. For example, DOH works with CDC's Division of Reproductive Health, which periodically collects Pregnancy Risk Assessment Monitoring System (PRAMS) data to identify risk and opportunity that may disproportionately affect the oral health of pregnant women. CDC also has a Memorandum of Understanding with CMS and HRSA to work collaboratively on oral health programs. Current areas of discussion include the development of consistent school sealant program measures, elimination of barriers to care for underserved populations, and communication among agencies about funding opportunities and policy initiatives.

Diabetes

The Committee provided a significant increase for Diabetes prevention and control activities. The Committee expects support to target communities with the highest burden of disease, as adjusted for population, and to use risk factor reduction measures. The Committee requests a report in the fiscal year 2017 budget request on how the amount of funds provided to state, local, and tribal communities with the highest burden. (p.42)

Action taken or to be taken

Recent competitions have balanced capacity of grantees along with proposed strategies and burden of disease within grantees' jurisdictions as a factor for new awards. In FY 2014, award recipients of CDC's State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke FOA were required to conduct activities that contribute to area-wide health improvements and reductions in health disparities based on robust analysis of area health burden overall and across population subgroups. Minimum target population sizes were not specified due to variances on the unique context of each grantees' jurisdiction. Going forward, CDC will continue to address the high burdens of chronic diseases including diabetes, heart disease and stroke, and will look for ways to incorporate burden of disease and population as criteria for new competitive awards.

Inflammatory Bowel Disease

The Committee continues to support inflammatory bowel disease epidemiology activity and requests an update in the fiscal year 2017 budget request on these efforts. Further, the Committee encourages CDC to continue exploring the disease burden and communicate findings to patients and providers in an effort to improve and inform best public health practices. (p.43)

Action taken or to be taken

CDC researchers continue to publish and disseminate findings from their epidemiological research, including incidence rates and expanded descriptions of symptoms and outcomes, to reach both patients and providers to improve health outcomes and inform clinical and public health practice. Sub-study findings have been disseminated broadly, including: 1) publication in the Inflammatory Bowel Diseases journal, which is distributed by Crohn's & Colitis Foundation of America (CCFA), and broadly distributed to physician members and nonmembers who care for patients with inflammatory bowel disease; 2) presentations at national professional meetings for providers; and 3) translation into layperson-friendly findings for a broader audience through the CCFA website, which serves patients through its national education and support programs. Researchers have examined the impact of IBD on affected persons through long-term follow-up with registrants enrolled in the Ocean State Crohn's and Colitis Area Registry (OSCCAR), a state-based cohort of patients newly diagnosed with IBD in Rhode Island, to describe the variability and progression of patient-reported outcomes, including quality of life, work productivity and outcomes specific to women and children. Researchers are also identifying independent variables (e.g., psychosocial, economic, demographic, clinical, and biological) associated with disparate outcomes in IBD, and identifying variations in the use of medical therapies that independently affect outcomes. This work supports the development of descriptive and predictive models of disease outcomes.

National Lupus Patient Registry (NLRP)

The Committee continues to support the NLRP efforts. The Committee expects CDC to coordinate with NIH to explore new or revised research methods to conduct cohort and burden of illness studies. (p.43)

Action taken or to be taken

CDC appreciates the support of the National Lupus Patient Registry efforts. The CDC Lupus Program regularly coordinates with NIH through presentations to the NIH-led Lupus Federal Working Group, which meets twice a year. CDC provides updates on research methods utilized to conduct cohort and burden of illness studies. The group coordinates respective research agendas and projects to avoid overlap and duplication.

The National Lupus Patient Registry is comprised of five registries located in Georgia, Michigan, California, New York City and the Indian Health Service. For the first phase, the five registry sites screened medical records in their respective communities to help understand how common systemic lupus erythematosus (SLE) is and how frequently it develops in different racial and ethnic groups.

As a result of the National Lupus Patient Registry work, three longitudinal follow-up studies of the established population-based lupus cohorts began in 2011 to determine natural history, access to care, current treatment, factors associated with the previous items, disparities, and other outcomes. These projects are being conducted by the University of Michigan, Emory University, and University of California, San Francisco. This phase is ongoing.

National Diabetes Prevention Program (National DPP)

The Committee appreciates that CDC has ensured the fidelity of the original Diabetes Prevention Program clinical trial through its NDPP by utilizing the evidence-based curricula and having program providers report on participant attendance and observed and measured weight loss. The Committee directs CDC to continue to

ensure accurate results through observed weight measurement. Reliability of this data is critical to ensuring the confidence of various third-party payers. (p.43)

Action taken or to be taken

The majority of CDC's National DPP delivery sites obtain weight via observed measurement. Currently, less than 1% of the Diabetes Prevention Recognition Program (DPRP) sites receive non-observed weight measurements. DPRP sites include major organizations with nationwide reach such as the Y-USA and Jenny Craig who choose to conduct observed weight measurements. This occurs even when some organizations have a combination in-person and virtual delivery component, such as Jenny Craig.

To help ensure that all programs report consistent weights over time, there is an appendix to the DPRP Standards ("Recommended Standards for Measuring Weight"). It is important to note that CDC will continue to assure program quality and results, including assessment of curriculum content, delivery, and implementation. All recognized programs will be accountable to the same standards and any program—virtual or in-person—not meeting all of the DPRP Standards will not achieve full recognition.

National Diabetes Prevention Program (National DPP)

The Committee requests CDC to include long-term public health measures, how this program coordinates with other CDC and HHS programs, and the total amount of federal, public and private sector funds leveraged to support the NDDP annually in the fiscal year 2017 and future budget requests. (p.43)

Action taken or to be taken

In addition to collecting and analyzing specific program data through the Diabetes Prevention Recognition Program, CDC is currently tracking and collecting data on the following program performance measures:

- Increase number of eligible persons with prediabetes or at high risk for type 2 diabetes who enroll in evidence-based lifestyle change programs
- Increase the percentage of eligible people participating in evidence-based lifestyle change programs achieving the recommended 5%-7% weight loss

CDC's work in diabetes prevention also contributes to the "Healthy People 2020" Diabetes focus area for persons at high risk for type 2 diabetes. In collaboration with other federal agencies, partners and stakeholders, these efforts will support the following long term measures:

- Reduce the age-adjusted incidence of diagnosed diabetes among US adults 20 years and older
- Increase the proportion of persons at high risk for diabetes with prediabetes who report increasing their levels of physical activity
- Increase the proportion of persons at high risk for diabetes with prediabetes who report trying to lose weight

CDC has worked with states, national grantees, employers and insurers to secure coverage for the National DPP lifestyle change intervention. Collectively, these efforts have resulted in the National DPP as a covered benefit for more than 1 million employees across the country.

The below provides information on federal, public, and private sector funds that CDC is aware of, leveraged to support the National Diabetes Prevention Program (National DPP).

- CDC's National DPP puts into practice groundbreaking clinical trial findings that type 2 diabetes can be prevented or delayed through lifestyle changes in high-risk adults. In FY2015, a total of \$10 million supported six National DPP grantees
- Through cross-cutting chronic disease prevention cooperative agreements, CDC is increasing coverage of the National DPP's lifestyle change program among state employees and Medicaid beneficiaries to

prevent or delay onset of type 2 diabetes among people at high risk and increasing referrals to and enrollment in CDC-recognized lifestyle change programs. Fifty-one state grantees are focusing their efforts on increasing prediabetes awareness and forty-nine of those are also working to increase referrals to and coverage for the National DPP. Seventeen state and four large cities are working to scale and sustain the National DPP. These grantees funded eighty-five sub-awardees to enroll priority populations in the National DPP. Eight tribes are working to increase prediabetes awareness and four will offer National DPP programs

- CDC is aware that CMS is offering the National DPP through 17 YMCA sites through the Center for Medicare and Medicaid Innovation (CMMI) grants directed towards the Medicare population
- CDC partners with the private sector to increase awareness of prediabetes and referrals to National DPP lifestyle change programs. The first initiative is a national prediabetes awareness campaign developed by the Ad Council in collaboration with CDC, the American Medical Association (AMA) and the American Diabetes Association (ADA). The goals of the campaign are to: increase awareness of prediabetes among the general public; encourage consumers to take the Prediabetes Screening Quiz to know their risk and to engage with their health care provider; and to increase the number of people participating in a CDC-recognized lifestyle change program. The second initiative is a joint effort between CDC and the AMA called Prevent Diabetes STAT that brings together health care providers, community organizations, health systems, government, employers, insurers, and individuals to stop the progression of type 2 diabetes.

Pulmonary Hypertension (PH)

The Committee understands some PH patients are not diagnosed until the late stages of the disease. The Committee encourages CDC to work with providers to increase early diagnosis and awareness of the disease and requests an update in the fiscal year 2017 budget request on steps taken to increase provider awareness of early intervention education. (p.44)

Action taken or to be taken

CDC recognizes the burden of Pulmonary Hypertension and engages in some activities related to Pulmonary Hypertension. Specifically, in 2014 CDC published a comprehensive manuscript on pulmonary hypertension surveillance (*United States, 2001 to 2010*) with mortality trends by race/ethnicity, gender, State, associated conditions, and age, and included hospitalization trends. The publication was accompanied by an editorial and press release, and received considerable press coverage. CDC presented this information at the 2014 Pulmonary Hypertension Association Conference, which targets both patients and their families and clinicians.

Scleroderma

The Committee encourages CDC efforts to improve awareness and education of rare and potentially life-threatening conditions, like scleroderma. (p.44)

Action taken or to be taken

The CDC Arthritis Program recognizes the severity of disease among people affected by scleroderma, which is one of the more than 100 conditions that comprise arthritis and other rheumatic conditions. At present, CDC does not have a program to undertake steps to address scleroderma from a public health perspective.

Sleep Disorders

The Committee is aware of CDC's recent public health awareness work on sleep disorders and requests an update on these activities. The Committee encourages CDC to review the value of a national public health awareness campaign on sleep. (p.44)

Action taken or to be taken

CDC's National Healthy Sleep Awareness Project is intended to raise the public's awareness of the importance of sleep health and sleep disorders, through the American Academy of Sleep Medicine. CDC and AASM launched two new campaigns during the 2014-2015 program year: "Awake at the Wheel" to educate teens and adults on the dangers of drowsy driving and the importance of adequate sleep to prevent car accidents, and "7 and Up" to build awareness of the recommendation for adults to sleep seven or more hours per night. CDC continued the previously launched campaigns "Sleep Well, Be Well," which highlights the importance of sleep to overall health, and "Stop the Snore," which educates about the dangers of obstructive sleep apnea (OSA) and the benefits of treating OSA for overall health. Since launching in 2013, the project has led to more than 1.9 billion impressions and \$7.3 million in ad value.

Epilepsy

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: (p. 56)

Action taken or to be taken

CDC's Epilepsy Program will continue its activities, many related to the recommendations in the Institute of Medicine's *Epilepsy Across the Spectrum: Promoting Health and Understanding*. CDC will continue to work with national partners to improve epilepsy programs, services and outcomes at local and national levels (IOM Report Recommendations 8, 10, 11, 12). The program will also continue to focus on the prevention of epilepsy and its adverse consequences by supporting prevention research and the development and dissemination of interventions that improve the quality of life for people with epilepsy. CDC supports national and targeted public awareness and educational programs about epilepsy, including in schools, college campuses, senior centers, and other community settings. Using data from CDC's National Center for Health Statistics, and tools from the NIH, CDC published recent studies highlighting the burden of psychological distress in U.S. adults with epilepsy (2014), and their barriers to care (2015) (IOM RR 1).

CDC plans to continue its support for the Managing Epilepsy Well (MEW) Network. The MEW network has been effective in advancing the science related to epilepsy self-management and providing evidence-based programs that overcome transportation and stigma barriers available to people with epilepsy (IOM RR 9). In collaboration with NIH, CDC has also implemented activities for the development of a state-based registry to examine the burden of early mortality in young adults with epilepsy in 10 U.S. jurisdictions (IOM RR 3).

Duchenne Muscular Dystrophy (DMD)

The Committee notes the Muscular Dystrophy CARE Act was amended in the fall of 2014. The Committee requests an update in the fiscal year 2017 budget request that describes CDC's plans and timeframe to enhance its collection of surveillance data across all forms of muscular dystrophy and to develop updated care standards, including for adults with Duchenne and for other forms of muscular dystrophy. (p. 45)

Action taken or to be taken

This information is provided in the National Center Birth Defects, Developmental Disabilities, and Disabilities and Health (NCBDDD) budget narrative , Health and Development with Disabilities budget request section, Muscular Dystrophy sub-section.

Duchenne Muscular Dystrophy (DMD) Newborn Screening

The Committee understands a successful DMD newborn screening pilot exists. The Committee requests the Center to conduct a comprehensive review and provide an update in the fiscal year 2017 budget request on how, if scientifically appropriate, CDC can encourage public/private organizations to expand or build on the existing model. (p. 45)

Action taken or to be taken

CDC funded two phases of a pilot newborn screening program for Duchenne muscular dystrophy (DMD) in Ohio. The first phase, from September 2004 through August 2007, was a cooperative agreement with Nationwide Children's Hospital for developing a pilot DMD newborn screening program. This first phase was conducted in a total of four hospitals in Columbus and Cincinnati, Ohio. For the second phase, from September 2007 through September 2010, Nationwide Children's Hospital was awarded a grant for an expansion of the DMD newborn screening to several hospitals throughout the state of Ohio.

Since the completion of the pilot, CDC has participated in a series of meetings sponsored by the Muscular Dystrophy Association (MDA) or Parent Project Muscular Dystrophy (PPMD). At these meetings, experts in newborn screening and Duchenne muscular dystrophy convened to discuss results of the Ohio newborn screening program, the evolving treatment landscape for the DMD, the type of information needed before DMD could be nominated to the recommended uniform screening panel, and discuss planning toward a multi-state DMD newborn screening pilot. CDC investigators are currently participating in the steering committee and subcommittees that are planning the multi-state newborn screening for DMD study.

Fragile X (FXD)

The Committee appreciates that CDC has recognized the public health impact of FXD and its efforts to identify and define this population. The Committee encourages CDC to coordinate with NIH and the FXD Clinical & Research Consortium. The Committee urges CDC to explore cross-divisional funding opportunities to accelerate data driven public health research to reduce the public health burden of both FXD and autism. (p. 45)

Action taken or to be taken

CDC works to understand the public health impact of Fragile X and Fragile X-Associated Disorders. CDC currently supports a 5-year project which coordinates and expands the Fragile X Online Registry With Accessible Research Database (FORWARD) longitudinal database to describe the natural history of FXS across the life span and characterize the impact of interventions and treatments on both health outcomes and quality of life.

The FORWARD database, bridges information across programs as it includes clinical report form questions for enrollees about Autism Spectrum Disorders (ASD) diagnoses. CDC's autism surveillance system, the Autism and Developmental Disabilities Monitoring (ADDM) Network, incorporates information about Fragile X Syndrome in both its case-finding methods and in coding conditions that co-occur with ASD. Findings indicate Fragile X co-occurs in less than 1% of children with ASD (as identified by ADDM).

CDC also funded the project "Enhancing Current Capacity for Surveillance of ASD and Other Developmental Disabilities from a Public Health Perspective" which aims to better implement services and understand the scope of ASDs. Within the program, synergistic efforts were taken to examine the feasibility of determining population prevalence estimates of Fragile X and other single-gene disorders among children with ASD. This pilot study revealed that genetic test results and interpretive reports are rarely available in the health and education records of children with ASD or intellectual disability; these are the types of records used in ADDM. As such, the ADDM methodology is not likely to be a feasible approach for studying Fragile X and alternative methods are needed to investigate these conditions in a scientifically meaningful way.

One alternative method is the use of state-based linked administrative data to study rare conditions. CDC, in partnership with The University of South Carolina, has submitted a paper on the Co-morbid Conditions Associated with Adolescents and Young Adults with Fragile X Syndrome, which includes ASD. CDC will continue to strengthen synergies between its work on these two important conditions.

Prenatal Screening

The Committee notes that rapid scientific advances have brought cell free DNA non-invasive prenatal screening (NIPS) into prenatal care settings. As one of the fastest growing applications of genomic medicine, this test can generate confusion for patients and healthcare providers about the meaning of screening results. The Committee requests a report in the fiscal year 2017 budget request on how CDC and other HHS agencies ensure patients and providers understand the accuracy of and meaning of screening results and tested-for conditions; possible screening results and technical limits of screenings; appropriate follow-up and results communication. The report should also address CDC's role in the development of materials to support the informed consent and patient decision-making and how it is made available to providers and patients involved in the decision making. The Committee expects CDC to also describe how the federal government works with private organizations through public-private partnerships on these issues. (p. 45)

Action taken or to be taken

CDC does not fund non-invasive prenatal screening patient or provider education activities. NIPS tests can offer improvements in detecting increased or decreased risk for specific chromosomal abnormalities when compared to traditional prenatal screening tests. However, NIPS can also produce false positives. The rate of false positives can vary depending on the different chromosomal abnormalities being tested and the background level of risk for specific populations. Communicating the accuracy and meaning of NIPS' results is important for women who are considering more invasive diagnostic procedures, such as amniocentesis or chorionic villus sampling, which are necessary to provide a definitive diagnosis of a chromosomal abnormality. It is necessary to ensure that patients and providers understand the results of NIPS and other prenatal screening tests and when additional diagnostic testing is required.

Specific Birth Defects

The Committee appreciates that the Center's website provides information on a number of birth defects on the specific birth defects webpage. The Committee requests a report in the fiscal year 2017 budget request on the criteria to add new birth defects, as well as treatments, the target audience of the information, how often the information is updated, and how effectiveness of the information is measured and validated to ensure it is useful for parents and providers. Finally, the report should explain whether the Center is considering adding new conditions like persistent pulmonary hypertension of the newborn and autosomal recessive polycystic kidney disease to the list.

Action taken or to be taken

The CDC National Center for Birth Defects and Developmental Diseases (NCBDDD) conducts programmatic work on major birth defects and genetic conditions. The NCBDDD website is designed to improve understanding and raise awareness of these conditions. The specific birth defects and accompanying medical illustrations that are available on NCBDDD's website represent conditions that are most common, and which can be ascertained in a relatively consistent manner, and are subjects of ongoing monitoring and research. However, NCBDDD continues to expand the list as new birth defect illustrations become available, with a goal of expanding the list each year. For instance, illustration, description, and context for the birth defect 'renal agenesis' are being developed and will be included on the website as a specific birth defect in the near future. Persistent pulmonary hypertension (PPHN) is not a structural birth defect but can accompany some structural birth defects such as diaphragmatic hernia. PPHN is a physiologic condition that occurs when the circulatory pattern does not transition after delivery to support life outside the uterus. Although NCBDDD does not plan to add information on PPHN to the

CDC NCBDDD website at this time, a study partially supported by CDC that examined antidepressant medications (selective serotonin-reuptake inhibitors or SSRI) and PPHN is available at <http://www.nejm.org/doi/full/10.1056/NEJMoa052744#t=article>.

The NCBDDD website contains general information on the treatment(s) typically provided for certain birth defects. This information was obtained from published literature. Information on emerging medical treatments under study are not included since they often do not yet have the evidence-base. The NCBDDD website is not intended to provide individual medical advice or to serve as a comprehensive review of treatment options. Instead, NCBDDD encourages parents to see a specialist in their area to assist them with understanding the treatment options that are most appropriate for their specific situation. The information on the NCBDDD website is reviewed and updated annually by CDC subject matter experts. The target audiences for this web content include the general public, parents, healthcare providers, and others interested in birth defects tracking, research, and prevention.

The effectiveness of the NCBDDD website is measured through interviews with partners, card sort testing (aids in determining how webpages should be structured and labeled), usability testing, and page view reports and search term reports. Furthermore, on an ongoing basis, NCBDDD conducts the American Consumer Satisfaction Index (ACSI) survey on the website. This provides a score on how satisfied users are with the website on a number of different points, including content. The NCBDDD website ranks very high with a score around 87 – noting that anything above 80 is considered exceptional.

Spina Bifida Program

The Committee recognizes this complex birth defect affects a number of individuals. The Committee encourages CDC to coordinate with NIH on the identification of research gaps and data that is needed to improve prevention interventions. (p. 45)

Action taken or to be taken

Approximately 1,500 babies born in the United States each year are affected by [spina bifida](#), despite the successes of folic acid fortification. The lifetime direct costs to treat just one child with spina bifida are estimated at [\\$790,000](#). Additional research is needed to learn more about risk factors for neural tube defects that are not preventable with folic acid.

In FY 2015, CDC funded four competitive spina bifida awards to better understand outcomes among individuals with this condition and to identify other modifiable causes. These grantees are studying ways to improve and inform the provision of healthcare to children with spina bifida. CDC is also working to understand factors in addition to folic acid that contribute to the occurrence of spina bifida to identify additional opportunities to prevent this serious condition. In FY 2016, CDC will continue funding two spina bifida research projects at academic institutions to further study folate-resistant spina bifida.

