DEPARTMENT of HEALTH and HUMAN SERVICES

Fiscal Year 2018

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 America from health, safety, and security threats, both domestic and foreign. CDC increases the health security of our nation.

To accomplish our mission, CDC conducts critical science and provides health information that protects our nation against expensive and dangerous health threats, and responds when these arise.

Our fiscal year 2018 budget request includes:

- Creation of the new *America's Health* Block Grant, reforming the model of existing state-based chronic disease programs to increase flexibility
- Reform of public health preparedness and response activities, including a greater emphasis on risk in the state grant program
- Enhanced support for vector-borne disease outbreaks
- Critical investments to improve our laboratories and facilities
- Continued efforts to reduce deaths due to opioid abuse, misuse, and overdose

Performance improvement is a critical aspect of our work and we regularly measure how our programs serve the public and meet key public health goals. We are committed to maximizing the impact of every dollar entrusted to our agency. Our efforts align with the Administration's priorities and support the Department of Health and Human Service's goals.

CDC's mission is to keep Americans safe and healthy where they work, live and play. Scientists and disease detectives work around the world to track diseases, research outbreaks, respond to emergencies of all kinds, and use what they learn from this work to strengthen America's health and resilience.

Sincerely,

Anne Schuchat, MD (RADM, USPHS)

Acting Director, Centers for Disease Control and Prevention

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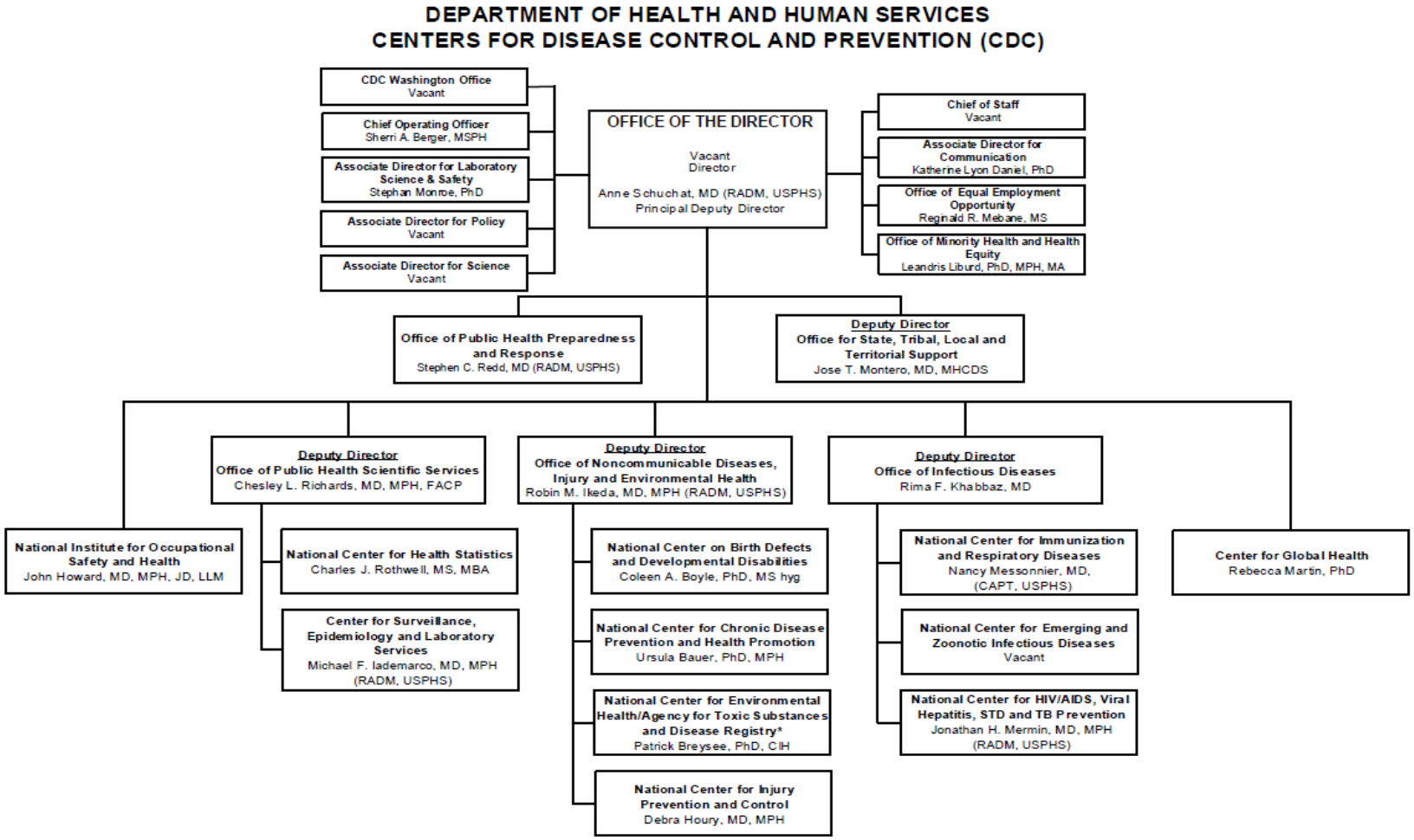
CDC ORGANIZATIONAL CHART