Prescription Drug Overdose Prevention Activity

The Committee commends CDC for its leadership to expand the efforts on prescription drug overdose. The Committee directs the CDC Director to implement these activities based on population-adjusted burden of disease criteria of the mortality data (age adjusted rate) as a significant criteria when distributing funds for the state Prescription Drug Overdose Prevention activities and to adhere to all terms and conditions identified in the fiscal year statement of managers accompanying the 2015 Appropriations Act and accompanying statement for this program. (p. 48)

Action taken or to be taken

This information is provided in the National Center for Injury Prevention and Control (NCIPC) budget narrative, Injury Prevention Activities budget request section.

Sepsis

The Committee encourages CDC to significantly and materially increase its public awareness, outreach, and education efforts on sepsis, including health provider outreach and other related activities to improve diagnosis and treatment of sepsis. These activities should include greater coordination with other federal agencies, including the NIH. (p. 48)

Action taken or to be taken

This information is provided in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) budget narrative, Core Infectious Disease/Antibiotic Resistance and National Healthcare Safety Network subsections for additional information on FY 2016 sepsis activities and proposed FY 2017 sepsis activities.

CDC continues to work with the Centers for Medicare and Medicaid Services (CMS) and other partners, including sepsis advocates, on sepsis awareness activities. Over the next several months, CDC will be launching a campaign for sepsis awareness and early recognition in partnership with many other clinical professional partners and patient advocacy organizations. The goals of the campaign are to emphasize primary prevention of sepsis, increase early recognition of sepsis, and coordinate ongoing antibiotic stewardship programs in healthcare facilities with sepsis early recognition programs. CDC will preview some of the materials in early 2016 to partners prior to the launch.

CDC is also working on several other activities that will address the critical issues that the Committee has raised. In early 2016, CDC will co-host a meeting with the Society of Critical Care Medicine (SCCM) at the CDC headquarters to discuss best practices in sepsis early detection. This meeting is part of an ongoing collaboration with the SCCM and the Surviving Sepsis Campaign to develop guidance for healthcare facilities (i.e., "Core Elements in Sepsis Prevention and Recognition") that will serve as an implementation guide for clinicians who are launching programs in their facilities. Starting with an initial focus on hospitals, CDC will then identify how the lessons learned could be applied quickly to long-term acute care facilities and nursing homes, where many patients who develop sepsis first develop symptoms. Additionally, CDC has started a partnership with American College of Emergency Physicians to enhance sepsis early detection in emergency departments, which are often the first place that many patients who present with early signs and symptoms of sepsis from the community first receive medical care.

On September 9, 2015, CDC hosted a meeting with representatives from SCCM, CMS, and the New York state Department of Health to share current sepsis data to improve sepsis surveillance. CDC has conducted periodic meetings with SCCM and other stakeholders to develop and test sepsis definitions, and encourage use of early interventions to reduce sepsis morbidity and mortality.

CDC also works closely with other federal agencies and currently has regular calls with CMS on a variety of healthcare issues, including sepsis. CDC funds a full-time person at CMS to enhance coordination between the two agencies on healthcare quality issues. In addition to improving sepsis awareness, CDC is currently planning studies that will support CMS in tracking sepsis trends and SEP-1 impact, including:

- Analyzing preliminary CMS claims data as it becomes available, which is typically long before final datasets are released.
- CDC has provided subject matter experts to assist with efforts to raise awareness about sepsis, including at the October 15, 2015 meeting. CMS representatives have participated in sepsis meetings led by CDC, including the September 9, 2015 sepsis data sharing meeting in Atlanta.
- Identifying the impact and potential changes in clinical practice associated with implementation of CMS SEP-1 process measure, including antibiotic use.

While CDC actively works year-round with patient and consumer organizations to raise awareness of sepsis and to improve early detection and treatment, the agency nationally recognizes September as Sepsis Awareness

Month. For this year's campaign, CDC launched a variety of new patient and clinician educational resources in partnership with sepsis awareness leaders, including promoting pediatric sepsis webinars from Children's Hospital Association and a series of blogs highlighting patient stories and clinical best practices. CDC was able to reach hundreds of thousands of patients and clinicians nationwide with these efforts. CDC is continuing outreach by distributing additional educational materials to patients and providers at more than 4,500 U.S. outpatient oncology clinics on how to prevent infections in patients with cancer and how to recognize the early signs of sepsis.

One of CDC's key activities in Antibiotic Resistance includes scaling up the evaluation of sepsis surveillance to help track national sepsis rates, assess the impact of prevention and treatment initiatives, and enable comparisons between health care facilities to identify problem areas. By studying sepsis and working to understand the factors that contribute to it, CDC will be better able to enhance prevention strategies, including current and future education efforts, and save more lives.

Chikungunya

The Committee is aware of the arrival of chikungunya in the Caribbean and encourages CDC to continue its work to prepare and monitor any potential arrival of chikungunya in the United States. The Committee encourages the National Center for Emerging and Zoonotic Infectious Diseases to work with the Center for Global Health on this cross-cutting issue. The Committee requests an update in the fiscal year 2017 budget request on CDC actions with respect to the chikungunya outbreak in Puerto Rico. (p. 49)

Action taken or to be taken

This information is provided in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) budget narrative, Core Infectious Disease budget request, vector borne sub-section.

Global Health Strategy

The Committee requests an update on how CDC, FDA, and NIH jointly coordinate global health research activities with specific measurable metrics used to track the progress toward agreed upon global health goals. (p. 50)

Action taken or to be taken

CDC coordinates global health research with NIH and FDA in many different areas of mutual interest in science and public health. CDC actively participates on the Fogarty International Center's Advisory Board, which provides coordination for the entire NIH global health research portfolio. Our collaborative activities address the HHS [Global Health Objectives](#) to enhance surveillance, prevent health threats, prepare for emergencies, strengthen international standards, catalyze research, strengthen health systems and address changing disease patterns. For example:

- The Global Health Security Agenda will strengthen new strategies and technologies to find, stop and prevent outbreaks of emerging infectious diseases and other health threats.
- Many partners are engaged in Ebola research and development activities to identify clinical candidates and accelerate new early-stage vaccine trials to assess safety and effectiveness including several ongoing clinical trials in the Ebola virus disease endemic countries in West Africa.
- Global Environmental and Occupational Health initiatives address collaborative research in low or middle-income countries on health threats including workplace safety, indoor air quality (cook stoves), food safety, water quality, toxic waste, chemical and radiation safety and climate change and health.
- A global pandemic of poor quality medicines is impacting successful treatment efforts to combat HIV/AIDS, malaria and tuberculosis. Researchers are developing new methodologies to detect problem drugs at the source and address the growing problem of counterfeit medicines.

Neglected Tropical Diseases (NTD)

The Committee notes the threat of NTD like Chagas and Dengue are a serious risk from mosquito-borne viral diseases. The Committee encourages CDC to continue to monitor and evaluate efforts for malaria and NTDs in collaboration with other divisions and agencies. The Committee urges CDC to work closely with NIH and BARDA to identify research opportunities that can lead to improved diagnostics, treatments and vaccines. The Committee expects CDC to conduct close coordination with all its vector borne activities to jointly support advances and development of the next generation of tools to address vector and parasite resistance, and to be vigilant in monitoring for new and resurging threats. (p. 50)

Action taken or to be taken

CDC protects the health of individuals from vector borne infectious diseases, whether caused by a parasite, as with Chagas disease or malaria, or a virus, such as with dengue.

CDC collaborates with a wide array of domestic and international partners to:

- prevent and control malaria, including co-implementing the President's Malaria Initiative PMI with (USAID)
- prevent, control, and eliminate Neglected Tropical Diseases (NTDs)
- provide cross-cutting entomologic expertise and support
- provide essential laboratory support to states, countries, and other partners; and conduct vital research and program evaluation.

New tools and approaches—including diagnostics, strategic use of drugs, surveillance methods, vector control strategies, vaccines, and integrated interventions—are needed to further reduce transmission and overcome technical challenges like drug and insecticide resistance, and to support elimination of malaria and targeted NTDs. Current efforts for malaria include evaluation of improved bednets and insecticides, strategic use of anti-malarial drugs, and development of more sensitive diagnostic tools for improved surveillance to detect low level infections. As an example of diagnostic innovation, CDC is working with the National Institutes of Health (NIH) and other global health programs within CDC to evaluate a multiplex diagnostic assay that can detect exposure to multiple pathogens. By examining a single fingerstick blood specimen, we can perform surveillance for the most prominent NTDs, common arboviruses, and enteric bacterial infections, as well as provide important childhood vaccine coverage data. CDC scientists also routinely conduct research regarding insecticide resistance in mosquitoes that are the primary vectors that spread dengue and chikungunya.

Public Health Emergency Preparedness (PHEP) Cooperative Agreement Program

The Committee seeks to understand how state PHEP funding is supporting capacity building at the state and local levels. The CDC is expected to track PHEP capacity goals via the Public Health Emergency Preparedness Index capabilities tool and work with states to agree on cooperative agreement objectives for each state. The Committee requests an update in the fiscal year 2017 budget request on how CDC is implementing improved public health preparedness capacity measures. (p. 51)

Action taken or to be taken

The National Health Security Preparedness Index™ (NHSPI™; the Index) is a comprehensive annual measure of health security and preparedness at national and state levels. The Index is designed to inform states and all others responsible for health security preparedness in the United States. The Association of State and Territorial Health Officials (ASTHO), through a cooperative agreement from CDC's Office of Public Health Preparedness and Response, coordinated the development of the NHSPI™, along with more than 75 experts representing states, counties, cities, partner federal agencies (including HHS, DoD, and DHS) academia, private sector, and other organizations. The NHSPI™ was built in the context of Presidential Policy Directive (PPD)-8 with the goal of capturing the "whole of community" that influences the health security preparedness of our nation (as defined

in the National Health Security Strategy). Through the "whole of community" lens, the Index relates to many national capabilities.

The NHSPI™ is broader in scope than the Public Health Emergency Preparedness (PHEP) cooperative agreement performance measures. The Index includes approximately 200 public health and healthcare system health security preparedness measures, five of which are PHEP performance measures. CDC encourages PHEP awardees to review NHSPI findings and use the results to help them assess their jurisdictional strengths and weaknesses. The NHSPI™ is intended to strengthen the nation's health security by identifying national and state strengths as well as gap areas, and it can serve as a resource to facilitate quality improvement. In addition, the Index will inform the effective use of health security related funds at the national, state, and local levels and help set priorities. In 2014, the NHSPI™ Project Team will continue to coordinate with additional federal and non-federal partners to enhance the Index.

CDC supports PHEP awardee capacity building and achievement of preparedness goals through a variety of mechanisms.

- Tailored Technical Assistance: CDC developed the *Public Health Preparedness Capabilities: National Standards for State and Local Planning* to serve as national public health preparedness standards that better prepare state and local public health departments for responding to public health emergencies and incidents. These standards focus on desired outcomes, outline the most critical functions for each capability, and provide a planning model that public health departments can use for self-assessment.

Every year, PHEP awardees use these national standards to identify strengths and operational gaps. CDC uses this information to determine the current state of awardee capability status across the 15 preparedness capabilities. Based on this information, CDC works with awardees to develop individual technical assistance plans designed to address identified preparedness gaps. Assistance may include consultation with specific CDC subject matter experts to provide more targeted guidance, identifying awardee training opportunities, and planning exercises to test new plans or corrective actions. In addition to CDC technical experts, PHEP funding supports more than 60 field assignees in state and local jurisdictions to provide capacity-building assistance.

- CDC measures PHEP awardees' progress in capacity building and achievement of preparedness goals and uses the information to design improvement strategies. CDC's PHEP evaluation strategy includes 14 performance measures that evaluate:
 - **Core public health** – measures that assess performance in the health department's critical, routine, day-to-day activities such as laboratory services and public health surveillance.
 - **Pre-incident planning** – process measures that assess crucial preparedness activities, such as identifying and coordinating with partners; defining operational roles; defining triggers for action; and identifying barriers to public health participation in response and recovery.
 - **Response** – measures of performance that occur while conducting, demonstrating, or achieving a capability during an incident, planned event, or exercise including drills.

B&F

The Committee believes it is critical for CDC to ensure appropriate stewardship of public resources, especially buildings and facilities that provide vital capability to the nation. The Committee understands the NIOSH Taft and Hamilton facilities are becoming obsolete. The Committee requests an update in the fiscal year 2017 budget request on CDC's plan to provide appropriate stewardship for these facilities. (p. 51)

Action taken or to be taken

This information is provided in the CDC-Wide budget narrative ,Buildings and Facilities section, NIOSH facilities sub-section.

Neurological Diseases Surveillance System

The Committee requests an update in the fiscal year 2017 budget request describing CDC's role, infrastructure, and tracking systems relative to tracking of epidemiology of neurological diseases, including multiple sclerosis. (p. 52)

Action taken or to be taken

CDC/ATSDR recognizes the burden faced by those with neurological diseases, including Parkinson's disease and multiple sclerosis. The passage of the Amyotrophic Lateral Sclerosis (ALS) Registry Act enabled CDC/ATSDR to create the National ALS Registry. The role of the National ALS Registry is to identify new and existing cases of ALS in the United States, describe the demographic characteristics of those living with the disease, and examine risk factors related to the development of ALS. As a non-notifiable disease, CDC/ATSDR developed a novel approach to identify ALS cases through existing national administrative databases and a secure web portal that identifies cases that may not otherwise be captured in. During CY 2011, CDC/ATSDR identified over 12,000 people living with ALS in the United States and results from CYs 2012-2013 will be available in 2016. CDC/ATSDR is also using the Registry to help scientists recruit ALS patients into clinical trials and epidemiological studies. To date, the Registry has recruited hundreds of patients into 21 different research opportunities, domestically and abroad. Additionally, CDC/ATSDR has funded 10 external research studies to help learn more about the etiology and risk factors for the disease. ATSDR also launched the new National ALS Biorepository, which will offer researchers new insights into ALS, and is unique in that it will pair biospecimens (e.g., blood, hair and nails, brain tissue) with detailed epidemiological and risk factor data from Registry-enrolled patients. Finally, ATSDR is currently working with national ALS support groups to raise awareness among ALS patients about self-enrolling in the web portal.

CDC also supports other, more limited, surveillance systems for several neurological conditions:

- **Muscular Dystrophy:** CDC conducts surveillance of muscular dystrophy at 6 sites across the country through the Muscular Dystrophy Surveillance Tracking and Research Network.
- **Epilepsy:** CDC collects national prevalence data through the National Health Interview Survey, and mortality data from 7 states and 2 urban areas through the Sudden Death in the Young Case Registry.
- **Traumatic Brain Injury:** CDC obtains national mortality and incidence data through vital records data and through data on hospital emergency room visits via the National Electronic Injury Surveillance System—All Injury Program. CDC also obtains state level data from 20 funded states.
- **Cerebral Palsy:** CDC collects data on cerebral palsy from three states through the Autism and Developmental Disabilities Monitoring Network.
- **Stroke:** CDC's collects national mortality data on stroke from vital records data and national hospitalization data from the Healthcare Cost and Utilization Project's National Inpatient Sample. CDC also collects quality indicators for health care from sentinel states via the Paul Coverdell National Acute Stroke Program.

Cross-Border Disease Control

The Committee requests CDC to provide a report in the fiscal year 2017 budget request on how CDC coordinates its various programs with State and local public health departments to measure, track, control, and manage cross-border infectious disease in high volume port cities.

Action taken or to be taken

CDC coordinates with state and local public health agencies in a variety of ways to mitigate public health risks associated with travelers arriving into the U.S., as a routine matter and during significant events such as the Ebola response. While CDC works to mitigate the risk of importation of communicable disease at all 328 U.S. ports of entry, the agency maintains a permanent field presence through each of its 20 quarantine stations, which are generally co-located with high-volume ports of entry.

Public Health Leadership and Support

The Committee expects the fiscal year 2017 budget to include specific details of each budget activity supported with these funds, including functions, mission, full time employees, bonus, travel costs, and other typical object class data and information for each separate activity supported through the Public Health Leadership and Support funding line. The Committee also expects specific performance measures to evaluate the effectiveness of each office and function. Finally, for each office and function, the Committee expects the budget will describe clearly what the prior year funds supported, the current year projections and proposed budget year policy for each activity. (p. 53 - 54)

Action taken or to be taken

This information is provided in the CDC-Wide budget narrative, Public Health Leadership and Support budget request section.

Advocacy Restrictions

The Committee requests an update in the fiscal year 2017 budget request describing CDC's current mechanisms and processes to prevent advocacy violations. Further, CDC should describe its on-going efforts to educate its staff and recipients to prevent violations. (p. 54)

Action taken or to be taken

CDC provides information and guidance to staff and awardees on provisions governing the use of appropriated funds by CDC. CDC guidance to funded organizations, ["Anti-Lobbying Guidance for CDC Grantees"](#), which provide an overview of the restrictions. Staff and Awardees are informed of the guidance as well as CDC's revised grant policy, [Additional Requirement 12](#). Additionally, CDC provides trainings for awardees to clarify and explain the restrictions in place for their award. Further, CDC has educated staff, including project officers who work with awardees on these restrictions.

CDC Data Collection Duplication

The Committee requests a report in the fiscal year 2017 budget request detailing its data collection responsibilities and examining potential duplication of effort with the National Health and Nutrition Examination Survey (NHANES) and American Heart Association. (p. 54)

Action taken or to be taken

The American Heart Association (AHA) relies extensively upon data from the National Health and Nutrition Examination Survey (NHANES) for the production of the annual AHA Statistical Update, the major report on monitoring cardiovascular health and disease in the US population. Detailed information to determine the prevalence of major diseases and risk factors is provided by the NHANES household interview, extensive physical

examination, and laboratory measures. This collaboration with the AHA strengthens NHANES by identifying and addressing emerging public health issues, increasing data quality through input of subject matter expertise and consultation, and the sharing of statistical skills and authorship to enhance the contributions of the NHANES data to the scientific community and public health.

Long standing partnerships such as those with the AHA leverage the NHANES infrastructure and provide a more efficient means to collect health information of considerable value to federal agencies as well as external entities. The NHANES and AHA collaboration is highly productive, convening joint workshops and Science Advisory meetings. Each year, AHA, in conjunction with the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) bring together the most up-to-date statistics on heart disease, stroke, other vascular diseases, and their risk factors and presents them in its Heart Disease and Stroke Statistical Update. The Statistical Update is a critical resource for researchers, clinicians, policy makers, and many others who seek the best available national data on heart disease, stroke, and other cardiovascular disease-related morbidity and mortality. Data from NHANES are used extensively in this annual report and are acknowledged as one of the most important sources of information for disease and risk factor prevalence, as well as nutrition statistics. The AHA collaboration with CDC, NIH, and NHANES is an example of leveraging high quality data to maximize efficiency and enhance analytic utility while minimizing duplication.

Transparency

Sound science, peer review and transparency are essential to effective protection of public health. The Committee is concerned that data from scientific studies utilized in forming public policy may not be available for public review, even under Freedom of Information Act requests. The Committee believes that if public policy is based on a scientific study, that study should be available for public review. The Committee urges the CDC to immediately provide, on its website, the data and studies it uses to support public policy used by CDC or other federal agencies based on CDC studies. (p. 55)

Action taken or to be taken

In developing public policies, an extensive review is done for scientific studies to support the best course of evidenced-based action toward protecting the public's health. This is rarely based on a single study; usually a number of studies yield evidence to support evidence-based action. Some may be in the form of meta-analysis that draw from several data sources within or outside of CDC.

CDC believes that public health and scientific advancement are best served when data are released to, or shared with, other public health agencies, academic researchers, and appropriate private researchers in an open, timely, and appropriate way. CDC shares data it collects in several venues using technological advancement to promote use of its data <http://www.cdc.gov/DataStatistics/>. A CDC data access plan http://www.cdc.gov/od/science/docs/Final-CDC-Public-Access-Plan-Jan-2015_508-Compliant.pdf and policy supports making data CDC generates or funds available to the extent feasible, while protecting privacy and confidentiality.

In compliance with the OSTP memorandum "Increasing Access to the Results of Federally Funded Scientific Research" and OMB directive M13-13—CDC authors will make data underlying scientific papers accessible at the time of publication. In general, whether publication emanates from the data or not, the final version of a data set intended for release or sharing will be made accessible as soon as possible, and within 30 months after the end of data collection. Furthermore, CDC has fully implemented a Public Access to Publications policy which makes CDC-authored publications available to the public at no cost as soon as possible, and within one year of publication. To increase transparency, the publications in the CDC repository will be linked to their associated data.

Advanced Molecular Detection Initiative

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Advanced Molecular Detection Initiative. (p.55)

Action taken or to be taken

The Advanced Molecular Detection (AMD) program is funding the application and deployment of next-generation sequencing and bioinformatics in dozens of areas within CDC and the US public health system. The following is a summary of progress in three of the highest priority domains in the program:

Food Safety

- PulseNet is the nation's network of 86 state and local public health laboratories that perform "DNA fingerprinting" of bacterial isolates from persons with foodborne illness. Since the system was established in the 1990s, it has used PFGE as the fingerprinting technology. It is now replacing that technology with Whole Genome Sequencing (WGS), which provides finer resolution, more accurate, and potentially less expensive typing of isolates.
- Over 5 years CDC seeks to transition PulseNet by replacing pulse-field gel electrophoresis (PFGE) with whole-genome sequencing (WGS)
- Status: The program is on track to complete this transition for all key bacterial foodborne pathogens and in almost all laboratories by the end of the 5-year period. Ten state public health laboratories are now participating in a pilot, and another 16 are ready to join in early 2016, with several others later in the year.

Tuberculosis

- An important component of the control of tuberculosis is the ability to identify possible cases of recent transmission and intervention to interrupt that transition. This requires accurate DNA fingerprinting of isolates.
- The current technology for this (MIRU/VNTR) is inadequate for certain strains transmitted within the United States. WGS provides a finer typing of the isolates, including the ability to separate strains that are indistinguishable by MIRU/VNTR. CDC seeks to transition from MIRU/VNTR to WGS nationwide over five years.
- Status: The protocols and standards for WGS have been established and the technology rolled out to two reference labs, with another 4 projected to come online in early 2016. The program at CDC is exploring the feasibility of sequencing individual isolates simultaneously with other bacterial pathogens (e.g., foodborne pathogens from PulseNet), which would allow the technology to be implemented beyond the larger reference laboratories. The national TB system is projected to have completed the transition to WGS by late 2017.

Influenza

- CDC types thousands of influenza specimens a year for vaccine strain selection. The current system of virus typing requires isolating the virus from a sample through serial culture, than subjecting the isolate to somewhat labor-intensive typing methods.
- This pipeline is being replaced with WGS directly from specimens, without the need for isolation and serial culture. The results are more timely and detailed data than has ever been available. The results are also thought to be more representative, since certain important influenza strains grow poorly in culture.

- CDC seeks to transition the national influenza virus typing system from traditional methods to WGS over five years.

Status: One of three of CDC's influenza reference laboratories have completely transitioned to WGS and the other two are projected to be on board by March. The next step is development of a cloud-based information management system that may serve as a model for other such systems at CDC

Asthma

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Asthma. (p.55)

Action taken or to be taken

CDC appreciates the Committee's interest in the National Asthma Control Program. The National Asthma Control Program helps millions of Americans understand, manage, and gain control over their asthma. The program seeks to reduce number of deaths, hospitalizations, emergency department visits and limitations on activity, such as work or school days missed due to asthma. In FY 2017, CDC will continue to provide funding to state health departments to implement comprehensive asthma control programs, which focus on interventions that are most effective for controlling asthma: proper medical management, self-management education, and home- and school-based trigger reduction. CDC plans to award the fourth year of funding of a five-year cooperative agreement cycle in FY 2017. CDC will also continue to offer tools, methodologies, and guidance documents as technical resources for state and local public health practice related to asthma.

Asthma surveillance is important to understand asthma trends and identify people who are most at risk of developing asthma or having asthma-related illness. In FY 2017, CDC will continue asthma surveillance activities, including continuing to support the use of the Behavioral Risk Factor Surveillance System (BRFSS), and the Asthma Call-Back Survey which is administered by the ACBS, as well as publish three asthma stats documents to provide national estimates of asthma burden.

Atrial Fibrillation

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Atrial Fibrillation. (p.56)

Action taken or to be taken

CDC recognizes the burden of Atrial Fibrillation (AFib). While CDC does not currently have a comprehensive public health program to address AFib, CDC does engage in specific activities around AFib. CDC's Paul Coverdell Stroke Program encourages better identification of AFib among patients experiencing an acute stroke of undetermined etiology. CDC has also been involved in producing scientific publications related to AFib. For example, in 2013, CDC published an article in the Journal of Atrial Fibrillation entitled "Atrial Fibrillation Associated Costs for Stroke Hospitalizations of Medicare Beneficiaries in the Stroke Belt of the United States." According to the findings, the costs of stroke hospitalizations are high, and they are even higher if the patient has AFib. CDC is currently working on an updated surveillance paper regarding AFib and is working to develop a strategic plan for future AFib publications. In October 2014, CDC participated in an AFib prevention symposium hosted by the Alliance for Aging Research. The Symposium focused on balancing the risk of stroke and the risk of bleeding in older patients.

Division of Adolescent and School Health (DASH) Update

Division of Adolescent and School Health (DASH) to evaluate and improve school HIV prevention activities and increase outreach strategies. (p.56)

Action taken or to be taken

CDC is focused on reducing the burden of new HIV infections among young people through a 5-year cooperative agreement, Promoting Adolescent Health Through School-Based HIV/STD Prevention and School-Based Surveillance. Through this program, education agencies receive funding to implement two key strategies: 1) school based HIV/STD prevention that includes funding to 19 state education agencies (SEAs) and 17 local education agencies (LEAs); and, 2) school centered HIV/STD prevention for Adolescent Sexual Minority Males (ASMM) that provides funding to three local education agencies (LEAs) to implement targeted multi-component prevention activities for ASMM ages 13-19.

The program evaluation focuses on the priority sites with whom funded SEAs and LEAs work. An innovative online Program Evaluation Reporting System (PERS) is used by grantees to submit data semiannually, and DASH uses this system to generate grantee feedback reports. The system allows partners to enter information for each priority site with which they work, and for their overall program. Semi-annual and annual reports are produced within two months of the close of each evaluation period. In addition to the self-reported data in the PERS, annual reports include data from the Division's School Health Profiles surveillance system. These reports provide the information funded partners need to improve their programs. CDC provides semi-annual webinars or trainings for funded partners on how to enter and how to use their data as well as ongoing technical assistance, a PERS user manual, and trainings for CDC staff. A comprehensive, all-site summative report, to be delivered at the end of the funding cycle (fiscal year 2018), will also include Youth Risk Behavior Surveillance (YRBS) data.

CDC also conducts applied evaluations to provide additional evidence about the effectiveness of program strategies for which less scientific data are available. The applied evaluation for the ASMM project includes formative surveys and interviews with black and Latino ASMM; and baseline surveys of school and community organization staff in all three cities. In addition, one of the three cities has been designated as an enhanced evaluation site. Enhanced evaluation activities include a baseline survey of 11,000 high schools students and an assessment of school climate in seven priority schools.

CDC is also currently evaluating the implementation of sexual health education for all students in the Fort Worth Independent School District. This program has implemented professional development and ongoing support for health education teachers, the use of systematic processes to select and tailor the curriculum, and delivery of the curriculum. The goal is to 1) Identify how professional development and teacher supports can improve effective delivery of a curriculum; and 2) Understand how these supports combined with strategic selection of materials can affect student knowledge, attitudes, and behaviors.

Hydrocephalus

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Hydrocephalus. (p.56)

Action taken or to be taken

CDC's Metropolitan Atlanta Congenital Defects Program (MACDP) monitors the prevalence of major birth defects, including congenital hydrocephalus, among children up to 6 years of age who are born in the metropolitan Atlanta area. MACDP does not collect data on this condition for older children and adults. The program continues to monitor hydrocephalus in FY 2017 and beyond as part of MACDP's population-based tracking of major birth defects. Additionally, many state birth defect programs across the United States also track the occurrence of hydrocephalus.

CDC's National Birth Defects Prevention Study (NBDPS), one of the largest studies on birth defects in the United States, has collected information on risk factors for hydrocephalus from ten Centers for Birth Defects Research and Prevention for births from 1997 through 2011. NBDPS is no longer enrolling participants, but the data continue to be analyzed. As of April 2015, 28 publications using NBDPS data have examined paternal and maternal risk factors for hydrocephalus. Research areas have focused on:

- Examining the association between maternal medication use during pregnancy and the association with a spectrum of major, structural birth defects (including hydrocephalus). For example, babies of mothers who reported use of opioid analgesic medications during early pregnancy were observed to have twice the risk of hydrocephalus compared to the babies of mothers who did not report use of these medications (Broussard, et al. Maternal treatment with opioid analgesics and risk for birth defects. Am J Obstet Gynecol. 2011 Apr; 204(4):314.e1-11.).
- Examining the association between hydrocephalus and a number of maternal and paternal demographic characteristics and exposures such as health conditions, occupation, and injury. For example, pre-gestational diabetes has been observed to be a significant risk factor for hydrocephalus (Correa et al., Diabetes mellitus and birth defects. Am J Obstet Gynecol. 2008 Sep; 199(3):237.e1-9.; Correa et al. Lack of periconceptional vitamins or supplements that contain folic acid and diabetes mellitus-associated birth defects. Am J Obstet Gynecol. 2012 Mar; 206(3):218.e1-13.).
- Describing hydrocephalus as an associated defect for babies with orofacial clefts and atrioventricular septal defects.
- Including infants with hydrocephalus in studies of the prevalence of maternal report of an abnormal prenatal ultrasound examination and the association between birth defects and prematurity and small for gestational age (Miquel-Verges et al. A spectrum project: preterm birth and small-for-gestational age among infants with birth defects. J of Perinatol. 2015 Mar;35(3):198-203.; Weedn et al. maternal reporting of prenatal ultrasounds among women in the National Birth Defects Prevention Study. Birth Defects Research, Part A. 2014; 100:4-12.).

Interstitial Cystitis

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Interstitial Cystitis. (P.56)

Action taken or to be taken

CDC supports the “Epidemiology of Interstitial Cystitis in a Nationwide Multiethnic VA Cohort” conducted by Cedars-Sinai Medical Center through the “Epidemiologic Study of Interstitial Cystitis” cooperative agreement. The goals of this project are to estimate interstitial cystitis (IC), expand on preliminary findings on IC in the United States, and enhance understanding of the demographic and clinical characteristics of IC, variation in clinical practices, and the impact of the disease. Cedars-Sinai has received IRB approval and has started the process to secure national VA data. This project will augment previous epidemiologic studies in IC and improve the effectiveness of education and awareness activities through filling current research gaps. It is intended to provide the public health data necessary for a better understanding of the epidemiology and treatment of IC—data essential to continue effective provider and public education, to inform clinical best practices, and to develop and target interventions for groups at high risk. As part of the cooperative agreement, Cedars-Sinai Medical Center will develop a detailed dissemination plan that will describe how the collected data will serve as a resource to key public health practitioners, academic researchers, governmental agencies, private organizations, and the public.

National Mesothelioma Patient Registry

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: National Mesothelioma Patient Registry (p.56)

Action taken or to be taken

The National Mesothelioma Virtual Bank for Translational Research NVMB exists to 1) expand the collection of biological specimens and related patient, clinical, and demographic data and 2) provide these as a resource for biomedical researchers and the clinical science community focused on malignant mesothelioma.

NIOSH estimates approximately 2,700-2,800 deaths per year from mesothelioma occurred in the United States during 2009-2014. Recent estimates from the American Cancer Society indicate that about 3,000 people are diagnosed with mesothelioma each year. Once an individual is diagnosed with the disease, life expectancy is typically 5 years or less, even with early diagnosis. The more advanced the disease at the time of diagnosis, the shorter the life expectancy. NMVB provides critical support for the biomedical research community that may lead to improved health and survival outcomes for mesothelioma patients.

The current award funding period ends in August 2016. NIOSH is preparing a competitive funding opportunity announcement to provide continued support for the National Mesothelioma Virtual Bank. This will allow the NVMB to continue its scientifically rigorous process of collecting biological specimens, documenting/verifying related patient, clinical, and demographic data, and matching available specimens with critical research needs. The NVMB will also be able to continue efforts to increase the awareness of potential donors and researchers about this resource. The ultimate goal is to better understand the disease and its progression, and provide improved methods for diagnosing and treating this work-related disease.

Nutrients

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Nutrients. (p.56)

Action taken or to be taken

More information on CDC's activities related to nutrients can be found in the National Center for Chronic Disease Prevention and Health Promotion, Nutrition, Physical Activity and Obesity budget narrative, and in the National Center for Birth Defects, Developmental Disabilities, Disability and Health, budget narrative, Child Health and Development section, Folic Acid sub-section.

Neonatal Abstinence Syndrome

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Neonatal Abstinence Syndrome. (P.56)

Action taken or to be taken

CDC recognizes the significant public health concerns arising from opioid medication exposure in pregnancy and potential adverse sequelae for infants prenatally exposed to opioids. CDC's [Treating for Two: Safer Medication Use in Pregnancy](#) initiative aims to improve the health of women and babies by working to identify the safest treatment options for the management of common conditions before and during pregnancy. Treating for Two relies on the [Centers for Birth Defects Research and Prevention](#) (CBDRP) to accelerate epidemiologic research on medication safety in pregnancy. In particular, the Birth Defects Study to Evaluate Pregnancy Exposures ([BD-STEPS](#)) collects information on maternal medication use during pregnancy, including self-reported opioid use. In addition, Treating for Two is utilizing health insurance billing data to understand patterns of medication prescriptions for women.

As part of Treating for Two, CDC scientists have published and continue to monitor the prevalence of opioid use among pregnant women and women of reproductive age. CDC scientists are currently investigating associations between opioid use in pregnancy and adverse birth outcomes such as specific birth defects, low birth weight, and premature birth and are also exploring opportunities to expand outcomes of interest, including neurodevelopmental outcomes. CDC's recent research has found that during 2008–2012, on average, 28% of women aged 15–44 years with private health insurance and 39% of women with Medicaid filled a prescription written by a healthcare provider for an opioid medication. (Ailes EC, Dawson AD, Lind JN, Gilboa SM, Frey MT, Broussard CS, and Honein MA. CDC. Opioid prescription claims among women of reproductive age — United States, 2008–2012. MMWR. 2015 Jan 23;64(2):37–41.)

Treating for Two is committed to expanding and focusing activities on opioid use in pregnancy and the risks posed by these exposures. CDC is collaborating with colleagues at the National Institute of Child Health and Human Development (NICHD) and several clinical partner organizations to convene a workshop on opioid use in pregnancy and Neonatal Abstinence Syndrome (NAS) and other perinatal health outcomes. In addition, CDC has provided technical assistance to enable states to build on existing infrastructure of population-based birth defects surveillance systems or other existing frameworks to monitor the birth prevalence of NAS.

In 2016, CDC will publish Opioid Prescribing Guidelines for Chronic Pain, which include specific prescribing considerations when treating pregnant women.

CDC participated in a Government Accountability Office Study on Prenatal Drug Use and Newborn Health GAO-15-203: Published: Feb. 10, 2015 and responded to questions about House Bill 1462 "Protecting Our Infants Act of 2015" from the Congressional Budget Office.

Perinatal Collaboratives

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Perinatal Collaboratives. (p.56)

Action taken or to be taken

CDC awarded six state cooperative agreements (California, Illinois, Massachusetts, New York, North Carolina and Ohio) for the State-Based Perinatal Quality Collaboratives (PQCs) Cooperative Agreement (September 30, 2015 through September 30, 2017). These PQCs will improve the quality of perinatal care in these states by reducing maternal morbidity and mortality, reducing scheduled deliveries without a medical indication (also known as elective deliveries) before 39 weeks gestation, increasing use and documentation of use of antenatal steroids for impending preterm births, increasing breastfeeding rates, and reducing hospital-acquired neonatal infections. In addition, through a cooperative agreement with the March of Dimes (FY 2015–FY 2016), CDC is supporting the development of a National Network of Perinatal Quality Collaboratives in an effort to further support nationwide state-based PQCs. Much progress has been made since the initiation of the PQCs in FY 2011 (only three grantees were funded initially). The California PQC has shown a 57% decrease in the percentage of elective deliveries (37–38 weeks gestation). The New York State PQC has shown a 92% decrease in elective deliveries (36–38 weeks gestation) including an 86% decrease in labor inductions and a 94% decrease in scheduled C-sections without a medical indication between September 2010 and December 2013. The Ohio PQC, from September 2008 to March 2014, saw an estimated cost savings of over \$27,789,000 associated with a shift of 48,400 births to 39 weeks gestation or greater and a 68% decline in the rate of deliveries less than 39 weeks without a medical indication.

Vision Health Initiative

The Committee requests general updates in the fiscal year 2017 budget request for each of the listed topics that describe the latest efforts ongoing and planned: Vision Health Initiative. (p.56)

Action taken or to be taken

CDC's Vision Health Initiative (VHI)—funded by the Visual Screening Education line—will develop, test, and implement a vision and eye health surveillance system using existing surveys and other administrative and electronic data sources. The system will provide population estimates of vision loss function, eye diseases, health disparities, and barriers and facilitators to access vision and eye care at the national, state, and community levels. This system will be disseminated and shared with researchers, epidemiologists, health care providers, and other end users for implementation and evaluation purposes. In collaboration with the Institute of Medicine, the VHI will also release a CDC-sponsored report titled Public Health Approaches to Reduce Vision Impairment and Promote Eye Health that will provide recommendations to improve the vision and eye health of the nation.

Additionally, CDC will continue support for two research demonstration projects examining methods to improve glaucoma detection, referral, and treatment for high risk populations. The project funds Johns Hopkins University to develop a practical algorithm targeting high-risk minority populations to detect glaucoma cases in the community and identify other eye conditions (refractive error, cataract, and diabetic retinopathy). Wills Eye Hospital is funded to test a telemedicine, community-based intervention using fundus photography to increase the detection of previously undiagnosed glaucoma and other eye diseases in high-risk populations. This project is done in conjunction with Federally Qualified Health Centers and primary care providers. The demonstration project will assess the cost of the public health interventions to detect and manage glaucoma among high-risk populations.

CDC is also working with the National Association of Chronic Disease Directors to develop an initiative to address vision and eye health at the state level by working with state health departments and other state level partners to include vision and eye health into broad public health activities.

SIGNIFICANT ITEMS IN FY 2016 APPROPRIATIONS REPORTS - SENATE

Significant items for inclusion in the FY 2017 Centers for Disease Control and Prevention Congressional Justification from the Senate Appropriations Committee, L-HHS Subcommittee.

Adult Vaccinations

National childhood vaccination rates are high, but adult vaccination rates continue to lag. Adult immunizations are important to prevent long-term illness, hospitalization, death, and unnecessary healthcare expenditures. Therefore, the Committee directs CDC to find new ways to increase adult immunization rates for recommended vaccines to achieve Healthy People 2020 targets. (p. 57)

Action taken or to be taken

CDC recognizes that unlike the successes in childhood vaccination rates, adult vaccination rates continue to lag far below Healthy People 2020 targets and racial and ethnic disparities persist. There are many challenges to vaccinating adults, including the diversity of providers and settings in which adults receive preventive services, limited awareness among adults about the vaccines recommended for them, concerns by providers regarding payment adequacy for vaccines and vaccine administration, complexities in vaccine and vaccine administration payment, challenges experienced by many providers in incorporating adult vaccine needs assessment and immunization into busy clinical settings, challenges with vaccine record keeping for adults, and complexities of adult vaccine recommendations.

In general, surveys of the public indicate that most adults are interested in vaccines for themselves when they are provided information about vaccines recommended for them; providers of care for adults also are supportive of immunizations; and most adults have health insurance which includes coverage of some or all vaccines routinely recommended for adults.

Collaboration and communications among the many providers that adults access for care are essential for improving adult immunizations. To improve collaboration and increase the use of CDC recommended vaccines for adults, the Immunization Action Coalition, the National Vaccine Program Office and CDC co-lead the National Adult and Influenza Immunization Summit (NAIIS). The NAIIS is a national coalition with over 150 organizations represented, including local, state, and federal public health; professional medical, nursing, and pharmacist organizations; manufacturers and distributors; occupational health and community health; and others. Gaps identified include needs to improve awareness among the public and providers regarding adult immunizations; support for improvements in state and local immunization information systems and their use by adult providers; and identification and reduction in practice-level barriers for providing adult vaccination services.

In order to improve provider awareness and routine implementation of adult vaccination services and to improve readiness for emergency immunization programs, e.g. pandemic influenza vaccination, CDC has funded cooperative agreements with American College of Physicians, American College of Obstetricians and Gynecologists, American Academy of Family Physicians, American Pharmacists Association, and National Association of Chain Drug Stores. To improve the public health infrastructure for adult immunizations, CDC has also funded ten health departments (Arizona, California, Nevada, Texas, Missouri, Wisconsin, Michigan, Philadelphia, New Hampshire, and New York City) to work with providers, health systems, community health centers, and pharmacies to improve routine vaccine needs assessment and reporting of immunizations to state immunization information systems, and to address disparities in adult immunization coverage in their jurisdictions. CDC also annually evaluates and publishes vaccine coverage rate data on adult vaccinations. Additionally, CDC is currently providing funds to six states (Oregon, North Dakota, Wisconsin, Michigan, Minnesota, and New York City) to increase use of immunization information systems by adult vaccine providers.