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

Updated 4/6/2017

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

EXECUTIVE SUMMARY

OVERVIEW OF THE BUDGET REQUEST

The fiscal year (FY) 2018 President's Budget request for CDC and ATSDR includes a total funding level of $6,037,243,000 in discretionary budget authority and the Prevention and Public Health Fund (PPHF). This is an overall decrease of $1,222,431,000 below the FY 2017 Annualized Continuing Resolution (CR) level. The FY 2018 budget request includes a number of programmatic reductions and eliminations, while maintaining key priorities 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 2017 Annualized CR level.

New Initiatives and Increases

America's Health Block Grant Program ($500.0 million)

The FY 2018 budget request includes a new $500 million *America's Health* Block Grant to increase State, Tribal, and territorial flexibility on the leading chronic disease challenges specific to each State, which could include preventing and better managing heart disease and diabetes—two of the most common and costly chronic diseases—as well as arthritis, the leading cause of disability in the United States. The newly-established *America's Health* Block Grant will provide flexibility in FY 2018 for each state to implement specific interventions that address leading causes of death and disability, including interventions to spur improvements in physical activity and the nutrition of children and adolescents, and other leading causes of death such as heart disease.

Vector Borne Diseases (+$12.5 million)

The FY 2018 budget request includes an increase of $12.5 million for Vector Borne Diseases. In FY 2018, the U.S. will remain vulnerable to existing and new vector-borne disease threats, like Zika. With increased funding, CDC will provide enhanced support to up to 9 states at the greatest risk for vector-borne disease outbreaks. These resources would allow for enhanced capacity in laboratory, case and outbreak investigation, and vector control. Funds will also support the development of cutting edge diagnostic tools and new vector control technologies.

Building and Facility Improvements (+$10.0 million)

The FY 2018 budget request includes an increase of $10.0 million for repair and improvement (R&I) of CDC's existing facilities portfolio in Atlanta and other locations across the U.S. 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.

Influenza Planning and Response (+$7.8 million)

The FY 2018 budget request includes an increase of $7.8 million for Influenza Planning and Response. This funding will support influenza prevention, detection, and monitoring activities, including laboratory capacity support to states, municipalities, and territories. Funds will also be used to support influenza pandemic planning and response and to monitor ongoing epidemics of influenza of particular public health concern, like H7N9 virus infections in China.

Reductions and Eliminations

Reductions and eliminations are summarized below, by account, in descending order. More detailed information is available in the narrative section of this Congressional Justification.

Chronic Disease Prevention and Health Promotion (-$222.3 million)

The FY 2018 budget request reduces funding for Chronic Disease Prevention and Health Promotion. CDC funds approximately 30 separate disease and risk factor prevention grant programs to reduce the prevalence of chronic disease and the leading causes of death (e.g., alcohol use, nutrition, and stroke). Many states receive a limited amount of resources per grant program, and in some instances, states receive less than $200,000 to address a specific prevention strategy. The budget creates the new *America's Health* Block Grant to integrate existing disease-based activities into one block grant to increase flexibility to states, tribes, localities, and territories to more efficiently and effectively address the leading causes of death specific to each jurisdiction.