Universal Influenza Vaccine

The Committee recognizes the significant threat of epidemic and pandemic influenza and encourages CDC to support organizations with the research and development capacity to combine computational modeling, vaccine development including human and animal testing for efficacy, and global threat surveillance capabilities to quantify the incidence of secondary infection from influenza. (p. 58)

Action taken or to be taken

CDC appreciates the Committee's ongoing recognition of the serious public health burden of seasonal influenza and continued commitment to fostering pandemic preparedness. Influenza viruses present public health authorities with unique challenges—they are notoriously unpredictable as they constantly undergo some degree of genetic change. These changes can be small and may accumulate over time (antigenic drift) or may be rapid and lead to a pandemic (antigenic shift). The viruses' propensity toward change requires annual review of both the northern and southern hemisphere vaccine composition, and updates as necessary of these products. Globally coordinated epidemiologic and virologic surveillance is the foundation of the influenza vaccine virus selection and development process. Ensuring that the system has the best technologies at its disposal to analyze influenza viruses and contribute to the production of influenza vaccine is equally important. Surveillance is also critical in early identification of the emergence of a novel influenza virus that could cause a pandemic.

In conjunction with supporting HHS efforts, CDC has undertaken a number of activities designed to increase the likelihood that annual vaccines are well-matched to the circulating strains, including improving global surveillance and virus characterization to detect new emergent strains more quickly, incorporating technological improvements to speed production and regulatory timeliness, and initiating work towards "universal" vaccines that would be less reliant on antigenic match. In particular, CDC has produced novel chimeric candidate vaccine viruses designed to elicit broadly protective immunity and continues to work on improving assays that would detect the body's immune response to universal vaccine products that are in early stages of development.

CDC's work supporting universal vaccines is complementary to the National Institutes of Health (NIH) and the Biomedical Advanced Research and Development's research and development efforts supporting these candidates.

HHS shares with the committee the desire to work toward the development of this single vaccine that would provide safe, effective and long-lasting immunity against a broad spectrum of influenza viruses, both seasonal and novel. HHS looks forward to the continued ability to support partner organizations that are engaged in work in this arena.

Drug Resistant Tuberculosis (TB)

In its 2013 report on antimicrobial resistance, CDC identified drug resistant TB as a serious public health threat to the United States. The Committee recognizes the urgent need for shorter, safer, and more tolerable treatments for drug resistant TB. Further, the Committee applauds the CDC Division of TB Elimination for its efforts assisting State and local public health programs to prevent outbreaks of drug resistant TB and urges the Secretary to work with CDC and the Federal TB Task Force to ensure that States have the resources to identify, treat, and prevent drug resistant TB. (p. 59)

Action taken or to be taken

The urgent need for shorter, safer, and more tolerable treatments for drug-resistant tuberculosis (TB) still exists. CDC conducts clinical trials through a consortium of institutions who carry out the studies under contract. The TB Trials Consortium, (TBTC) is developing better regimens for treating latent TB infection, drug-susceptible TB, drug-resistant TB, and TB in special populations including children, persons living with HIV/AIDS, and persons with diabetes mellitus. Examples of current clinical trials include 1) a study to shorten regimens for pulmonary TB using Rifapentine; 2) a randomized controlled trial of adherence to shortened latent TB infection treatment

that compares directly observed therapy and self-administered therapy; and 3) a Phase II trial assessing efficacy and tolerability of three higher-doses of levofloxacin versus standard-dose levofloxacin or standard-dose moxifloxacin for the treatment of MDR TB.

To assure that TB elimination activities can be carried out throughout the United States, CDC distributes program funding according to a formula that is based on the number of cases of TB disease (averaged over the previous three years) and takes into account case complexity (how many cases were drug resistant). Funding also supports training in TB prevention and control, with a focus on both drug-susceptible and drug-resistant disease. In addition, the formula allows CDC to credit health departments with above-average progress on two key indicators: completion of therapy for persons with TB disease and drug susceptibility testing. CDC provides funding for TB elimination activities and laboratory support to all 50 states, 10 large cities, Washington D.C., Puerto Rico, the Virgin Islands, and other territories.

CDC also responds to requests for technical assistance and provides supplemental funding to health departments that need more capacity to conduct challenging contact investigations, which are many times associated with identifying and preventing the spread of drug-resistant TB.

The recently released National Action Plan for Drug-Resistant TB, which follows on the FY 2016 Combating Antibiotic Resistant Bacteria initiative, addresses improved surveillance, contact investigations, a stockpile for TB drugs and diagnostic materials, and treatment and hospitalization at NIH of patients with MDR or XDR TB.

Hepatitis B

The Committee is concerned that the Division of Viral Hepatitis [DVH] has not been prioritizing Hepatitis B Virus [HBV], as evidenced by the Center's most recent strategic plan that neglected to include goals, indicators, or strategies for reducing morbidity, mortality, and health disparities associated with chronic HBV infection. The Committee encourages DVH to focus on strategies that focus on the elimination of HBV for all populations. (p. 59)

Action taken or to be taken

Preventing hepatitis B virus (HBV) infection remains a priority for CDC. This priority is reflected in the final version of the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) strategic plan, which includes goals, indicators, and strategies for reducing morbidity, mortality, and health disparities associated with HBV infection. For example, the plan includes measures for the prevention of hepatitis B deaths (NCHHSTP indicator 2.1.a) and increasing the proportion of HBV infected persons who are aware of their hepatitis B status (NCHHSTP indicator 2.4.b). NCHHSTP strategy 5.3 focuses on increasing knowledge and adoption of healthy behaviors, such as enhancing education of providers and communities to reduce health disparities and reducing viral hepatitis caused by drug use behaviors. The NCHHSTP strategic plan will also help CDC monitor the impact of the agency's recommendations for hepatitis B vaccination, and CDC-U.S. Preventive Services Task Force recommendations for testing and linkage to care.

Over time, CDC expects to address the burden of hepatitis B in multiple ways, including strengthening surveillance and monitoring to better identify communities in need; using data to target and evaluate prevention services for hepatitis B; implementing culturally-appropriate education and outreach to reduce health disparities; and increasing the number of community-based testing and linkage to care projects. The community-based test and care projects will improve the capacity of health-care providers serving persons born in countries where hepatitis B infection is common. There is a tremendous health disparity among ethnic populations in the U.S., with certain Asian American/Pacific Islander populations comprising 5% of the U.S. population, but 50% of persons reported with hepatitis B infection. The test and care projects are designed to identify persons with hepatitis B and link them to high-quality, medical care. This care is especially important for hepatitis B-infected pregnant women who, without proper medical services, can easily pass the virus to their infant.

HIV School Health

The Committee is concerned by the burden of new HIV infections among young people and encourages CDC to evaluate and improve school HIV prevention activities and to continue outreach strategies and interventions for youth most disproportionately at risk for HIV infection. (p. 59)

Action taken or to be taken

CDC is focused on reducing the burden of new HIV infections among young people through a five-year program, Promoting Adolescent Health Through School-Based HIV/STD Prevention and School-Based Surveillance. In this program, education agencies receive funds to implement two key strategies: 1) school-based HIV/STD prevention that includes funding to 19 state education agencies (SEAs) and 17 local education agencies (LEAs); and, 2) school-centered HIV/STD prevention for adolescent sexual minority males (ASMM) that provides funding to three local education agencies (LEAs) to implement targeted multi-component prevention activities for ASMM ages 13-19.

An evaluation of this program focuses on the priority sites with whom funded SEAs and LEAs work. An innovative online Program Evaluation Reporting System (PERS) is used by grantees to submit data semiannually and CDC uses this system to generate reports and send them back to grantees, creating a feedback loop. The system allows partners to enter information for each priority site with which they work, and for their overall program.

CDC also conducts applied evaluations to provide additional evidence about the effectiveness of program strategies for with less scientific data. The applied evaluation for the ASMM project includes formative surveys and interviews with black and Latino ASMM; and baseline surveys of school and community organization staff in all three cities. In addition, one of the three cities has been designated as an enhanced evaluation site. Enhanced evaluation activities include a baseline survey of 11,000 high schools students and an assessment of school climate in seven priority schools.

CDC is also currently evaluating the implementation of sexual health education for all students in the Fort Worth Independent School District. This program has implemented professional development and ongoing support for health education teachers, the use of systematic processes to select and tailor the curriculum, and delivery of the curriculum. The goal is to 1) identify how professional development and teacher supports can improve effective delivery of a curriculum; and 2) understand how these supports combined with strategic selection of materials can affect student knowledge, attitudes, and behaviors.

HIV/AIDS Prevention and Research

Racial and ethnic minorities continue to have higher rates of HIV/AIDS compared to the overall U.S. population. Therefore, the Committee urges CDC to continue to prioritize HIV/AIDS funding to target racial and ethnic minority communities. (p. 59)

Action taken or to be taken

The nation's HIV prevention efforts are guided by a single, ambitious strategy for combating the epidemic: the National HIV/AIDS Strategy (NHAS). The White House recently issued an updated National HIV/AIDS Strategy (NHAS) for the United States. The strategy reflects many of the approaches CDC believes will make the greatest difference in reducing HIV, such as intensifying prevention for persons living with HIV and those at highest risk of becoming infected with HIV, and targeting resources to the interventions and areas where we can have the greatest impact. CDC embraces this strategy and will work to ensure we prioritize our prevention activities in a way that is consistent with – and responsive to – the NHAS.

Goal number 3 in the NHAS is “Reducing HIV-Related Disparities and Health Inequities.” Poor social and environmental conditions, coupled with high rates of HIV among specific populations and in geographic areas,

contribute to stubbornly persistent—and in some cases, growing—HIV-related health disparities. These disparities include higher rates of HIV infection, lower rates of access to HIV care, lower HIV viral suppression rates, and higher HIV-related complications and death rates; and they affect specific racial and ethnic minorities (i.e. African Americans, Hispanics and Latinos, and American Indians/Alaska Natives), men who have sex with men (MSM), transgender people, and youth. It's clear that social determinants of health (e.g. stigma, discrimination, poverty, unemployment, homelessness, etc.) are significant factors in our ability to meet the goals of NHAS.

To advance the prevention goals of NHAS and maximize the effectiveness of current HIV prevention methods, CDC pursues a High-Impact Prevention (HIP) approach. By using combinations of scientifically proven, cost-effective, and scalable interventions targeted to the right populations in the right geographic areas, this approach promises to greatly increase the impact of HIV prevention efforts. In many cases, using the HIP approach means we are targeting our resources to racial and ethnic minority communities.

In 2015, CDC announced a \$216 million investment nationally to support community-based organizations' (CBO) efforts to implement comprehensive HIV prevention programs to reduce morbidity, mortality, and related health disparities. Ninety CBOs will be directly funded by CDC over the five-year project period and 47 additional CBOs will also receive funding indirectly through partnerships. Sixty-five of these awards focus on HIV prevention services for members of racial/ethnic minority communities at greatest risk of acquiring and transmitting HIV infection.

CDC has also recently funded three new grants focused on persons of color disproportionately affected by HIV. The first grant will provide up to \$125 million over a three-year period to 12 state and local health departments in the United States to implement pre-exposure prophylaxis (PrEP) and Data to Care demonstration projects prioritizing gay and bisexual men and transgender persons at high risk for HIV infection, particularly persons of color. The remaining two grants are funded with HHS Secretary's Minority AIDS Initiative (SMAIF) resources and support implementation of high impact HIV prevention services by state, local, and territorial health departments to reduce HIV infections and improve HIV outcomes for MSM of color. CDC anticipates awarding up to \$60 million over a four-year period to seven health departments grantees and \$5.5 million over three years to support one grantee to provide training and technical assistance to health departments and their collaborative partners to deliver comprehensive HIV services for MSM of color.

Prevention Coordinator

The Committee encourages CDC to continue to support the Viral Hepatitis Prevention Coordinator Program, restore funding for screening and linkage to care programs, and continue to expand its investment in surveillance projects for the creation of a national infrastructure for monitoring the viral hepatitis outbreak. Furthermore, the Committee urges CDC to target funding for immediate support in the field and strengthening health departments and community responses that target youth and young adults, with particular emphasis on persons who inject drugs, persons under 30 years old, and persons living in rural areas.

Action taken or to be taken

Viral Hepatitis Prevention Coordinators are vital to the achievement of national goals to reduce viral hepatitis transmission and disease. Currently, CDC provides limited resources to support a coordinator in 48 states and five major cities. Because this amount only provides for the full or partial salaries of a dedicated staff person, funding for their activities depends on access to state and local resources. Because each community is unique, coordinators evaluate local data to tailor prevention activities for their jurisdictions and seek local partnerships and resources to implement these activities where they are most needed. CDC will continue to support the coordinators so that they can bring together technical expertise and strategic data from public health surveillance and other sources to identify communities largely affected by viral hepatitis, expand access to and

increase the delivery of prevention services in affected communities, monitor standard performance measures, and feedback results to providers and health systems to improve the quality of prevention services.

CDC is evolving from a standalone national viral hepatitis surveillance “system” based only on hepatitis case data reported to health departments to a comprehensive system that collects data from multiple sources, including commercial laboratories and electronic health records. There is a need to strengthen the monitoring of viral hepatitis transmission and disease and quality of prevention services; for example, by assuring all states have surveillance systems that can monitor cases of acute (new) and chronic hepatitis C virus (HCV) infection cases (16 states in 2013). With increased capacity, states will be better able to detect new infections and outbreaks, identify health disparities, and assess the implementation and impact of CDC recommendations for vaccination, testing, and linkage to care to prevent disease, disability, and death.

CDC considers the spread of HCV among youth as an urgent health problem for the nation. From 2010 to 2013, new HCV infections increased by more than 150% nationwide, and from 2012-2013, new HCV infections increased by 20% nationwide. The largest increases (from 2010 to 2013) were among persons aged 20-39 years. Of the 39 states that reported data in 2013, 29 states had an increase in persons newly infected with HCV. This epidemic of HCV transmission is related primarily to injection of prescription opioids or heroin. To address this epidemic, CDC is working to improve the detection of the spread of this infection among young persons; to understand risk behaviors, drug use patterns, and networks of injection drug users; and, to develop and implement an integrated approach to providing screening, diagnosis, care, treatment, and prevention of HCV.

Primary Care Screening

The Committee commends CDC for working to integrate recommended viral hepatitis screening in primary care services and urges CDC to continue outreach to underserved populations through screening activities in non-clinical and public health settings, including the use of point-of-care tests. (p. 59)

Action taken or to be taken

CDC estimates that of the approximately 3.5 million people living with hepatitis C, at least 50% do not know they are infected. Therefore, many hepatitis C-infected persons have not even received the most basic care, including assessments of infection, liver health, and potential benefit from treatment. The availability of a rapid test for hepatitis C virus (HCV) antibody and other strategies enables wider access to testing in settings such as physician offices, hospital emergency departments, health department clinics, and substance use disorder settings; however, follow-up testing is needed to determine whether someone is currently infected with hepatitis C. To improve the HCV testing, care, treatment, and cure of affected persons (also known as the care cascade), CDC is supporting community-based programs, known as Test and Cure Hepatitis C, which strengthen primary care provider capacity to diagnose and cure hepatitis C infection among populations most impacted. A priority of these activities is building testing, care, and treatment capacity in settings that serve low income communities and persons who would have otherwise limited access to health care. Because of advances in treatment, with a modest increase in capacity to improve hepatitis testing, linkage to care, and treatment, implementation of CDC and U.S. Preventive Services Task Force (USPSTF) recommendations for HCV testing will save an estimated 321,000 lives.

Identifying the estimated 1.4 million people in the U.S. with hepatitis B and linking them to care and treatment remains a major public health challenge. CDC has supported community-based test and care projects to improve the capacity of health-care providers serving persons born in countries where hepatitis B infection is common. There is a tremendous health disparity among ethnic populations in the United States, with certain Asian American/Pacific Islander populations comprising 5% of the U.S. population, but 50% of those living with hepatitis B infection. The test and care projects are designed to identify persons with chronic hepatitis B and link them to high-quality, medical care. This care is especially important for hepatitis B-infected pregnant women who, without proper medical services, can easily pass the virus to their infants. Key project activities

include screening and case finding activities; culturally appropriate community outreach, patient navigation, and other support services; training of primary care staff to enhance screening, management, and referral practices; and implementation of activities to increase community and health professional awareness of hepatitis B.

Combating Antibiotic-Resistant Bacteria [CARB]

The Committee encourages CDC to support funding for collaborations between entities such as academic medical centers, veterinary schools, schools of public health, State public health departments, and other academic institutions whose proposals are in line with CDC's strategy for addressing antibiotic resistant bacteria. The Committee understands the importance of addressing antibiotic-resistant bacteria both in human and agricultural areas. Therefore, the Committee directs CDC to collaborate with NIH, AHRQ, BARDA, FDA, VA, DOD, and USDA to leverage existing resources to increase capacities for research aimed at developing therapeutic treatments, reducing antibiotic use and resistance in animals and humans, and implementing effective infection control policies. CDC shall provide a spend plan to the Committee within 30 days after enactment of this act and include an update on these efforts in the fiscal year 2017 CJ. (p. 60)

Action taken or to be taken

Improving the detection, response, and prevention of antibiotic resistant infections is a priority for CDC. The National Action Plan for Combating Antibiotic-Resistant Bacteria emphasizes interdepartmental and interagency collaboration to support the overarching 5 goals of the action plan:

1. Slow the Emergence of Resistant Bacteria and Prevent the Spread of Resistant Infections
2. Strengthen National One-Health Surveillance Efforts to Combat Resistance
3. Advance Development and Use of Rapid and Innovative Diagnostic Tests for Identification and Characterization of Resistant Bacteria
4. Accelerate Basic and Applied Research and Development for New Antibiotics, Other Therapeutics, and Vaccines
5. Improve International Collaboration and Capacities for Antibiotic Resistance Prevention, Surveillance, Control, and Antibiotic Research and Development

CDC has ongoing working relationships with all of these agencies in the areas of antibiotic resistance described in the report language. To date, CDC worked closely with the White House to convene a Forum on Antibiotic Stewardship which was held on June 2, 2015. This event brought together (for the first time) federal agencies and more than 100 key human and animal health leaders involved in antibiotic stewardship—the development, promotion, and implementation of activities to promote optimal use of antibiotics nationwide. The leaders represented hospitals and healthcare systems, human and animal health, diagnostic and diagnostic pharmaceutical companies, agriculture organizations, and more who committed to taking part in antibiotic stewardship to change the way antibiotics are currently prescribed and used to slow the spread of drug-resistant infections.

Emerging and Zoonotic Infectious Diseases

The Committee is aware of the arrival of Chikungunya in the Caribbean and encourages the CDC to continue its work to prepare and monitor any potential arrival of Chikungunya in the United States as well as address other neglected tropical diseases found in the United States such as Dengue and Chagas disease. CDC should encourage the National Center for Emerging and Zoonotic Infectious Diseases to work with the Center for Global Health on cross-cutting issues, particularly in support of the Global Health Security Program. (p. 60-61)

Action taken or to be taken

Developed Preparedness and Response Plan for Chikungunya virus: CDC worked in collaboration with Pan American Health Organization to develop a comprehensive regional surveillance and response plan for the Americas. This plan was published in English and Spanish in 2011 and has been widely distributed to countries

and U.S. states and territories. This document is still current as of 2015 and will be revised in the future if needed.

Enhanced laboratory capacity for chikungunya: CDC provides training, technical assistance, reagents, and diagnostic controls to public health laboratories and the Caribbean Public Health Agency (CARPHA) laboratory in the Western Hemisphere. Specifically, CDC:

- Provides chikungunya testing for any state health department, hospital, or physician requesting diagnostic assistance.
- Developed diagnostic tests, specific chikungunya test reagents, and a proficiency panel to evaluate state lab capabilities; the panel has been distributed to 19 states and several countries in the region.
- Assisted several states in developing local testing capacity for chikungunya.

Expanding the national surveillance capacity: CDC's web-based arboviral surveillance system, ArboNET, was expanded several years ago to collect chikungunya case reports.

Communication and educational materials: CDC developed extensive messaging, alerts, and educational material for clinicians, the public, and travelers in both English and Spanish. In fall of 2015, CDC developed additional fact sheets focused on mosquito control and mosquito bite prevention.

Provide technical assistance:

- CDC provided outbreak assistance to Puerto Rico, U.S. Virgin Islands, and Yap in the Federated States of Micronesia. CDC provided epidemic aid to FL in investigating locally-acquired cases.
 - CDC developed technical assistance documents for state health departments, which provide guidance related to diagnostic support, case management, epidemiology, and vector control.
- CDC worked with FDA, NIH, and blood collection organizations to address the issues related to potential transmission of chikungunya virus through transfusions and tissue transplantation. CDC is coordinating discussions with FDA and NIH regarding possible avenues to advance the development of vaccines and therapeutics for chikungunya.

State preparedness:

- Since 2000, CDC has supported states through the Epidemiology Laboratory Capacity (ELC) cooperative agreement to address preparedness for emerging vector-borne disease threats.
- This support assists state and eligible local public health agencies, targeting Border States (TX, AZ, CA, NM, and FL) in building capacity for early detection and rapid response to these threats by developing diagnostic capacity, improving surveillance capacity, and supporting a cadre of experienced staff with a thorough understanding of these complex diseases.
- In regards to cross-CDC collaboration, CDC's Center for Global Health routinely conducts research regarding insecticide resistance in Aedes aegypti mosquitoes, the primary vector that transmits dengue and chikungunya, at the request of and in close collaboration with NCEZID.

Guideline for Disinfection and Sterilization

The Committee directs CDC to update its 2008 Guideline for Disinfection and Sterilization in Healthcare Facilities and incorporate recent peer-reviewed literature regarding the role of the healthcare environment in the spread of antibiotic-resistant bacteria and the current best practices for containment that have been demonstrated in health facility environments. (p. 61)

Action taken or to be taken

CDC is committed to protecting patients and healthcare personnel from infections, promoting safe, quality care across all healthcare settings, and addressing the role of the environment to reduce the spread of antibiotic resistance bacteria. CDC has begun discussions with key stakeholders on this topic, but significant work still needs to be done. Having evidence-base guidelines and recommendations is important to CDC and the agency's guideline production is a key component of ensuring the safety of healthcare in the United States.

CDC produces guidelines using mechanisms that ensure transparency, consistency and freedom from conflicts of interest. As part of the guideline development process, peer-reviewed published research is gathered and evaluated during the initial systematic literature review and during the analysis, drafting, and public comment period(s). The literature review process involves retrieving and reviewing all related articles, extracting and analyzing relevant data, evaluating the evidence using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology, developing evidence summaries, weighing the harms/benefits related to each potential recommendation, and producing draft recommendations. CDC also gets input from the Healthcare Infection Control Practices Advisory Committee (HICPAC) which provides advice to CDC and the Secretary of HHS on the development of new guidelines and on updating of existing CDC guidelines.

Recognizing the need for timeliness of evidence based recommendations to inform quality healthcare and patient safety, CDC is prioritizing topics within guidelines for faster, segmental updating, including parts of the guideline in question. This is in order to avoid embarking on what is at minimum a 3-5 year process and instead, address the needs of patients and healthcare providers as expeditiously as possible.

Healthcare-Associated Infections

CDC has made significant progress on healthcare-associated infection [HAI] prevention and data collection at acute care hospitals, but significant gaps in data collection and reporting on HAIs persist across non-hospital healthcare settings such as ambulatory surgical centers. The Committee encourages CDC to continue to expand its data collection efforts to additional providers in non-hospital settings. (p. 61)

Action taken or to be taken

CDC's National Healthcare Safety Network (NHSN) is the nation's most widely used healthcare-associated infection (HAI) tracking system. NHSN provides facilities, states, regions, and the nation with data needed to identify problem areas, measure progress of prevention efforts, and ultimately eliminate HAIs and keep patients safe. In addition, NHSN allows healthcare facilities to track blood safety errors and important healthcare process measures such as healthcare personnel influenza vaccine status and infection control adherence rates. CMS also uses CDC's NHSN data on their Hospital Compare website to report HAIs and Healthcare Personnel Influenza Vaccination rates by facility. CDC is committed to continuously improving and expanding NHSN reporting, within available resources.

At this time, NHSN serves over 18,000 medical facilities actively tracking HAIs. Current participants include all acute care hospitals, long-term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and some nursing homes, with hospitals and dialysis facilities representing the majority of facilities reporting bloodstream and other types of infections that are a significant threat to patient safety. Participation among the other facility types is expected to continue to grow in coming years. While all of these facility types report healthcare worker influenza vaccination information in NHSN, further use of NHSN varies by setting.

In order to improve SSI reporting by ASCs, CDC is developing a new NHSN Outpatient Procedure Component (OPC). While the SSI definitions will remain the same, this component is being specifically designed for use by ASCs, hospital outpatient departments, and other outpatient surgery offices and facilities. Development of the

OPC was delayed to obtain additional user feedback and support from outside partners. CDC plans to release the OPC by the end of 2017.

Laboratory Capacity

The Epidemiology and Laboratory Capacity for Infectious Diseases Program strengthens the epidemiologic and laboratory capacity in 50 States, six local health departments, and eight territories by supporting improvements in surveillance for infectious diseases, early detection of newly emerging disease threats, and identification and response to outbreaks. The Committee encourages CDC to increase core capacity and ensure State and local epidemiologists are equipped to rapidly respond to current and emerging threats, including antibiotic resistant bacteria. (p. 61)

Action taken or to be taken

The Epidemiology and Laboratory Capacity (ELC) sustains core epidemiology and laboratory capacity to more quickly respond to disease outbreaks and improved development, implementation, and evaluation of public health interventions. In 2015, the ELC provided support for 436 epidemiologists across the nation, an increase of 87 positions from 2014. A subset of these epidemiologists are non-disease specific epidemiology personnel supported by the Prevention and Public Health Fund (PPHF). The aim of these flexible positions is to help meet health departments' unique infectious disease public health needs and priorities, and support unanticipated events that may have require reprioritizing resources to specific emerging or re-emerging diseases. Flexible epidemiologists are able to work on cross-cutting infectious disease activities and do not have to be confined to a specific disease or program area. Many of these positions were involved in the 2015 outbreak responses to Ebola, Enterovirus D68, multi-state foodborne outbreaks and measles. Finally, expanded funding for Antibiotic Resistance activities in FY 2016 will, provide support to ELC grantees to respond to antibiotic resistant bacteria.

Sepsis

Over 200,000 Americans die of sepsis every year. Hospital costs are annually in the billions of dollars, with uncounted costs due to organ injury such as kidney failure, disability, and lost productivity. With early recognition and treatment with appropriate and aggressive antibiotic therapy, major improvements in outcomes can be achieved but there has been no effort to educate the public or medical providers as to the signs, symptoms, importance of early diagnosis and treatment. The Committee encourages CDC to start efforts in this area. (p. 62)

Action taken or to be taken

This information is provided in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) budget narrative, Core Infectious Disease/Antibiotic Resistance and National Healthcare Safety Network sub-sections for additional information on FY 2016 sepsis activities and proposed FY 2017 sepsis activities.

CDC continues to work with the Centers for Medicare and Medicaid Services (CMS) and other partners, including sepsis advocates, on sepsis awareness activities. Over the next several months, CDC will be launching a campaign for sepsis awareness and early recognition in partnership with many other clinical professional partners and patient advocacy organizations. The goals of the campaign are to emphasize primary prevention of sepsis, increase early recognition of sepsis, and coordinate ongoing antibiotic stewardship programs in healthcare facilities with sepsis early recognition programs. CDC will preview some of the materials in early 2016 to partners prior to the launch.

CDC is also working on several other activities that will address the critical issues that the Committee has raised. In early 2016, CDC will co-host a meeting with the Society of Critical Care Medicine (SCCM) at the CDC headquarters to discuss best practices in sepsis early detection. This meeting is part of an ongoing collaboration with the SCCM and the Surviving Sepsis Campaign to develop guidance for healthcare facilities (i.e., "Core Elements in Sepsis Prevention and Recognition") that will serve as an implementation guide for clinicians who are launching programs in their facilities. Starting with an initial focus on hospitals, CDC will then identify how

the lessons learned could be applied quickly to long-term acute care facilities and nursing homes, where many patients who develop sepsis first develop symptoms. Additionally, CDC has started a partnership with American College of Emergency Physicians to enhance sepsis early detection in emergency departments, which are often the first place that many patients who present with early signs and symptoms of sepsis from the community first receive medical care.

On September 9, 2015, CDC hosted a meeting with representatives from SCCM, CMS, and the New York state Department of Health to share current sepsis data to improve sepsis surveillance. CDC has conducted periodic meetings with SCCM and other stakeholders to develop and test sepsis definitions, and encourage use of early interventions to reduce sepsis morbidity and mortality.

CDC also works closely with other federal agencies and currently has regular calls with CMS on a variety of healthcare issues, including sepsis. CDC funds a full-time person at CMS to enhance coordination between the two agencies on healthcare quality issues. In addition to improving sepsis awareness, CDC is currently planning studies that will support CMS in tracking sepsis trends and SEP-1 impact, including:

- Analyzing preliminary CMS claims data as it becomes available, which is typically long before final datasets are released.
- CDC has provided subject matter experts to assist with efforts to raise awareness about sepsis, including at the October 15, 2015 meeting. CMS representatives have participated in sepsis meetings led by CDC, including the September 9, 2015 sepsis data sharing meeting in Atlanta.
- Identifying the impact and potential changes in clinical practice associated with implementation of CMS SEP-1 process measure, including antibiotic use.

While CDC actively works year-round with patient and consumer organizations to raise awareness of sepsis and to improve early detection and treatment, the agency nationally recognizes September as Sepsis Awareness Month. For this year's campaign, CDC launched a variety of new patient and clinician educational resources in partnership with sepsis awareness leaders, including promoting pediatric sepsis webinars from Children's Hospital Association and a series of blogs highlighting patient stories and clinical best practices. CDC was able to reach hundreds of thousands of patients and clinicians nationwide with these efforts. CDC is continuing outreach by distributing additional educational materials to patients and providers at more than 4,500 U.S. outpatient oncology clinics on how to prevent infections in patients with cancer and how to recognize the early signs of sepsis.

CDC's proposed Antibiotic Resistance work includes sepsis-related efforts, including scaling up the evaluation of sepsis surveillance to help track national rates, assess the impact of prevention and treatment initiatives, and enable comparisons between health care facilities to identify problem areas. By studying sepsis and working to understand the factors that contribute to it, CDC will be better able to enhance prevention strategies, including current and future education efforts, and save more lives.

Surveillance Strategy

The Committee urges CDC to expeditiously implement its Surveillance Strategy, including improving standardization and commonality of platforms across CDC systems, reducing duplication, tackling workforce and informatics challenges at CDC and State and local public health systems, and reducing the burden of participation in surveillance for healthcare and public health. (p. 62)

Action taken or to be taken

CDC adopted an agency-wide surveillance strategy in March 2014, in close consultation with State, tribal, local and territorial (STLT) partners. The goal of the strategy is to improve the timeliness, availability, quality, and specificity of surveillance data.

There were three major themes of the strategy:

- Enhance surveillance accountability, resource use, workforce, and innovation by establishing the new CDC Surveillance Leadership Board internal to CDC, a surveillance workforce plan, and an innovation consortium;
- Accelerate use of emerging tools and approaches to improve the availability, quality, and timeliness of surveillance data by establishing enhanced health information technology policy engagement, vendor forums, and informatics innovation projects; and
- Initiate in 2014 several initiatives to address surveillance data availability, enhance system usability, eliminate redundancies, and incorporate new information technologies.

In 2014, CDC began implementing several on-going initiatives in support of a more integrated surveillance approach. Each of these initiatives seeks to improve the quality and timeliness of surveillance data reporting to CDC while also reducing burden on, and providing additional value to, STLT health departments. A summary of progress follows:

The National Notifiable Disease Surveillance System (NNDSS) Modernization Initiative (NMI) will:

- Replace the outdated National Electronic Telecommunications System for Surveillance,
- Enhance the usability of NNDSS data,
- End duplicative data requests STLT health departments receive from CDC programs, and
- Replace the three different messaging standards currently in use with one Health Level 7 (HL7) messaging standard specified by the Office of the National Coordinator for Health IT so that CDC programs receive more complete and timely data.

Implementation guides for packaging the surveillance data into HL7 messages are nearly complete for 85% of diseases or 95% of the 30 million messages received each year. The new software to receive the messages and provision the data to CDC programs is expected to be operational in the spring of 2016. CDC is partnering with the Association of Public Health Laboratories to provide technical assistance to states for implementing the guides starting with 12 pilot states.

The BioSense Enhancement Initiative is enhancing the BioSense Platform for the National Syndromic Surveillance Program with new tools for processing, analysis, and visualization of near real-time illness data that STLT health departments receive from emergency departments. The enhanced Platform will improve the quality, timeliness, and use of syndromic surveillance data for situational awareness and response to public health threats. An exhaustive review of the data work flow has been completed and will lead to improved data processing and a new administration tool is being developed to support the use of ESSENCE and SAS by STLT partners. These are analytic tools that have been implemented on the BioSense Platform.

The Electronic Laboratory Reporting Initiative (ELRI) will increase the proportion of test results reported electronically to STLT health departments and CDC by commercial clinical laboratories and public health laboratories. Since last year, over 30 jurisdictions increased the volume of lab reports received electronically. Nationally, ELR volume increased by 2 percentage points to 69%.

The Electronic Death Reporting Initiative has accelerated and enhanced completeness of cause-of-death reporting nationwide, enabling near real-time mortality surveillance. The Initiative has:

- Funded seven states in FY 2013, five states in FY 2014, and 12 states in FY 2015 to work on eliminating barriers to the timely transmission of mortality records to CDC/NCHS, and plans to fund another 11 states in FY 2016.

- Shown a steady increase in the timeliness of records transmitted to CDC/NCHS from 7% of 2010 mortality records being transmitted to NCHS within 10 days of the date of death to 28% of 2014 records. In the first 10 months of 2015, 39% of the mortality records are being transmitted from states to NCHS within 10 days of the date of death. Faster transmission has enabled NCHS to:
 - Implement a new NVSS Vital Statistics Rapid Release Report.
 - Publish final mortality statistics within 12 months of the close of data year, the first time in history that NCHS has been able to achieve this outcome.
 - Release the final National Death Index file within 11 months after the close of the data year, down from 24 to 36 months in prior years.
 - Transform the National Mortality System into a near, real-time public health surveillance system.
- Piloted the collection of pneumonia and influenza data through the NVSS Mortality Surveillance system compared to the longstanding 122 Cities Mortality Surveillance System. The NVSS system provides more timely, higher quality, and greater coverage. Progress on this initiative will allow retirement of the 122 Cities Pneumonia and Influenza Mortality Reporting System in the next several years.

Workforce

The first goal of the surveillance strategy includes the development of a federal and STLT workforce training and support plan that leverages CDC workforce investments to integrate CDC's strategy to improve surveillance systems and technological considerations that practitioners face. The intended outcomes of the plan are to better prepare surveillance practitioners to assess new data sources, interface with technologies in use by healthcare providers, and evaluate commercial, governmental, and open source surveillance system products.

CDC Integrated Surveillance Platform

CDC has plans to develop and implement the Integrated CDC Surveillance Platform, building on the success of initial surveillance strategy priorities as described under the three major thrusts above/of the surveillance strategy. As envisioned, when the platform is fully realized in 2020, it will be a web-based, flexible, secure hosting environment, including software and data analytics infrastructure, which will have the capacity to consolidate multiple data collection systems and provide a set of shared information technology services. The shared services will create efficiencies for existing and future data collection efforts and will support three core functionalities:

- Receiving and sending information to and from the public health and health care sectors;
- Validating, integrating, and managing data; and
- Providing users an enhanced, regularly upgraded, suite of analytic tools and other services.

Alzheimer's and Healthy Aging

The Committee commends the Healthy Brain Initiative for its leadership in bringing attention to the public health crisis of Alzheimer's disease, for its work on cognitive surveillance in 47 States and territories, and for its efforts to update the National Public Health Road Map to Maintaining Cognitive Health. The Committee encourages CDC to implement the action steps listed in the updated Road Map and further develop and expand the surveillance system on cognitive decline and caregiving, including widespread dissemination of the data gathered. (p. 63)

Action taken or to be taken

CDC appreciates the Committee's acknowledgement of the Healthy Brain Initiative's efforts. CDC revised the Behavioral Risk Factor Surveillance System (BRFSS) Cognitive Decline and Caregiver Optional Modules for use in

2015 and 2016. Annually, each state decides which optional modules they will add to their survey for a given year. In 2015, 35 states added the Cognitive Decline module and 24 states added the Caregiver Module.

In 2015, CDC awarded two cooperative agreements designed to comprehensively implement the 35 action items from the 2013 Road Map through the provision of guidance, support and technical assistance to state and local public health and their partners.

To support the Healthy Brain Initiative and implement action items, CDC established the Healthy Brain Research Network (HBRN) and provided funding to six Prevention Research Centers at academic institutions. In 2016, CDC will publish “The Healthy Brain Initiative: National Partnerships, 2013–2018 Interim Progress Report, which will highlight accomplishments from 2013-2015, share CDC’s currently planned priorities for moving the Healthy Brain Initiative forward in 2016-2018, provide examples of partnering agencies’ achievements, and reflect on opportunities for future progress.

Atrial Fibrillation [AFib]

An estimated 2,000,000 Americans have AFib, which puts them at an elevated risk for a fatal or permanently debilitating stroke. The Committee encourages CDC to utilize its publications to promote the adoption of best practices in AFib treatment, expand patient and family caregiver education on AFib-related stroke risk and treatment, leverage existing stroke prevention initiatives, and address gaps in research on prediction of stroke and bleeding risk in AFib. (p. 63)

Action taken or to be taken

CDC recognizes the burden of Atrial Fibrillation (AFib). CDC’s Paul Coverdell Stroke Program encourages better identification of AFib among patients experiencing an acute stroke of undetermined etiology. CDC has also been involved in producing scientific publications related to AFib. For example, in 2013, CDC published an article in the Journal of Atrial Fibrillation entitled “Atrial Fibrillation Associated Costs for Stroke Hospitalizations of Medicare Beneficiaries in the Stroke Belt of the United States.” According to the findings, the costs of stroke hospitalizations are high, and they are even higher if the patient has AFib. CDC is currently working on an updated surveillance paper regarding AFib and is working to develop a strategic plan for future AFib publications. In October 2014, CDC participated in an AFib prevention symposium hosted by the Alliance for Aging Research. The Symposium focused on balancing the risk of stroke and the risk of bleeding in older patients.

Chronic Pain

The Committee commends CDC for including chronic pain in the Healthy People 2020 initiative. The Committee encourages CDC to include pain research questions in the 2016 National Health Interview Survey, promptly analyze collected data and make this information available to the public, and expand the topic area on chronic pain in the Healthy People 2030 initiative. (p. 64)

Action taken or to be taken

CDC continues to advance public understanding of the prevalence of chronic pain in the United States. In 2015, CDC developed and tested two new questions to assess pain, including high impact chronic pain. Resulting questions will be added to the 2016 National Health Interview Survey (NHIS) to provide baseline data for new Healthy People 2020 pain objectives. Data from the 2016 NHIS are expected to be publicly available in June 2017. Additionally, CDC will work with the relevant Healthy People 2020 topic area workgroup to consider how chronic pain might be addressed for Healthy People 2030.

Colorectal Cancer

The Committee rejects the administration's proposed funding reduction to this program and emphasizes the importance of continuing to provide screenings for low-income, uninsured, and underinsured adults who may not have benefited from the ACA. Furthermore, the Committee is pleased with CDC's recent activities on the colorectal cancer screening program and requests an update on the impact of the program including screening rates in the fiscal year 2017 CJ. (p. 64)

Action taken or to be taken

Colorectal cancer (CRC) is the second leading cause of cancer deaths for men and women in the United States. Every year, about 140,000 Americans are diagnosed with CRC, and more than 50,000 people die from it. Colorectal cancer screening is a recommended clinical preventive service that not only detects cancer early when treatment is more effective but can prevent cancer by removing pre-cancerous lesions. Unfortunately, national CRC screening rates have remained level at approximately 65% since 2010 after steadily increasing from 2000 – 2010.

The Affordable Care Act is increasing access to insurance for millions of people which includes access to certain clinical preventive services with no cost sharing such as CRC screening. Access to insurance coverage is an important factor in helping adults receive appropriate cancer screening, yet screening rate data show there is need for improvement. Many other barriers to screening exist for all people (insured and uninsured), but particularly among lower income or otherwise disparate populations who have had little or no access to the health care system previously. CDC's first Colorectal Cancer Control Program (CRCCP) funded from FY 2009 – FY 2014, provided limited direct screening services to the uninsured and addressed other barriers to screening by implementing recommended evidence-based interventions proven to improve and increase screening for all people. Grantees were successful in developing partnerships with provider networks, health care systems (e.g. FQHCs and Medicaid providers), workplaces, and insurers, to affect broader health systems change that increase delivery of CRC screenings. When comparing screening rates between states funded for CDC's CRCCP versus non-funded states, data show that rates were 3%-4% higher from 2010 – 2014.