At this level, CDC reduces or eliminates the following activities:

Racial and Ethnic Approaches to Community Health (-$51.0 million)

The FY 2018 budget request eliminates funding for the Racial and Ethnic Approaches to Community Health (REACH) program. The FY 2018 Budget integrates existing disease-based activities into a new Block Grant to increase flexibility to States and Tribes to more efficiently and effectively address the leading causes of death specific to each State. State, local, or tribal recipients of the $500 million *America's Health* Block Grant will continue work on the leading causes of death and disability in these communities. In FY 2016, CDC funded 49 governmental agencies and nongovernmental organizations, including state and local health departments, American Indian Tribes/Tribal Organizations, universities, and community-based organizations.

Prevention Research Centers (-$25.4 million)

The FY 2018 budget request eliminates funding for the Prevention Research Center (PRC) program. This program works with academic institutions to conduct research and disseminate prevention interventions across United States. In FY 2016, CDC funded PRCs at 26 universities in 24 states to study how individuals and communities can avoid or counter the risks for chronic illnesses. For example, the PRCs funded Tulane University to research the strategy of creating bicycle lanes to increase physical activity in New Orleans. NIH also supports research on chronic diseases, including prevention research. CDC's chronic disease prevention portfolio will continue to focus on implementation of the most effective existing interventions.

Cancer Prevention and Control (-$18.1 million)

The FY 2018 request reduces funding for the Cancer Prevention and Control program by $18.1 million. At this funding level, there is no dedicated funding for Colorectal, Prostate, and Skin Cancer. Through the expanded Comprehensive Cancer program, CDC will support activities to more effectively address the overall risk factors associated with specific types of cancers.

Epilepsy (-$8.0 million)

The FY 2018 budget request eliminates funding for the Epilepsy program. Elimination of this program supports the transition of CDC's chronic disease prevention portfolio to focus more narrowly on the leading causes of death and disability. The Epilepsy Program works with national organizations and researchers to develop and share public education programs and campaigns and provide services for

people with epilepsy. In FY 2016, CDC funded the Epilepsy Foundation, which works with 44 state and local chapters and several research cooperative agreements, including the Managing Epilepsy Well Network, which is currently comprised of eight Prevention Research Centers.

Hospitals Promoting Breastfeeding (-$8.0 million)

The FY 2018 budget request eliminates dedicated funding for the Hospitals Promoting Breastfeeding program. This program was created in FY 2012 and has been funded by the Prevention and Public Health Fund. This program promotes and supports evidence-based strategies in states, communities, and hospitals to help women who choose to breastfeed to start and continue breastfeeding. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote breastfeeding as a way to prevent obesity and type 2 diabetes.

National Lupus Patient Registry (-$6.0 million)

The FY 2018 budget request eliminates funding for the National Lupus Patient Registry. This program supports lupus registries and related studies, raises awareness, educates patients and healthcare providers, and promotes interventions. In FY 2016, CDC funded follow-up studies focused on natural history, disparities, and healthcare access and treatment in three lupus registries. Elimination of this program is a part of the transition of CDC's chronic disease prevention portfolio to focus on the leading causes of death and disability.

Million Hearts (-$4.0 million)

The FY 2018 budget request eliminates dedicated funding for the Million Hearts® program, which has previously been funded by the Prevention and Public Health Fund. This program is a collaboration between CDC and the Centers for Medicare and Medicaid Services (CMS) to enhance cardiovascular disease prevention activities across the public and private sector. In FY 2016, CDC funded three partner organizations—including the National Association of Community Health Centers and the YMCA of USA. CDC remains committed to maximizing its efficiency and public health impact. CDC will continue to enhance cardiovascular disease prevention through existing resources.

National Early Child Care Collaboratives (-$4.0 million)

The FY 2018 budget request eliminates dedicated funding for the National Early Child Care Collaboratives program, which has previously been funded by the Prevention and Public Health Fund. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote similar prevention activities in the Early Child Care and Education (ECE) setting as a way to prevent obesity. This program implements obesity prevention initiatives targeting ECE settings to help establish and improve the healthy nutrition and physical activity habits of young children. To carry out this work, CDC supports ECE learning collaboratives in nine states to facilitate best practices in nutrition, breastfeeding support, physical activity, and screen time.

Health Promotion (-$10.5 million)

The Budget eliminates funding for activities funded under Health Promotion. This elimination also supports the transition of CDC's chronic disease prevention portfolio to focus on the priority areas funded by the Other Chronic Disease program line.

HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections and Tuberculosis (-$186.1 million)

The FY 2018 budget request reduces funding for HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections and Tuberculosis by $186.1 million. At the FY 2018 requested amount, CDC will reduce activities around testing, support services for persons living with HIV, and prevention services. In addition, CDC's ability to implement innovative demonstration projects or research examining strategies related to high impact prevention and new tools supporting HIV prevention will be reduced. CDC will focus its efforts on sustaining the declines that have been achieved and reaching those Americans who are at highest risk. CDC will continue to work towards the national HIV/AIDS targets. Although fewer HIV tests would be paid for directly with CDC Federal funds, Health Department capacity has increased to directly bill for testing HIV and related co-infections in health care settings.

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

The FY 2018 budget request eliminates funding for the Preventive Health and Health Services Block Grant (PHHSBG). 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. As indicated above, this budget request proposes a new, five-year Block Grant program, *America's Health*, which provides flexibility to grantees and focuses on the leading public health challenges faced by states, tribes, localities, and territories.

Occupational Safety and Health (-$138.5 million)

The FY 2018 budget request reduces funding for occupational safety and health research by $138.5 million. The National Institute for Occupational Safety and Health (NIOSH) will continue to conduct research to reduce worker illness and injury, and to advance worker well-being. In FY 2018, the research program will not continue to fund state and academic partners for conducting, translating, or evaluating research.

Education and Research Centers (-$28.5 million)

Originally created almost 50 years ago, the Education and Research Centers program directed funding to academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The majority of schools of public health include coursework and many academic institutions have developed specializations in these areas. The budget request would no longer direct Federal funding to support academic salaries, stipends, and tuition and fee reimbursements for occupational health professionals at universities.

Public Health Preparedness and Response (-$136.3 million)

The FY 2018 budget request reduces funding for Public Health Preparedness and Response by $136.3 million. At this level, CDC will eliminate the Academic Centers for Public Health Preparedness and reduce the level of funding for the Public Health Emergency Preparedness (PHEP) Cooperative Agreements.

The Budget restructures HHS preparedness grants to direct resources to States with the greatest need and provide more innovative approaches. In FY 2018, the PHEP cooperative agreement will gain efficiencies, address gaps, and incentivize innovation by incorporating a competitive component in addition to a risk-based component, and link awards with performance.

At this level, CDC will focus on the Select Agent Program and mission critical activities. In order to maintain the critical preparedness and response infrastructure, CDC will prioritize activities which address the largest needs.

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

The FY 2018 budget request eliminates funding for the Academic Centers for Public Health Preparedness. 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. CDC will continue to support evaluation of grantee activities and assessments such as the Operational Readiness Review and will use these analyses to inform training and guidance to the public health preparedness field.

Immunization Program (-$89.5 million)

The FY 2018 budget request reduces funding for the Immunization Program by $89.5 million. In FY 2018, CDC will work collaboratively with its awardees and partners to sustain record-high childhood immunization coverage rates and ensure that all Americans have access to vaccines. At this funding level, CDC will continue to provide funding to the 64 immunization awardees for state infrastructure awards and vaccine direct assistance, but at a reduced level. CDC will also continue providing technical assistance and laboratory support to states and local communities responding to vaccine-preventable disease investigations, including outbreaks, but at a reduced level.