Using lessons learned, CDC began funding a new 5-year cooperative agreement in FY 2015 that builds upon the success of the first program. The CRCCP now puts greater emphasis on making health systems change to increase CRC screening rates which will complement the benefit of increased access to insurance coverage provided through the ACA. Grantees will work to increase rates among a defined target population (adults age 50-75) within a partner health system (FQHC, hospital/clinic network, etc.), and defined geographical area or disparate population. Grantees must implement at least two of four Community Guide recommended interventions (provider assessment/feedback, provider reminders, client reminders, reducing structural barriers); and may also use secondary strategies such as patient navigation. For example, while the overall CRC screening rate in Massachusetts is 77.6%, the average CRC screening rate for FQHCs in Massachusetts is about 48%. The Massachusetts CRCCP will target its efforts at FQHCs to implement a coaching model to assist these community health centers in improving the use of patient/provider reminder systems and provider feedback reporting to increase screening rates. All grantees will establish baseline screening rates within the health systems with which they partner and measure the change in screening rates over the five year program to assess the health impact of their efforts.

Division of Diabetes Translation [DDT]

The Committee encourages CDC to provide resources to expand State and local community diabetes control and prevention activities while supporting the translation of research into better prevention and care, the National Diabetes Prevention Program, the expansion of diabetes surveillance, and other DDT activities. These activities must include clear outcomes, ensure transparency and accountability, and specifically how diabetes funding reached State and local communities. (p. 64)

Action taken or to be taken

Presently, CDC collaborates across the agency and with other federal programs to direct its diabetes prevention and control efforts to State and local communities. Examples are below:

- State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health: this cooperative agreement supports all 50 states to: raise awareness of the risk of type 2 diabetes, of the National Diabetes Prevention Program (DPP), and of diabetes self-management programs; increase coverage for National DPP programs for state employees; and educate healthcare providers on the National DPP to increase referrals into programs
- State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke: this cooperative agreement builds on efforts initiated in 2013 by supporting additional activities in 17 state and 4 large city health departments to prevent obesity, diabetes, heart disease, and stroke, and reduce health disparities among adults. As part of this support, this cooperative agreement funds an array of strategies including the National DPP lifestyle change intervention program
- A Comprehensive Approach to Good Health and Wellness in Indian Country: this cooperative agreement supports 12 American Indian tribes and Alaska Native villages, and 11 Tribal Organizations, to prevent heart disease, diabetes, stroke, and associated risk factors. Awardees are using community-directed and culturally adapted public health interventions to encourage healthy eating through planting and harvesting traditional foods; increasing physical activity within Native communities; educating on the National DPP, and, specifically, the Indian Health Services diabetes prevention curriculum that the National DPP has approved for use within its initiative
- Collaborations with Centers for Medicare & Medicaid Services (CMS): CMS offer the National DPP through 17 YMCA sites through Center for Medicare and Medicaid Innovation (CMMI) grants directed towards the Medicare population. Preliminary outcome data on participation rates and weight loss are promising: 63% attended nine or more sessions with an average weight loss of about 11 pounds. A recent report by Avalere Health estimated a ten year \$1.3 billion cost savings to the federal government on implementing benefits proposed in the Medicare Diabetes Prevention Act. If passed, the benefit would cover diabetes prevention programs for Medicare beneficiaries diagnosed with prediabetes and the cost savings would likely increase beyond the ten year time frame
- Collaborations with Federally Qualified Health Centers (FQHCs): As of July 2015, CDC provides technical assistance and quality assurance to 13 FQHCs across 11 states with geographic distribution across the Northwest, South, East, and West coasts. These FQHCs have received pending recognition from the CDC Diabetes Prevention Recognition Program (DPRP) for their delivery of the National DPP lifestyle change program. They collectively serve 205 participants. Of the 13 FQHCs, one is the Native American Community Clinic, and three are county health departments. The numbers of FQHCs participating in the DPRP will increase in FY 2016 and FY 2017 with programmatic outreach to underserved communities through CDC's multiple grant efforts
- Other Medicare and Medicaid Work:
 - Through a cooperative agreement with America's Health Insurance Plans (AHIP), the insurer Molina is offering the National DPP lifestyle change program to publicly insured individuals at high risk for type 2 diabetes. AHIP has recently expanded their efforts to reach publicly insured members in California, based in part on successful start-up and implementation efforts in Florida and New Mexico. Molina is a multi-state health care organization that arranges for the

- delivery of health care services to nearly five million individuals and families who receive their care through Medicaid, Medicare, and other government-funded programs in fifteen states
- Cooperative agreement awardee OptumHealth Care Solutions (Optum) contracted with three FQHCs in Nashville, Tennessee, to offer the National DPP to Medicaid recipients at risk for type 2 diabetes, insured by United Health Care. Both AHIP and Optum plan to increase the number of Medicaid enrollees with National DPP coverage by FY 2017.
 - In FY 2016, CDC will release an updated web version of the Diabetes Atlas. The United States Diabetes Surveillance System (USDSS) will provide diabetes data for all states including trends over time. The only surveillance system of its kind, the USDSS includes county-level estimates of diagnosed diabetes and selected risk factors for all U.S. counties to help target and optimize resources for diabetes prevention and control. States, tribes, localities, and territories use this information to identify areas of need, guide decision-making, set priorities, plan strategies for interventions, and evaluate the impact of the intervention to achieve public health targets and performance goals.

Food Allergy

Deaths due to anaphylactic reaction to food allergens are preventable. National medical and school organizations recommend that schools maintain a supply of back-up epinephrine for emergency treatment of potentially fatal anaphylactic reactions. CDC should encourage schools to purchase epinephrine and support implementation of the food allergy school guidelines. (p. 64)

Action taken or to be taken

CDC appreciates the committee's call to prevent deaths due to anaphylactic reaction to food allergens and support for the implementation of the Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Centers. Through CDC's partnerships with Food Allergy Research and Education, the American Academy of Pediatrics, and the National Association of School Nurses, more than 2,000 school nurses and pediatricians have participated in training on the Guidelines and approximately 3,000 more have received the Guidelines. In addition, CDC is funding 17 state health departments to build the capacity of schools and school districts to help students manage chronic conditions, including food allergies.

The Guidelines recommend that schools and early childhood education programs keep multiple doses of epinephrine onsite so they can respond quickly to a food allergy emergency. Most states have laws that allow for the prescribing of stock supply of non-patient specific epinephrine auto-injectors for use in schools, which may allow schools or ECE programs to acquire the needed additional doses of epinephrine. When allowed by state law and local policy, schools and ECE programs that have a doctor or nurse onsite can stock their emergency medical kits with epinephrine auto-injectors to be used for anaphylaxis emergencies. In states where legislation does not exist or does not allow schools or ECE programs to stock epinephrine, staff will need to work with parents and their doctors to get additional epinephrine auto-injectors for students who need them. The Guidelines also include information about the proper storage and use of epinephrine including the designation and training of non-health personnel to administer epinephrine when health staff are not available.

High Obesity Rate Counties

The Committee expects CDC to work with State and local public health departments to support measurable outcomes through evidenced-based obesity research, intervention, and prevention programs. CDC should focus its efforts in areas of the country with the highest burden of obesity and with the co-morbidities of hypertension, cardiac disease, and diabetes from county level data in the Behavioral Risk Factor Surveillance System. The Committee encourages CDC childhood obesity efforts to only support activities that are supported by scientific evidence. (p. 65)

Action taken or to be taken

CDC funds eight land grant colleges and universities under the Programs to Reduce Obesity in High Obesity Areas cooperative agreement (CDC-RFA DP14-1416). The program uses existing county-level extension and outreach services to reduce obesity prevalence among children and their families in 41 counties with the highest obesity rates (over 40 percent), reaching over 1.6 million residents. In FY 2014, recipients were Auburn University, South Dakota State University, Texas A&M University, University of Kentucky, University of Tennessee, and West Virginia University. In FY 2015, with increased funding, two additional sites received awards: the University of Arkansas, and Louisiana State University. Grantees are working with county-level partners and existing extension offices in community and/or early care and education settings to implement evidence-based environmental approaches promoting healthy eating and physical activity behaviors. For example, West Virginia is implementing rural obesity prevention strategies for early care and education in three West Virginia counties (Pleasant, Barbour, and Gilmer) and organizing coalitions of local leaders through county extension coordinators. Alabama's 14 county level community coalitions are working to establish community gardens, farmers markets, and fresh produce at food banks to improve healthy food access and working with partners to establish easy and safe environments for physical activity.

Inflammatory Bowel Disease

The Committee commends CDC for implementing a robust IBD epidemiology study, and communicating study results with the public. The Committee encourages CDC to continue exploring the disease burden of IBD and to communicate these findings to patients and providers in an effort to improve current interventions and inform best public health practices in managing IBD. (p. 65)

Action taken or to be taken

CDC researchers continue to publish and disseminate findings from their epidemiological research, including incidence rates and expanded descriptions of symptoms and outcomes, to reach both patients and providers to improve health outcomes and inform clinical and public health practice. Sub-study findings have been disseminated broadly, including: 1) publication in the Inflammatory Bowel Diseases journal, which is distributed by Crohn's & Colitis Foundation of America (CCFA) , and broadly distributed to physician members and nonmembers who care for patients with inflammatory bowel disease; 2) presentations at national professional meetings for providers; and 3) translation into layperson-friendly findings for a broader audience through the CCFA website, which serves patients through its national education and support programs. Researchers have examined the impact of IBD on affected persons through long-term follow-up with registrants enrolled in the Ocean State Crohn's and Colitis Area Registry (OSCCAR), a state-based cohort of patients newly diagnosed with IBD in Rhode Island, to describe the variability and progression of patient-reported outcomes, including quality of life, work productivity and outcomes specific to women and children. Researchers are also identifying independent variables (e.g., psychosocial, economic, demographic, clinical, and biological) associated with disparate outcomes in IBD, and identifying variations in the use of medical therapies that independently affect outcomes. This work supports the development of descriptive and predictive models of disease outcomes.

Interstitial Cystitis [IC]

The Committee commends CDC for its work on IC and encourages CDC to continue to make IC a priority by expanding public awareness through education for healthcare providers and the general public, and enhanced information sharing. (p. 65)

Action taken or to be taken

CDC supports the “Epidemiology of Interstitial Cystitis in a Nationwide Multiethnic VA Cohort” conducted by Cedars-Sinai Medical Center through the “Epidemiologic Study of Interstitial Cystitis” cooperative agreement. The goals of this project are to estimate IC, expand on preliminary findings on IC in the United States, and

enhance understanding of the demographic and clinical characteristics of IC, variation in clinical practices, and the impact of the disease. Cedars-Sinai has received IRB approval and has started the process to secure national VA data. This project will augment previous epidemiologic studies in IC and improve the effectiveness of education and awareness activities through filling current research gaps. It is intended to provide the public health data necessary for a better understanding of the epidemiology and treatment of IC—data essential to continue effective provider and public education, to inform clinical best practices, and to develop and target interventions for groups at high risk. As part of the cooperative agreement, Cedars-Sinai Medical Center will develop a detailed dissemination plan that will describe how the collected data will serve as a resource to key public health practitioners, academic researchers, governmental agencies, private organizations, and the public.

Johanna's Law

The Committee urges CDC to take steps to integrate components of the Inside Knowledge campaign and Know:BRCA to the extent possible, to ensure coordination of public health messages related to ovarian cancer, leveraging of resources, and maximizing economies of scale. (p. 65)

Action taken or to be taken

Women who have BRCA1 or BRCA2 genetic mutations are at higher risk for both ovarian and breast cancer. CDC works to ensure messaging related to ovarian cancer is consistent across both its Inside Knowledge public campaign and Know:BRCA risk assessment tool. For example, CDC discusses hereditary breast and ovarian cancer (HBOC) through promotion of the Know:BRCA web resource. CDC plans to integrate relevant Inside Knowledge and Know:BRCA messages, resources and materials within each of these initiative's website pages where appropriate. Additionally, CDC plans to evaluate the utility of the Know:BRCA web resource in educating young women about ovarian cancer.

To help address women at higher risk for breast and ovarian cancer, specifically those with BRCA1 and BRCA2 genetic mutations, CDC funds five state health departments (Colorado, Connecticut, Michigan, Oregon, and Utah) to promote cancer genomics best practices through surveillance, education, and policy approaches. Activities focus on HBOC, but may also include Lynch Syndrome. Expected outcomes include the improvement of public and provider knowledge of hereditary cancers, genetic counseling, genetic testing, and associated clinical services; the assessment of the burden of hereditary cancers and use of genetic counseling, genetic testing and associated clinical services; and the improvement in access to and coverage of genetic counseling, genetic testing and associated clinical services for high risk individuals.

CDC funding also supports other related activities, including research, surveillance, and health communication and education development, along with programmatic efforts related to ovarian cancer prevention and control. Through CDC's National Comprehensive Cancer Control Program (NCCCP) grantees may implement ovarian cancer initiatives within their state comprehensive cancer control plans. Some NCCCP grantees have focused on activities such as exploring how ovarian cancer risk assessment can be translated into clinical settings; conducting provider education; and, increasing public awareness of ovarian cancer symptoms, risk factors (including BRCA 1/2) and treatment guidelines. NCCCP education and awareness efforts emphasize serving low-income and underserved populations.

National Lupus Patient Registry (NLPR)

The Committee continues to support research efforts under the National Lupus Patient Registry program, but challenges still remain. Burden of illness studies are lacking in lupus and are needed to better understand and evaluate issues such as the disease impact on quality of life, productivity, frequency of clinical events, natural history, and the direct and indirect costs associated with lupus. Therefore, the Committee urges CDC to support the lupus cohort and burden of illness studies. (p. 65)

Action taken or to be taken

This information is provided in the see the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) budget request, Arthritis and Other Chronic Diseases section, Lupus Program sub-section.

Marfan syndrome

Marfan syndrome-related thoracic aortic aneurysm and dissection claims the lives of young athletes across the country each year, but few States incorporate Marfan syndrome testing into their sports screening for high school athletes. The Committee urges CDC to develop a program to support, assist, and encourage States to incorporate Marfan syndrome testing into their sports screening criteria for at-risk young athletes. (p. 65 - 66)

Action taken or to be taken

CDC shares the Committee's concern regarding Marfan Syndrome and sports related activity. CDC has included the National Marfan Foundation in the External Partner's Group that works with CDC's National Center on Birth Defects and Developmental Disabilities (NCBDDD) to enable collaboration with other similar groups interested in disabling conditions. Additionally, CDC supports the [American Academy of Pediatrics publication on Health Supervision for Children with Marfan Syndrome](#), which encourages discussion with a medical provider before initiation of any physical fitness related activity for individuals with Marfan Syndrome.

Melanie Blocker Stokes Act

The Committee urges CDC to develop a program to assist providers that educate women and their families about post-partum depression [PPD], and to help new mothers receive screenings during the first year of postnatal checkups. As many as 20 percent of new mothers experience some form of PPD. The Committee requests an update on this research in the fiscal year 2017 CJ. (p. 66)

Action taken or to be taken

In FY 2015, CDC funded the University of Massachusetts to undertake the "Rapid Access to Perinatal Psychiatric Care in Depression Program (RAPID): An Innovative Stepped-Care Approach for Obstetrics and Gynecology Clinics." For this project, the awardee will conduct a randomized control trial in obstetric clinics to understand whether screening and treatment at a women's site of usual care is feasible and effective. Study objectives are: (1) Examine the efficacy of a stepped care approach (screening and provision of initial treatment at a pregnant and/or postpartum visit at a woman's normal place of care) for improving depression symptomology and treatment rates; (2) Evaluate process measures to determine feasibility of stepped care approach in obstetric clinical setting; and (3) Among women who screen positive for depression, identify complications to treatment engagement and retention and remission of depression.

Mississippi Delta Health Collaborative [MDHC]

Taking these lessons learned, the Committee wants to build upon the investments and see whether this success can be replicated in other high risk and underserved areas in the future. Therefore, the Committee encourages CDC, working together with the Collaborative and relevant stakeholders, to reach populations at high risk in the Delta with effective interventions while maintaining the current strategy. CDC shall consider using lifestyle change intervention models like the Diabetes Prevention Program; utilizing local pharmacy schools with existing community-based research programs that could focus on screenings, medication reviews, medication therapy management, comprehensive medication management, and disseminating prevention strategies; and working with communities to establish health networks to better coordinate and manage community based health initiatives. To reach the target population, the Committee encourages CDC to take advantage of rapidly evolving healthcare technology by leveraging the resources of States with recognized leadership in areas of electronic medical records, telehealth, and innovative delivery of education tools. CDC shall provide an update on these activities in the fiscal year 2017 CJ. (p. 66)

Action taken or to be taken

Since 2008, CDC has provided funding to the Mississippi Delta Health Collaborative (MDHC) through two cooperative agreements to prevent and control heart disease and stroke in the Mississippi Delta Region. MDHC's financial support and technical assistance to MS Delta community stakeholders (e.g., local pharmacy schools, congregational nurses) has resulted in implementation of initiatives in 12 health care clinics, 32 churches, and 18 barber shops; implementation of 34 smoke-free ordinances; acceptance of Electronic Benefits Transfer Program, or the Supplemental Nutrition Assistance Program benefits in 8 farmers' markets; and implementation of 18 formal and 22 informal municipal-level joint use agreements with public facilities. CDC plans to release a new funding opportunity announcement in the future to:

- Implement population-wide and priority population approaches to prevent and control high blood pressure among adults through two components: 1) policy, system and environmental interventions that promote, support, or reinforce physical activity and healthy foods and beverages, particularly those with low or no sodium, and tobacco- and smoke-free environments; and 2) health systems and community-clinical linkage interventions
- Provide sub-awards to local entities to contribute to the work
- Provide leadership and technical assistance to selected MS Delta communities, and ensure overall coordination.

Oral Health

The Committee urges CDC to support clinical and public health interventions that target pregnant women and young children at highest risk for dental caries. These interventions result in significant cost-savings to State Medicaid programs. CDC is encouraged to continue to work across the Department to improve coordination of oral health surveillance that reliably measures and reports health outcomes. (p. 66)

Action taken or to be taken

The CDC Division of Oral Health (DOH) supports national surveillance and effective population-based strategies that promote oral health and prevent disease. CDC supports interventions that are evidence-based, specifically community water fluoridation and dental sealants. Community water fluoridation benefits people of all ages and socioeconomic groups, including those difficult to reach through other public health programs and private dental care. Systematic reviews of studies have found that fluoridation prevents at least 25% of tooth decay in adults and youth. The application of dental sealants on permanent molars soon after they appear (generally around 6 years of age) reduces decay in these teeth by 81% approximately two years after placement. Delivering sealants to high-risk children saves Medicaid as much as \$6 per tooth sealed over a 4-year period. DOH supports school-based sealant programs that target schools with high populations of low income children at higher risk of dental decay.

DOH also supports states that provide oral health education and fluoride varnish application to younger children. However, there are no population-based strategies (other than fluoridation) for children under five and pregnant women that have an evidence base of effectiveness. DOH continues to review the science and evaluate the effectiveness of our state oral health grants to identify refinements that maximize effective use of funds to improve the oral health of all Americans.

DOH continues to engage with partners across the Agency and the Department to improve coordination and increase efficiency, especially around oral health surveillance. For example, DOH works with CDC's Division of Reproductive Health, which periodically collects Pregnancy Risk Assessment Monitoring System (PRAMS) data to identify risk and opportunity that may disproportionately affect the oral health of pregnant women. CDC also has a Memorandum of Understanding with CMS and HRSA to work collaboratively on oral health programs. Current areas of discussion include the development of consistent school sealant program measures, elimination of barriers to care for underserved populations, and communication among agencies about funding opportunities and policy initiatives.