Global Health (-$76.3 million)

The FY 2018 budget request reduces funding for global health activities by $76.3 million. The majority of the reduction is from CDC's Global HIV/AIDS program, which provides the infrastructure and base support for CDC's ongoing President's Emergency Plan for AIDS Relief (PEPFAR) activities. The reduction reflects the Administration's intent to further focus funds on countries, populations, and programs where resources will have the greatest public health impact, optimize staffing and technical resources to address highest-priority global HIV needs, and ensure that ongoing activities are consistent with overall PEPFAR priorities and are lean, efficient, and effective. CDC will focus its global immunization activities to continue progress toward polio eradication, as well as measles and rubella elimination in the countries with the highest disease burden. For Global Disease Detection and Other Programs, CDC will focus on the continued identification of highly infectious, rapidly spreading pathogens and maintain a ready response force to respond to global disease outbreaks that threaten to spillover national borders and threaten regional and international health security.

Emerging and Zoonotic Infections (-$64.9 million)

The FY 2018 budget request reduces funding for Emerging and Zoonotic Infections by $64.9 million. At this level, CDC will eliminate Chronic Fatigue Syndrome and Prion Disease activities, and funding to support the on-going Antibiotic Resistance (AR) initiative is reduced. With a reduction in funding of $22.7 million for AR in FY 2018, CDC will continue to work with state and local health departments to protect Americans from the growing threat of antibiotic resistance, but will focus resources on States with demonstrated performance and highest need, reducing investments in research.

Prion Disease (-$6.0 million)

The FY 2018 budget request eliminates funding for Prion Disease activities. Prion diseases are a group of rare brain diseases affecting humans and animals that are uniformly fatal. Prion activities have been proposed for elimination to focus surveillance and monitoring activities on a broader range of high consequence pathogens and emerging diseases. Public health preventive measures recently instituted by the USDA will further reduce the risk of exposure to the U.S. population from Prion diseases. NIH also supports research on Prion diseases.

Chronic Fatigue Syndrome (-$5.4 million)

The FY 2018 budget request eliminates funding for Chronic Fatigue Syndrome (CFS) activities. CFS affects between one and four million people in the United States. CDC's CFS program works with states and experienced clinicians to develop tools to gather and analyze surveillance data and to educate clinicians and the public on the results of evidence-based studies. NIH has been funded to conduct biomedical research on CFS. In FY 2018, CFS activities are proposed for elimination, prioritizing funding to programs that support a broad range of diseases to maximize effectiveness in this limited-resource environment.

Birth Defects, Developmental Disabilities, Disability and Health (-$35.4 million)

The FY 2018 budget request reduces funding for the National Center on Birth Defects and Developmental Disabilities by $35.4 million. At the proposed FY 2018 funding level, CDC will focus its birth defects and developmental disabilities portfolio on core public health activities that align with CDC's mission and have proven interventions to make an impact on America's health.

Injury Prevention and Control (-$19.5 million)

The FY 2018 budget request reflects the elimination of funding for the Elderly Falls and the Injury Control Research Centers. Within this total, CDC will continue its emphasis on Opioid Abuse and Overdose Prevention at $75.4 million. CDC will focus its injury prevention portfolio on core public health activities that protect America's health.

Injury Control Research Centers (-$9.0 million)

The FY 2018 budget request eliminates funding for the Injury Control Research Centers (ICRCs). CDC supported 10 ICRCs to conduct research and evaluation activities related to the health and economic impact of injury and violence as well as the improvement of injury prevention practices. Elimination of this program prioritizes funding for CDC's broader injury prevention and control portfolio.

Elderly Falls (-$2.0 million)

The FY 2018 budget request eliminates funding for the Elderly Falls program. Other agencies across the U.S. government and other key stakeholders invest in research and prevention programs to address Elderly Falls, and the materials that CDC has developed to support clinicians who treat older patients at risk for falls will remain available.