Preterm Birth

Preterm birth affects more than 500,000 babies each year in the United States and is the leading cause of neonatal mortality. The Committee commends CDC for funding State-based Perinatal Collaboratives that focus on improving birth outcomes using known preventative strategies such as reducing early elective deliveries. The Committee encourages CDC to increase the number of States receiving assistance for perinatal collaboratives. (p. 67)

Action taken or to be taken

CDC awarded six state cooperative agreements (California, Illinois, Massachusetts, New York, North Carolina and Ohio) for the State-Based Perinatal Quality Collaboratives (PQCs) Cooperative Agreement (September 30, 2015 through September 30, 2017). These PQCs will improve the quality of perinatal care in these states by reducing maternal morbidity and mortality, reducing scheduled deliveries without a medical indication (also known as elective deliveries) before 39 weeks gestation, increasing use and documentation of use of antenatal steroids for impending preterm births, increasing breastfeeding rates, and reducing hospital-acquired neonatal infections. In addition, through a cooperative agreement with the March of Dimes (FY 2015-FY 2016), CDC is supporting the development of a National Network of Perinatal Quality Collaboratives in an effort to further support nationwide state-based PQCs. Much progress has been made since the initiation of the PQCs in FY 2011 (only three grantees were funded initially). The California PQC has shown a 57% decrease in the percentage of elective deliveries (37-38 weeks gestation). The New York State PQC has shown a 92% decrease in elective deliveries (36-38 weeks gestation) including an 86% decrease in labor inductions and a 94% decrease in scheduled C-sections without a medical indication between September 2010 and December 2013. The Ohio PQC, from September 2008 to March 2014, saw an estimated cost savings of over \$27,789,000 associated with a shift of 48,400 births to 39 weeks gestation or greater and a 68% decline in the rate of deliveries less than 39 weeks without a medical indication.

Psoriasis and Psoriatic Arthritis

Psoriasis affects an estimated 7,500,000 people in the United States. The Committee recognizes the growing body of evidence regarding linkages between psoriatic disease and cardiovascular disease, alcohol consumption, metabolic syndrome, and depression and remains concerned as to the continued gaps in the public health response to such linkages. The Committee encourages CDC to use their Prevention Research Centers to build on past investments including the CDC's Psoriasis and Psoriatic Arthritis: A Public Health Agenda to define and implement public health self-management interventions for psoriatic disease. This network would explore the research needed to better understand the relationships between the listed and other possible chronic conditions to help position psoriatic disease appropriately within the larger world of public health. (p. 67)

Action taken or to be taken

CDC recognizes the severity of disease among people affected by psoriasis as well as psoriatic arthritis, which is one of the more than 100 conditions that comprise arthritis and other rheumatic conditions.

Visual Screening Education

The Committee is concerned that people with vision impairment often report chronic conditions, such as heart disease, stroke, and diabetes, at substantially higher rates than individuals without vision impairment. The Committee encourages CDC to increase vision impairment and eye disease surveillance efforts, apply previous CDC vision and eye health research findings to develop effective prevention and early detection interventions, and begin to incorporate vision and eye health promotion activities into State and national public health chronic disease initiatives, with an initial focus on early detection of diabetic retinopathy. (p. 67)

Action taken or to be taken

CDC's Vision Health Initiative (VHI)—funded by the Visual Screening Education line—will develop, test, and implement a vision and eye health surveillance system using existing surveys and other administrative and electronic data sources. The system will provide population estimates of vision loss function, eye diseases, health disparities, and barriers and facilitators to access vision and eye care at the national, state, and community levels. This system will be disseminated and shared with researchers, epidemiologists, health care providers, and other end users for implementation and evaluation purposes. In collaboration with the Institute of Medicine, the VHI will also release a CDC-sponsored report titled Public Health Approaches to Reduce Vision Impairment and Promote Eye Health that will provide recommendations to improve the vision and eye health of the nation.

Additionally, CDC will continue support for two research demonstration projects examining methods to improve glaucoma detection, referral, and treatment for high risk populations. The project funds Johns Hopkins University to develop a practical algorithm targeting high-risk minority populations to detect glaucoma cases in the community and identify other eye conditions (refractive error, cataract, and diabetic retinopathy). Wills Eye Hospital is funded to test a telemedicine, community-based intervention using fundus photography to increase the detection of previously undiagnosed glaucoma and other eye diseases in high-risk populations. This project is done in conjunction with Federally Qualified Health Centers and primary care providers. The demonstration project will assess the cost of the public health interventions to detect and manage glaucoma among high-risk populations.

CDC is also working with the National Association of Chronic Disease Directors to develop an initiative to address vision and eye health at the state level by working with state health departments and other state level partners to include vision and eye health into broad public health activities.

Cerebral Palsy

The Committee encourages CDC to build on established surveillance and research methods to develop a robust research infrastructure focused on Cerebral Palsy across various geographic U.S. regions. (p. 68)

Action taken or to be taken

CDC appreciates the Committee's continued support for the public health agenda for developmental disabilities, including cerebral palsy (CP). CDC's Developmental Disabilities Program recognizes the severity of disease among people affected by CP, which is the most common cause of serious motor disability in childhood. CDC began monitoring developmental disabilities (DD) in Atlanta in the mid-1980s and continues to do so. In an effort to better understand the prevalence of DDs in the U.S., CDC created the Autism and Developmental Disabilities Monitoring ([ADDM](#)) Network in 2000. All ADDM sites track autism. Currently, three ADDM sites (GA, MO, and WI) also conduct surveillance activities for CP. Enhancing CDC's existing CP surveillance infrastructure and investing in population-based research is critical for advancing our understanding of CP in the U.S.

CDC surveillance has provided valuable data on the number and characteristics of children with CP. Still, many unanswered questions remain. CDC is well positioned to enhance current CP surveillance to expand to additional communities and different age groups or to conduct follow-up studies on the long-term impact of living with CP.

One of the most urgent unanswered questions is "what causes CP?" In most cases, the causes of CP are unknown. Thus, a critical next step is to invest in population-based research to understand risk factors and causes for CP and identify ways to prevent it.

Congenital Heart Disease [CHD]

The Committee commends the CDC for its efforts to address the lifelong needs of this growing population with CHD, particularly in the areas of critical congenital heart screening and attention to adolescent and adult

surveillance needs. The Committee remains concerned that there continues to be a lack of rigorous epidemiological and longitudinal data on individuals of all ages with CHD. The Committee encourages CDC to collect and analyze nationally representative, population-based epidemiological and longitudinal data on infants, children, and adults with CHD to improve understanding of CHD incidence, prevalence, and disease burden, further assess the public health impact of CHD. (p. 69)

Action taken or to be taken

CDC recognizes the importance of rigorous epidemiological and longitudinal data for individuals of all ages with CHD and has expanded and launched new activities such as:

- Funding five sites to develop population estimates of individuals across the lifespan with CHDs and to better understand healthcare use and longer term outcomes. This expanded surveillance will include additional years of data collection, allowing for the potential to follow individuals identified in the pilot surveillance project longitudinally.
- A collaborative project with the March of Dimes to use existing birth defects surveillance programs to identify babies born with CHDs between 1980 and 1996, locate them now as adults (currently aged 18-35), and ask them about their current health, access to care, and quality of life (Congenital Heart Surveillance To Recognize Outcomes, Needs and well-being (CHSTRONG)).
- Leveraging the existing infrastructure of CDC's Emerging Infections Program (EIP) collaboration with the New York State Department of Health to examine the patterns and barriers to care for individuals with CHDs.
- In collaboration with March of Dimes, provide technical assistance and some limited funding to help two states link data on CHDs from birth defects surveillance systems to other existing data (e.g., cancer registries, educational data).

Hereditary Hemorrhagic Telangiectasia [HHT]

HHT is a genetic complications, but if diagnosed in time is treatable and manageable. The Committee encourages CDC to develop newborn screening initiatives that focus on early detection and intervention methods for newborns from families with a history of HHT. (p. 69)

Action taken or to be taken

The CDC Division of Blood Disorders understands the need for early detection and intervention methods for hereditary hemorrhagic telangiectasia (HHT) among newborns from families with a history of the disorder. Presently, CDC does not have a program to address HHT from a public health perspective. Identifying individuals with such a rare genetic conditions via newborn screening is very difficult even with the presence of a severe phenotype.

Krabbe Disease

Krabbe Disease is a rare, inherited degenerative disorder of the nervous systems that causes severe deterioration of mental and motor skills. The disease most often affects infants and is generally fatal before the age of 2. There is no cure for Krabbe Disease, but identifying it early and beginning treatment prior to the onset of symptoms may help to prevent severe health outcomes. The Committee encourages CDC to include efforts for Krabbe disease and other leukodystrophies when rapid diagnosis may lead to potentially live saving treatments. (p. 69)

Action taken or to be taken

CDC's Newborn Screening Quality Assurance Program helps ensure accurate newborn screening tests for congenital disorders including Krabbe and certain other leukodystrophies. Since 2013, CDC has provided quality assurance materials (dried blood spots that mimic disease) and technical assistance to state laboratories testing

for Krabbe. CDC also developed a laboratory test to detect X-linked adrenoleukodystrophy (X-ALD) and currently provides training and quality assurance materials to states adding X-ALD to their screening program. CDC is now developing a newborn screening test and materials for metachromatic leukodystrophy.

Muscular Dystrophy

The Committee requests an update on the Muscular Dystrophy CARE Act in the fiscal year 2017 CJ. The update shall include CDC's plans and timeframe to enhance its collection of surveillance data across all forms of muscular dystrophy and to develop updated care standards, including for adults with Duchenne and for other forms of muscular dystrophy. (p. 69-70)

Action taken or to be taken

This information is provided in the National Center Birth Defects, Developmental Disabilities, and Disabilities and Health (NCBDDD) budget narrative, Health and Development with Disabilities section, Muscular Dystrophy sub-section.

National Center on Health, Physical Activity and Disability [NCHPAD]

The Committee supports the work of NCHPAD, and its goal of promoting better health for adults and children with disabilities. By mobilizing national networks to provide technical assistance, provide community leaders and organizations with health promotion training, and by disseminating effective strategies and tools for disability service providers, the NCHPAD plays an important role in encouraging a healthier lifestyle for Americans with disabilities. The Committee urges CDC to increase support for these efforts. (p. 70)

Action taken or to be taken

The National Center on Health, Physical Activity and Disability (NCHPAD), is one of CDC's current National Public Health Practice and Resource Center programs for disability and health that has been funded by the CDC (current cycle 2012-2016) for the purpose of improving the quality of life of individuals living with disabilities. CDC continues to partner with and support NCHPAD and other disability and health organizations to disseminate effective strategies and tools for healthcare providers, public health practitioners, and individuals to promote healthier lives for Americans with disabilities.

In the past year, CDC has been able to promote and support NCHPAD activities that aim to improve health for people living with disabilities. Highlights from CDC's partnership with NCHPAD in 2015 include:

- In 2015, as part of their cooperative agreement with CDC, NCHPAD compiled an online resource toolkit with [Community Health Inclusion Assessment Tools](#) which highlight available assessments that can be utilized to determine the levels of inclusion and accessibility of a wide range of environments, both at the community and individual-level. In addition, CDC continues to support NCHPAD's efforts to bring together [Inclusive Health Coalitions \(IHCs\)](#), which are diverse groups of community leaders and organizations focused on promoting disability inclusion in programs and services related to physical activity, nutrition and obesity. Coalition efforts currently focus on the removal of barriers that prevent people with disabilities from achieving transformation opportunities available to community members without disabilities.
- In concert with the 2015 U.S. Surgeon General's Call to Action on Walking and with the support of CDC, NCHPAD launched the "[How I Walk](#)" campaign that aims to rebrand the word "walking" by challenging individual and societal perspectives. The campaign encourages consumers to share their mode of walking through social media and hopes to disseminate promising practices and resources on including people with disability in walking initiatives.

CDC looks forward to its continued partnership with NCHPAD and sustaining collaborations that promote improved health for all individuals with disabilities.

Neonatal Abstinence Syndrome Data

The Committee directs CDC to provide technical assistance to States to improve the availability and quality of data collection and surveillance activities regarding neonatal abstinence syndrome, including: (a) the incidence and prevalence of neonatal abstinence syndrome; (b) the identification of causes for neonatal abstinence syndrome, including new and emerging trends; and (c) the demographics and other relevant information associated with neonatal abstinence syndrome. CDC shall also collect any available surveillance data described in the previous sentence from States and make it publicly available on an appropriate web site. Furthermore, the Committee directs CDC to increase utilization of effective public health measures to reduce neonatal abstinence syndrome. (p. 70)

Action taken or to be taken

CDC recognizes the significant public health concerns arising from opioid medication exposure in pregnancy and potential adverse sequelae for infants prenatally exposed to opioids. CDC's [Treating for Two: Safer Medication Use in Pregnancy](#) initiative aims to improve the health of women and babies by working to identify the safest treatment options for the management of common conditions before and during pregnancy. Treating for two relies on the [Centers for Birth Defects Research and Prevention](#) (CBDRP) to accelerate epidemiologic research on medication safety in pregnancy. In particular, the Birth Defects Study to Evaluate Pregnancy Exposures ([BD-STEPS](#)) collects information on maternal medication use during pregnancy, including self-reported opioid use. In addition, Treating for Two is utilizing health insurance billing data to understand patterns of medication prescriptions for women.

As part of Treating for Two, CDC scientists have published and continue to monitor the prevalence of opioid use among pregnant women and women of reproductive age. CDC scientists are currently investigating associations between opioid use in pregnancy and adverse birth outcomes such as specific birth defects, low birth weight, and premature birth and are also exploring opportunities to expand outcomes of interest, including neurodevelopmental outcomes. CDC's recent research has found that during 2008–2012, on average, 28% of women aged 15–44 years with private health insurance and 39% of women with Medicaid filled a prescription written by a healthcare provider for an opioid medication. (Ailes EC, Dawson AD, Lind JN, Gilboa SM, Frey MT, Broussard CS, and Honein MA. CDC. Opioid prescription claims among women of reproductive age — United States, 2008–2012. MMWR. 2015 Jan 23;64(2):37-41.)

Treating for Two is committed to expanding and focusing activities on opioid use in pregnancy and the risks posed by these exposures. CDC is collaborating with colleagues at the National Institute of Child Health and Human Development (NICHD) and several clinical partner organizations to convene a workshop on opioid use in pregnancy and Neonatal Abstinence Syndrome (NAS) and other perinatal health outcomes. In addition, CDC has provided technical assistance to enable states to build on existing infrastructure of population-based birth defects surveillance systems or other existing frameworks to monitor the birth prevalence of NAS.

In 2016, CDC will publish Opioid Prescribing Guidelines for Chronic Pain, which include specific prescribing considerations when treating pregnant women.

CDC participated in a Government Accountability Office Study on Prenatal Drug Use and Newborn Health GAO-15-203: Published: Feb. 10, 2015 and responded to questions about House Bill 1462 "Protecting Our Infants Act of 2015" from the Congressional Budget Office.

Tourette Syndrome

The Committee is pleased with CDC's current activities on Tourette Syndrome and urges CDC to use its resources to increase scientific knowledge of the prevalence and risk factors in both children and adults, as well as determine the impact of this disorder on the quality of life of those who are affected. (p. 70)

Action taken or to be taken

In addition to our partnership with the Tourette Association of America to provide a national public health practice and resource center on Tourette syndrome, CDC recognizes the importance of continuing to improve scientific knowledge to improve identification of tics and Tourette syndrome and identify potentially modifiable risk factors to maximize quality of life for those affected by tics and Tourette.

Efforts are underway to develop improved screening and diagnostic measures specifically of tics and Tourette syndrome. Once validated, these tools can be used: (1) in surveillance settings to provide more accurate prevalence estimates, (2) in research settings to better characterize the risk and protective factors and inform prevention efforts to improve quality of life, and (3) in clinical settings to promote earlier identification of children with tics and Tourette so they can be connected to effective services.

The Project to Learn About Youth – Mental Health (PLAY-MH) continues as a set of community-based surveillance studies to document both diagnosed and undiagnosed children's mental, emotional and neurobehavioral conditions (including tics and Tourette syndrome), to complement prevalence estimates obtained from national parent surveys based only on diagnosed cases. PLAY-MH is also documenting the co-occurrence of child mental health conditions, the treatments received by these children and families, and the health-related outcomes of children with mental, emotional and neurobehavioral conditions.

Tuberous Sclerosis Complex [TSC]

The Committee encourages CDC to take into consideration all the major manifestations of TSC in its surveillance network, including epilepsy, autism, renal angiomyolipomas, facial angiofibromas, lymphangioleiomyomatosis, retinal hamartomas, subependymal giant cell astrocytomas, and cardiac rhabdomyomas. (p. 70)

Action taken or to be taken

CDC has been in communication with Tuberous Sclerosis Association and has been exploring the possibilities regarding autism surveillance efforts. CDC's autism surveillance system, the Autism and Developmental Disabilities Monitoring ([ADDM](#)) Network, continues to incorporate information about TSC in both its case-finding methods and in coding conditions that co-occur with autism spectrum disorder (ASD). However, ADDM found that TSC co-occurs in less than 1% of children with ASD. A pilot study conducted in Maryland and South Carolina during the ADDM 2008 surveillance year revealed that genetic test results and interpretive reports are rarely available in the health and education records of children with ASD or intellectual disability; these are the data sources used for ADDM. Therefore, the ADDM methodology is not likely to be a reliable approach for studying this condition. Alternative methods are needed to investigate these conditions in a scientifically meaningful way, which might include screening with biomarkers or gene sequencing, although neither of these modalities are yet feasible at a population level.

Epidemiology Fellowship Program

A well-trained public health workforce is essential to ensuring the highest level of efficiency and effectiveness in protecting health. The Committee encourages CDC to prioritize investments in established training programs with a demonstrated record of success in supporting high-quality, on-the job training at State and local health agencies and transitioning these professionals into public health careers, including the Applied Epidemiology Fellowship Program. (p. 71)

Action taken or to be taken

CDC recognizes the importance of multi-pronged efforts to strengthen the public health workforce and supports a number of high-quality fellowship programs. These fellowship programs train fellows on-the-job in State and local health agencies with the aim of transitioning these professionals into public health careers. As of September 30, 2015, CDC supported 475 fellows, 288 of whom were completing their fellowships in State and local health departments.

In one fellowship model, CDC directly hires and manages the fellowships and places fellows at CDC locations and in State and local health departments. This model includes programs such as the

- Epidemic Intelligence Service with 40 fellows at State and local health departments
- Preventive Medicine Residency and Fellowship (PMR/F) with 3 fellows at State and local health departments
- Public Health Associate Program with 131 fellows at State and local health departments

Another model supports partner organizations through cooperative agreement funding to manage fellowship programs that provide training for fellows in State and local health departments. In 2015, CDC supported cooperative agreements for fellowships in various disciplines. These programs help fill gaps in the public health workforce and support a pipeline for hiring fellowship graduates into positions at State and local health departments. These include:

- The CDC/Council of State and Territorial Epidemiologists (CSTE) Applied Epidemiology Fellowship Program trains master and doctoral recent graduates in the expanding field of applied epidemiology. This fellowship is modeled after CDC's Epidemic Intelligence Service (EIS) program. CDC supports this program through a cooperative agreement with CSTE – 61 fellows
- Strengthening Health Systems through Inter-professional Education (project SHINE) has three fellowships under its umbrella with a goal of improving population health through innovative and integrated workforce development strategies to strengthen health system effectiveness. Project SHINE is implemented through cooperative agreements with the Association of State and Territorial Health Officials, Council of State and Territorial Epidemiologists, National Association of County and City Health Officials, and the Public Health Informatics Institute.
- Applied Public Health Informatics Fellows (APHIF) – 13 fellows
- Informatics Training In Place Program Fellows (I-TIPP) – 15 fellows
- Health Systems Integration Program Fellows (HSIP) – 8 fellows

We recognize there are unmet needs and current resources are unable to meet the increasingly high demand. For example, CSTE typically receives at least 75 host site applications for the Applied Epidemiology Fellowship, but the resources support hiring only 30 fellows annually.

With the proposed FY 2017 \$5.0 million increase for Public Health Workforce, CDC will continue to focus on high-priority activities like Epidemic Intelligence Service (EIS) and the Public Health Associate Program (PHAP). CDC will expand public health e-learning, increase training in informatics and population health, and strengthen public health surveillance. CDC will place more CDC trainees in state and local health departments, ensure that trainees are gaining cutting-edge skills that will equip them to meet current challenges, and increase access to high-quality training for the current public health workforce.

Modernizing the Vital Statistics Infrastructure

The Committee understands that not all States and territories have implemented electronic death registration systems which would provide more accurate, timely, and secure death data for use in monitoring our Nation's health and reducing waste, fraud, and abuse in Federal benefits programs. The Committee urges the NCHS to support States in modernizing their infrastructure and directs NCHS to include in the fiscal year 2017 CJ a plan for modernizing the vital statistics infrastructure, including steps to address States and territories that have not yet implemented these systems. (p. 71 - 72)

Action taken or to be taken

This information is provided in the Public Health Scientific Services (PHSS) budget narrative, National Center for Health Statistics (NCHS) budget request section.

Amyotrophic Lateral Sclerosis [ALS] Registry

The Committee supports the implementation of a nation-wide biorepository and encourages CDC and ATSDR to continue to consult with external stakeholders and Federal agencies, including NIH, VA, and FDA to coordinate efforts, raise awareness of the registry, and help ensure that the registry is available as a resource to support ALS research and care services and the development of treatments for the disease. (p. 72)

Action taken or to be taken

CDC appreciates the Committee's interest in the National Amyotrophic Lateral Sclerosis (ALS) Registry.

Under the National ALS Registry effort, CDC/ATSDR completed its biorepository pilot project in FY 2015 and concluded that a full-scale biorepository is feasible, warranted and will complement the Registry. The success of the pilot project prompted CDC/ATSDR to launch a full-scale biorepository in the fall of FY 2016 and biospecimens from the pilot will be used to populate the new National ALS Biorepository. This biorepository is unique in that it will pair biospecimens with detailed epidemiological and risk factor data from Registry-enrolled patients, thereby offering researchers new insights into ALS. The specimens collected will include hair, nails, tissue, skin, brain, and cerebrospinal fluid from living and deceased ALS patients.

The National ALS Registry continues to consult and coordinate with external stakeholders and federal agencies. The Registry is partnering with the ALS Association, Muscular Dystrophy Association, and the Les Turner ALS Foundation, among others. These groups represent approximately 80-90% of all ALS patients, and inform and disseminate information about the Registry to persons with ALS (PALS) as well as assist in enrollment, when necessary. Since 2012, the Registry has helped recruit PALS for 21 different research studies domestically and abroad and over 70,000 emails have been sent to PALS confirming their eligibility for research participation.

The Registry also works closely with other federal agencies. ATSDR coordinates with CMS and the VA to use their administrative data to help populate cases in the ALS Registry. Additionally, the Registry has worked with NIH to determine the feasibility of implementing a global unique identifier (GUID) system for PALS for the purpose of expanding research and clinical trials and reducing duplication. The Registry has also funded 10 studies to date that focus on ALS etiology and potential risk factors, three of which are first-time meritorious NIH studies. Scientists from the National ALS Registry are also serving on FDA's Public Policy Working Group to facilitate the use of patient registries for future drug development.

Asthma

The Committee is concerned by the impact on people living with asthma as a result of there being significantly fewer States participating in the National Asthma Control Program [NACP]. The Committee encourages NACP to increase the number of States carrying out programmatic activities and use a population-adjusted burden of disease criterion as a significant factor for new competitive awards in the future. (p. 73)

Action taken or to be taken

This information is provided in the National Center for Environmental Health (NCEH) budget narrative, Asthma budget request section, Funding Cooperative Agreements sub-section.

Healthy Housing

The Committee recognizes the important role that healthy housing can play in reducing the risk of numerous conditions, including asthma and lead poisoning. CDC is encouraged to continue to support health housing activities. (p. 73)

Action taken or to be taken

CDC appreciates the Committee's recognition of the role that healthy housing can play in reducing the risk of certain health conditions, including lead poisoning and asthma.

CDC's Lead Poisoning Prevention Program emphasizes primary prevention of lead poisoning through the elimination and control of lead hazards before children are exposed (i.e., in healthy homes). Our grantees use CDC-funded data collection to target and implement primary prevention activities, which can include healthy housing activities such as housing and health code enforcement and housing rehabilitation. These interventions protect children who live in the highest risk housing in buildings, blocks, and neighborhoods.

Other federal agencies also rely on CDC's lead surveillance data to ensure healthy housing and protect children. The Department of Housing and Urban Development and the Environmental Protection Agency use CDC data to identify housing properties where multiple children have been lead poisoned and target lead hazard reduction enforcement actions.

Combating Opioid Abuse

The Committee urges CDC to require applicants applying for the PDO Prevention for States Program to collaborate with the State substance abuse agency or those agencies managing the State's PDMP to ensure linkages to clinically appropriate substance use disorder services. In addition, the Committee directs CDC to use the funds provided to expand the surveillance of heroin-related deaths beyond CDC's current activities in HHS' Region One by targeting States that have the greatest burden of heroin abuse. (p. 73 - 74)

Action taken or to be taken

This information is provided in the National Center for Injury Prevention and Control (NCIPC) budget narrative, Injury Prevention Activities budget request section.

Concussion Surveillance

The Committee encourages CDC to establish and oversee a national surveillance system to accurately determine the incidence of sports-related concussions, including youth ages 5 to 21. (p. 74)

Action taken or to be taken

CDC appreciates the Committee's commitment to improving concussion surveillance in accordance with the 2013 [Institute of Medicine \(IOM\) report](#), which directed CDC to develop a plan to provide a comprehensive sports-related concussion surveillance system. In response to that report, and in consultation with surveillance experts, CDC has identified a new national household telephone survey as the optimal methodology to capture the breadth and depth of information as called for within the IOM report. The survey will query parents or caregivers to identify whether any of the children in the household had experienced a recent (6-12 months) head injury and describe any symptoms experienced as a result. For those head injuries deemed to meet established symptom criteria, the parent or caregivers will be asked to describe the circumstances surrounding

the injury. CDC is taking initial steps toward survey development, cognitive testing or survey and a modest pilot implementation phase. Should funds for a surveillance system be awarded as outlined in the FY 2017 President's Budget, CDC will be able to expand this pilot work to create a truly national system in direct response to the IOM report recommendations

Opioid Prescribing Guidelines

The Committee directs CDC to complete its work in developing safe opioid prescribing guidelines for chronic, non-cancer pain in outpatient settings for release no later than July 31, 2016, and a technical package to guide States in the implementation of safe opioid prescribing through coordinated care. The guidelines and technical package should include information for providers on the use of opioids for pregnant women and women that might become pregnant, as well as the potential risks of birth defects and neonatal abstinence syndrome from exposure to such medications. The Committee directs CDC to broadly disseminate the guidelines and technical package and to immediately evaluate the effects of the new guidance. Furthermore, the Committee urges CDC to work with the VA and the DOD in implementing these guidelines in the appropriate facilities and directs CDC to share data and best practices on safe opioid prescribing with these agencies. (p. 74)

Action taken or to be taken

CDC's budget request for FY 2017 includes a \$10,000,000 increase for prescription drug overdose (PDO) guideline dissemination and uptake. CDC appreciates the Committee's interest in ensuring patients receive safer, more effective treatment for chronic pain. CDC's opioid prescribing guideline for chronic pain outside of active cancer treatment, palliative care, and end-of-life care is anticipated to be released after the public comment period. CDC has worked with federal partners, including the VA and DOD, in developing the guideline and will continue to work with those agencies to collaborate on implementation and dissemination activities. CDC also is working toward the development and release of accompanying materials to assist with translation of the recommendation statements for wide dissemination for use by providers, patients, and the public. These supportive materials will be lay-friendly information which include a factsheet on the implications of prescribing opioids for pregnant women. CDC will work with states, including those funded by CDC's PDO Prevention for States program, to educate them on substantive information contained in the guideline to encourage its use.

Sports Injuries

The Committee is concerned about the number and severity of injuries related to sports activities at every age and experience level. Therefore, the Committee encourages CDC to educate coaches at all levels on how to prevent common injuries, how to recognize symptoms of potentially dangerous conditions, and how to plan for emergency situations is critical to this ever growing problem in sports safety. (p. 74)

Action taken or to be taken

CDC appreciates the Committee's concern related to sports injuries and has undertaken actions to educate coaches on concussion awareness, recognition, and response. Over the last decade, CDC's [HEADS UP](#) Initiative has played a key role in the public health response to concussions. HEADS UP is updating the youth sports coaches' online training, which reached over 100,000 coaches in August 2015 alone (3 million total). The updated course will include a new lesson on culture change and prevention. In addition, a new evaluation and 3-month follow-up exam to assess effectiveness of the training are now included. CDC also began a new effort to identify messages and branding for the campaign moving forward, which will include formative testing with athletes, parents, coaches, school professionals, and health care providers and detailed social network analysis.

Global Diseases

The Committee is pleased with CDC's ongoing efforts to fight malaria and neglected tropical diseases and encourages CDC to continue to research, monitor, and evaluate efforts for malaria and NTDs in collaboration with other divisions and agencies. (p. 76)

Action taken or to be taken

CDC works to protect the health of individuals from malaria and neglected tropical diseases (NTDs) whether caused by a parasite, as with Chagas disease or malaria, or a virus, such as with dengue.

CDC collaborates with a wide array of domestic and international partners to:

- prevent and control malaria, including co-implementing the President's Malaria Initiative PMI with (USAID)
- prevent, control, and eliminate Neglected Tropical Diseases (NTDs)
- provide cross-cutting entomologic expertise and support
- provide essential laboratory support to states, countries, and other partners; and conduct vital research and program evaluation.

New tools and approaches—including diagnostics, strategic use of drugs, surveillance methods, vector control strategies, vaccines, and integrated interventions—are needed to further reduce transmission and overcome technical challenges like drug and insecticide resistance, and to support elimination of malaria and targeted NTDs. Current efforts for malaria include evaluation of improved bednets and insecticides, strategic use of anti-malarial drugs, and development of more sensitive diagnostic tools for improved surveillance to detect low level infections. As an example of diagnostic innovation, CDC is working with the National Institutes of Health (NIH) and other global health programs within CDC to evaluate a multiplex diagnostic assay that can detect exposure to multiple pathogens. By examining a single fingerstick blood specimen, we can perform surveillance for the most prominent NTDs, common arboviruses, and enteric bacterial infections, as well as provide important childhood vaccine coverage data. CDC scientists also routinely conduct research regarding insecticide resistance in mosquitoes that are the primary vectors that spread dengue and chikungunya.

Emergency Preparedness

The Committee requests more detailed information on how State Public Health Emergency Preparedness [PHEP] funding is distributed at the local level by States. CDC is directed to require States to report how much of their Federal PHEP funding is being allocated to local health departments and what basis or formula each State is using to make such allocations. The Committee directs CDC to include this in the fiscal year 2017 CJ. (p. 77)

Action taken or to be taken

This information is provided in the Office of Public Health Preparedness and Emergency Response (OPHPR) budget narrative, PHEP Budget Allocation by Public Health Preparedness Capability section.

Procurement

The Committee encourages CDC to consider maintaining its planned procurement of anthrax vaccines when adjusting to changes in commercial pricing or PHEMCE requirements. (p. 77)

Action taken or to be taken

CDC participates in the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) to ensure that medical countermeasure (MCM) investments, both in the SNS and across the other participating agencies, are sustainable within available funding. CDC concurs that sustaining existing SNS holdings and increasing MCM procurements to address existing gaps against PHEMCE requirements is the goal for SNS funding. CDC will continue to follow PHEMCE recommendations for prioritized SNS procurements with the available funding.

Strategic National Stockpile [SNS]

The Committee encourages the CDC to evaluate the latest approved advances in influenza prevention and antiviral treatment for inclusion in the SNS in preparation for pandemic influenza. (p. 77)

Action taken or to be taken

CDC participates in the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) to ensure that both products in advanced development and those recently approved for influenza and other threats are considered where there are stockpiling requirements for such medical countermeasures (MCMs). CDC provides subject matter expert guidance to the PHEMCE work groups and teams that review threat assessments to determine anticipated numbers of casualties and the MCM requirements projected to treat those casualties. These requirements encompass the spectrum of investigational and commercially available products as well as identifying and recommending prioritized actions to support the development of required MCMs and the procurement of products for the SNS. As part of the national pandemic influenza strategy, CDC currently holds licensed antiviral drugs and personal protective equipment appropriate for treatment and prevention of pandemic influenza. New products are considered annually as part of the SNS Annual Review process. CDC also maintains awareness of the commercially available medical countermeasures for prevention and treatment of pandemic influenza, using this information to inform PHEMCE deliberations and recommendations, as well as CDC procurement strategy for the SNS.

Update of Response Plans

The Committee is aware that, as a result of the success of Project BioShield, several new medical countermeasures have been procured for inclusion in the SNS. Additionally, the Committee is aware that CDC has responsibility for developing response plans that will guide the public health response to possible outbreaks and threats such as anthrax and smallpox. The Committee is concerned that the response plans CDC has developed do not include guidance to State and local public health officials regarding new acquisitions to the SNS and how those new acquisitions should be used in a response effort. To ensure that healthcare providers and first responders have the most up-to-date guidance to respond to potential threats, the Committee directs CDC to update all current response plans within 120 days of enactment to include countermeasures procured with Project BioShield funds since its inception. (p. 77)

Action taken or to be taken

As a participant in the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE), CDC holds the lead responsibility for the development of guidance and instructions on the use of stockpiled medical countermeasures (MCMs) during a public health emergency. For the majority of the MCMs held in the Strategic National Stockpile, the product will be used in accordance with the Food and Drug Administration (FDA) approved label instructions. For the products expected to require mass dispensing for prophylaxis in response to a public health emergency, CDC provides guidance to state and local partners for the development, evaluation, and improvement of plans and capabilities to receive and utilize SNS MCMs. CDC also develops detailed guidance and expectations for the utilization of stockpiled MCMs beyond those required for mass dispensing campaigns. In 2014, CDC finalized an update to the SNS response plan for large scale anthrax exposure. This updated plan includes revised assumptions to address questions around treatment MCMs that would not be delivered through mass dispensing models. CDC recently completed the smallpox vaccine response strategy to provide current assumptions and information on planning for the use of stockpiled smallpox MCMs. Concurrently, CDC is also developing the required documents and information required for the use of MCMs added to the SNS without FDA licensure or without approved labelling information for the intended use in a response. To ensure that all SNS held MCMs can be used in a safe and timely manner during a response, CDC, working in coordination with the FDA has developed Emergency Use Authorization or Investigational New Drug protocols for such SNS products. CDC will continue to develop and address guidance

requirements for new products added to the SNS, or for products needing additional guidance as identified by State and local partners and clinicians.

Recently completed CDC guidance documents include:

- Prevention and Treatment of Anthrax in Adults (2014): [Results of CDC Expert Panels](#)
- EID Journal (2014): [Special Considerations for Pregnant and Postpartum Women](#)
- Pediatric Anthrax Management (2014): [Executive Summary](#) [Clinical Report](#)
- CDC Guidance (2013): [Anthrax Vaccine Adsorbed \(AVA\) Post-Exposure Prioritization](#)
- [Clinical Framework and Medical Countermeasure Use During an Anthrax Mass-Casualty Incident](#), William A. Bower, MD; Katherine Hendricks, MD; Satish Pillai, MD, et al.
MMWR Recomm Rep 2015;64(No. RR-4)

DRUG CONTROL PROGRAM

CDC DRUG CONTROL PROGRAM AGENCY

RESOURCE SUMMARY

Budget Authority (in Millions)	FY 2015 Final	FY 2016 Enacted	FY 2017 Request
Drug Resources by Function			
Prevention	\$20.00	\$75.58	\$85.58
Total Drug Resources by Function	\$20.00	\$75.58	\$85.58
Drug Resources by Decision Unit			
Prescription Drug Overdose	\$20.00	\$70.00	\$80.00
Illicit Opioid Use Risk Factors	N/A	\$5.58	\$5.58
Total Drug Resources by Decision Unit	\$20.00	\$75.58	\$85.58
Drug Resources Personnel Summary			
Total FTEs (Direct Only)	N/A	9	12
Drug Resources as a Percent of Budget			
Total Agency Budget (in Billions) ¹	\$6,900,418	\$7, 178, 045	7013846
Drug Resources Percentage	0.29%	0.0105	0.0122

¹ Excludes ATSDR and mandatory programs (except Behavioral Health Initiative).

Program Summary

Mission

The Centers for Disease Control and Prevention (CDC) serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and health education activities designed to improve the health of the people of the United States. To accomplish its mission, CDC identifies and defines preventable health problems and maintains active surveillance of diseases through epidemiologic and laboratory investigations and data collection, analysis, and distribution; serves as the Public Health Service lead agency in developing and implementing operational programs relating to environmental health problems, and conducts operational research aimed at developing and testing effective disease prevention, control, and health promotion programs; administers a national program to develop recommended occupational safety and health standards and to conduct research, training, and technical assistance to assure safe and healthful working conditions for every working person; develops and implements a program to sustain a strong national workforce in disease prevention and control; and conducts a national program for improving the performance of clinical laboratories. CDC helps support the National Drug Control Strategy by capitalizing on its role as the nation's public health agency to advance data-driven prevention. CDC works to advance tracking and surveillance of the opioid epidemic; improving clinical practices to address opioid prescribing, a key driver of the epidemic; and supporting multi-sector, data-driven prevention in states across the country.

Methodology

CDC's work aligns with Secretary Burwell's Opioid Initiative and addresses one of the key drivers of the opioid overdose epidemic. The opioid overdose epidemic killed more than 28,000 people in 2014 alone. The last 15 years have seen massive increases in opioid overdose deaths, driven largely by deaths from the most commonly prescribed opioids, and in the last five years, sharp increases in heroin and illegally manufactured opioid (i.e., illicit fentanyl) overdose deaths. A four-fold increase in the prescribing of opioid pain relievers contributed to and continues to fuel the epidemic.

While opioid pain relievers can play an important role in the management of some types of pain, the overprescribing of these powerful drugs has created a national epidemic of prescription drug abuse and overdose. CDC's work advances prevention in three key ways: (1) improving data quality and tracking trends to monitor actionable changes in the epidemic; (2) strengthening state efforts by scaling up effective public health interventions; and (3) improve patient safety by supplying health care providers with guidelines and other tools for evidence-based decision making that improves patient care and population health.

Budget summary

In FY 2017, CDC requests **\$85,579,000** for drug control activities, an increase of \$10,000,000 above the FY 2016 Enacted level.

Opioid Overdose

FY 2017 Request: \$80 million

(\$10 million above the FY 2016 Enacted level)

This net increase includes a \$10,000,000 increase for opioid prescribing guideline dissemination and uptake.

In FY 2017 Budget includes funding to continue state support for prescription drug overdose prevention programs in all 50 states and Washington, D.C. The investment will support rigorous monitoring and evaluation and improvements in data quality and monitoring at a national level. CDC also will continue efforts to increase uptake among providers of CDC's opioid prescribing guideline for chronic pain outside of active cancer treatment, palliative care, and end-of-life care, which is slated for release in 2016, as well as implementation of a coordinated care plan that addresses both opioid and heroin overdose prevention by improving care for high-risk opioid patients. In addition, CDC will coordinate with the Bureau of Justice Assistance's Harold Rogers Prescription Drug Monitoring Program while helping states maximize the use of their PDMPs as a public health tool to identify and address inappropriate prescribing.

Illicit Opioid Use Risk Factors

FY 2017 Request: \$5,579,000 Illicit Opioid Use Risk Factors

(No change in FY 2016 Enacted level)

Deaths from heroin have tripled since 2010, and deaths from other illicit opioids also are sharply on the rise. In FY 2017 CDC will address the rising rate of overdoses attributable to illicit opioids by supporting state efforts to improve their ability to detect, track, and respond to illicit opioid overdoses, including obtaining more timely and accurate emergency department and death data. In July 2015, CDC released troubling findings about ways in which the heroin epidemic is changing. As heroin use, abuse, and dependence have increased, so have heroin-related overdose deaths—tripling in the United States between 2010 and 2014. In addition, about 45% of people who used heroin also abused or had dependence on prescription opioid pain relievers.

CDC's activities in FY 2017 will be conducted in alignment with the HHS Opioid Initiative, a Department-wide effort to advance a coordinated, comprehensive response to the opioid epidemic. CDC's work to address inappropriate prescribing of opioids is a major component of the initiative. In addition to that work, CDC will also apply its scientific expertise to evaluate SAMHSA's proposed prescription drug overdose grant program.

Performance

CDC funded 16 state health departments through the Prescription Drug Overdose Prevention for States (PFS) program in September 2015 to advance and evaluate comprehensive state-level interventions for preventing prescription drug overuse, misuse, abuse, and overdose. Interventions of priority address drivers of the

prescription drug overdose epidemic, particularly the misuse and inappropriate prescribing of opioid pain relievers. In order to ensure that PFS program activities are achieving their primary goal, CDC has introduced a new budget performance measure (Measure 7.2.6), which tracks the rate of overdose deaths involving opioid analgesics per 100,000 residents in funded states.

Strategic goals related to prescription drug abuse will ultimately improve patient care and safety and reduce high-risk prescribing. These include:

- Improving data quality and tracking trends to monitor actionable changes in the epidemic.
- Strengthening state prevention efforts by scaling up effective public health interventions. Since September 2015, this includes 16 states funded through Prescription Drug Overdose Prevention for States (PFS) FOA.
- Improving patient safety by supplying health care providers with data, tools, and guidance for evidence-based decision making.

Indirect Support

Apart from these programs, the FY 2017 budget request continues to provide funding for expansion of electronic death reporting to provide faster, better quality data on deaths of public health importance, including Prescription Drug Overdose Deaths. Additional information on this activity and specific funding levels can be found in the Public Health Scientific Services section of this document.