Public Health Scientific Services (-$30.7 million)

The FY 2018 budget request reduces funding for the National Center for Health Statistics (NCHS), as well as funds that support the public health workforce and surveillance/informatics. At a reduced capacity, the platform supported by NCHS will continue to provide information on emerging issues of public health importance for CDC and HHS, such as the rise in drug overdose deaths. CDC will also reduce the number of trained disease detectives and rapid outbreak responders.

Environmental Health (-$60.0 million)

The FY 2018 budget request reduces funding for Environmental Health $60.0 million below the FY 2017 Annualized CR level, which includes $35 million for lead prevention and safe water activities, available through FY 2018. The FY 2018 budget request eliminates funding for Climate and Health and the Amyotrophic Lateral

Sclerosis Registry. CDC will focus its environmental health portfolio on core activities required to protect America's health.

Amyotrophic Lateral Sclerosis Registry (-$ 10.0 million)

The FY 2018 budget request eliminates the Amyotrophic Lateral Sclerosis (ALS) registry and related research program. NIH-funded research on ALS will continue. External researchers may still use biospecimens previously obtained from the ALS biorepository. The budget request would eliminate funding for 13 extramural researcher-initiated studies to explore the causes of ALS and potential risk factors and the registry.

Climate Change (-$10.0 million)

Elimination of the program would end direct funding to states regarding health effects of climate change. States will continue to have access to other funds that would allow them to prepare and respond to public health emergencies, including natural disasters and adverse weather events. The FY 2018 budget request would eliminate funding for 18 state and local health departments and six tribal and territorial organizations.

Agency for Toxic Substances and Disease Registry (-$12.5 million)

The FY 2018 budget request reduces funding for the Agency for Toxic Substances and Disease Registry (ATSDR) by $12.5 million. This reduction will reduce the number of public health assessments and consultations that ATSDR will be able to conduct in response to community requests.

MANDATORY FUNDING

In addition to CDC's base funding request for FY 2018, the budget includes the following mandatory funding levels:

Vaccines for Children = $4.4 billion, an increase of $161.4 million over the FY 2017 annualized CR.

World Trade Center Health program = $365.6 million, an increase of $18.4 million over the FY 2017 annualized CR.

The Energy Employees Occupational Illness Compensation Program Act (EEOICPA) = $55.4 million, an increase of $5.0 million over the FY 2017 annualized CR (due to sequestration impact on FY 2017).

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. The accomplishments described below highlight the importance of investing in public health, preventing disease, and protecting health.

- In August 2015, CDC published results from two model simulations to project the number of healthcare-associated infections (HAIs) from antibiotic-resistant bacteria or CDI. It found that, with effective action now, an estimated 619,000 infections caused by three problematic antibiotic-resistant HAIs or CDIs, and 37,000 deaths among infected patients might be averted nationally over the next five years. When considering published estimates of costs related to these four infections in the projections, an estimated $7.7 billion in direct medical costs could be averted (not including costs of implementing interventions).
- CDC established a diagnostic field laboratory in Sierra Leone and Liberia in FY 2015. The Sierra Leone lab tested over 20,000 specimens that helped guide the care of patients in Ebola treatment units and enhanced the disease detection capacity that was necessary for controlling the spread of Ebola in West Africa.
- In FY 2015, CDC provided reagents for Zika diagnostic testing to over 70 countries. From January to May 2016, CDC-produced reagents for Zika virus testing were shipped to 32 U.S. states and 38 countries. These reagents are available for performing up to 1,334,778 Zika virus tests.
- In 2016, CDC rapidly identified the link between Zika virus and microcephaly in newborns and implemented prevention strategies appropriate to different parts of the United States.
- CDC provided assistance to Flint, Michigan, in response to lead contamination of the water supply. CDC assisted Michigan in monitoring blood lead levels within the community, provided recommendations on blood lead screening and case management protocols, and published an analysis that helped to understand the health impact that lead contamination in the water supply had on the blood lead levels of local children under 6 years old. CDC helped to identify and locate 9,622 children in need of state blood lead testing and continuing care resources. For those children found with elevated blood lead levels, more that 90% were connected to case management.
- CDC provides vaccines through the Vaccines for Children program to over 50% of U.S. children. The most recent National Immunization Survey showed the percentage of children receiving no vaccinations remained <1% and over 90% of children were up to date on vaccination against polio; hepatitis B; measles, mumps and rubella; and varicella. Among children born during 1994–2013, vaccination will prevent an estimated 322 million illnesses, 21 million hospitalizations, and 732,000 deaths over the course of their lifetimes, at a net savings of $295 billion in direct costs and $1.38 trillion in total societal costs.
- Since CDC and partners began to work towards eradication, polio cases have decreased from more than 350,000 per year in 1988 to 74 in 2015 and 36 in 2016. Three countries continue to record low-level transmission of wild poliovirus: Afghanistan, Pakistan, and Nigeria.
- In FY 2015, CDC launched the Prevention for States program to equip states with the resources and support needed to stand up comprehensive, multi-sector prevention programs to combat the opioid epidemic, including improving state prescription drug monitoring programs, enhancing insurer and health system practices, and reaching the hardest hit communities. CDC awarded funds to 16 states, including eight of the 10 states with the highest drug overdose rates in the country.
- CDC data and research paved the way for a 2016 U.S. Food and Drug Administration (FDA) decision to permit fortification of corn masa flour with folic acid, which could reduce neural tube defects—severe birth defects of the brain and spine—particularly among the nation’s Hispanic population.
- In FY 2015, CDC provided funding for 376 part- or full-time laboratorians and 57 part- or full-time Biosafety Officials in state and local health departments. CDC funds have helped increase laboratory

capacity to address infectious diseases; 84% of the public health laboratories funded through CDC's Epidemiology and Laboratory capacity (ELC) program indicated that they have been able to increase their laboratory proficiency through training, and the adoption of new techniques and implementation of more comprehensive methods for testing.

- CDC has three years of data on the impact of Advanced Molecular Detection (AMD) technologies (specifically, whole genome sequencing (WGS)) on foodborne listeriosis. The adoption of WGS has resulted in an increase of outbreaks detected by as much as 50%, decreased the number of cases per outbreak by as many as 50, and has allowed CDC to solve up to four times more outbreaks, more rapidly than before.

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.

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 (e.g., Sortable Stats). 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.

Alignment to Administration Priorities and Initiatives

CDC is committed to supporting the national priorities set by the Administration and leads key activities for 19 measures in the FY 2018 HHS performance plan. These include:

- improving health care quality and patient safety
- addressing obesity through childhood nutrition, food labeling, and physical fitness
- mitigating and preventing infectious and chronic diseases
- enhancing food safety
- protecting Americans in public health emergencies
- strengthening public health surveillance and epidemiology
- enhancing support of the public health infrastructure at the state, tribal, local, and territorial levels
- preventing and controlling tobacco use
- increasing impact in global health

ALL PURPOSE TABLE

(dollars in thousands)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 +/- FY 2017
Immunization and Respiratory Diseases	**$797,155**	**$782,532**	**$700,828**	**($81,704)**
Budget Authority	$457,805	$458,182	$497,228	$39,046
PPHF	*$324,350*	*$324,350*	*$203,600*	*($120,750)*
PHSSEF[4]	*$15,000*	*$0*	*$0*	*$0*
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	**$1,121,017**	**$1,120,145**	**$934,000**	**($186,145)**
Emerging and Zoonotic Infectious Diseases	$582,228	$578,882	$514,000	($64,882)
Budget Authority	$530,228	$526,882	$377,000	($149,882)
PPHF	*$52,000*	*$52,000*	*$137,000*	*$85,000*
Chronic Disease Prevention and Health Promotion	**$1,176,651**	**$1,174,503**	**$952,250**	**($222,253)**
Budget Authority	$837,701	$836,553	$452,250	($384,303)
PPHF	*$338,950*	*$337,950*	*$500,000*	*$162,050*
Birth Defects, Developmental Disabilities, Disability and Health	**$135,610**	**$135,352**	**$100,000**	**($35,352)**
Environmental Health[1]	**$182,303**	**$216,989**	**$157,000**	**($59,989)**
Budget Authority	$165,303	$199,989	$157,000	($42,989)
PPHF	*$17,000*	*$17,000*	*$0*	*($17,000)*
Injury Prevention and Control	**$236,059**	**$235,610**	**$216,165**	**($19,445)**
Public Health Scientific Services	**$491,022**	**$490,662**	**$460,000**	**($30,662)**
Budget Authority	$491,022	$490,662	$317,032	($173,630)
PHS Evaluation Transfer	*$0*	*$0*	*$142,968*	*$142,968*
Occupational Safety and Health	**$338,621**	**$338,476**	**$200,000**	**($138,476)**
Global Health	**$426,621**	**$426,309**	**$350,000**	**($76,309)**
Public Health Preparedness and Response	**$1,413,250**	**$1,402,329**	**$1,266,000**	**($136,329)**
Cross-Cutting Activities and Program Support	**$410,977**	**$273,354**	**$105,000**	**($168,354)**
Budget Authority	$250,977	$113,354	$105,000	($8,354)
PPHF	*$160,000*	*$160,000*	*$0*	*($160,000)*
Buildings and Facilities	**$10,000**	**$9,981**	**$20,000**	**$10,019**
Total CDC – Budget Authority (BA)	**$6,414,214**	**$6,293,825**	**$4,991,675**	**($1,302,150)**
Total CDC – Budget Authority (BA) & PHS Evaluation Transfer	**$6,414,214**	**$6,293,825**	**$5,134,643**	**($1,159,182)**
CDC Program Level - BA, PHS Eval, PHSSEF & PPHF4	**$7,321,514**	**$7,185,125**	**$5,975,243**	**($1,209,882)**
Agency for Toxic Substances and Disease Registry	$74,691	$74,549	$62,000	($12,549)
Prevention and Public Health Fund (PPHF) Transfer	$892,300	$891,300	$840,600	($50,700)
Public Health and Social Services Emergency Fund (PHSSEF)[4]	$15,000	$0	$0	$0
PHS Evaluation Transfers	$0	$0	$142,968	$142,968
Energy Employees Occupational Illness Compensation Program Act (EEOICPA)	$50,210	$50,320	$55,358	$5,038
World Trade Center (Mandatory)[2]	$312,900	$347,114	$365,562	$18,448
Vaccines for Children[3]	$4,400,004	$4,436,935	$4,598,358	$161,423
Childhood Obesity Research Demonstration (CORD), PL 114-10	$10,000	N/A	N/A	N/A
Other User Fees	$2,226	$2,226	$2,226	$0
Total CDC/ATSDR[4]	**$12,171,545**	**$12,096,269**	**$11,058,747**	**($1,037,522)**

[1] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

[2] Reflects Federal share estimated obligations only; NYC share estimated obligations are not included.

[3] FY 2016-2018 are estimates that reflect anticipated transfers from Medicaid.

[4] In addition to the total reflected, the FY 2017 Omnibus directs $15 million in PHSSEF pandemic influenza supplemental unobligated balances to be transferred to CDC.

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] *$497,228,000.*

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] *$934,000,000.*

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] $*377,000,000: 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] *$452,250,000: Provided, That amounts in this account, including amounts transferred to this account, are available for the Director of the Centers for Disease Control and Prevention (CDC) to administer a program, to be known as America's Health State Block Grant, to provide increased flexibility for States, territories, tribes, and tribal organizations to improve public health: Provided further, That for purposes of carrying out this program, the Director is hereby authorized to award grants to States, territories, tribes, and tribal organizations, and such grant awards shall be provided through a formula, as determined by the Director, that takes into account the population and disease burden of the grantee: Provided further, That the Director may set aside not more than 15 percent of the amounts awarded for grants described in the previous proviso for the same purposes, on a competitive basis, to cities, Federally-recognized tribes, and public health entities serving rural and frontier areas or other entities: Provided further, 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] *$100,000,000.*

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] *$317,032,000: Provided, That in addition to amounts provided herein, $142,968,000 shall be available from amounts available under section 241 of the PHS Act to carry out the Public Health Scientific Services.*

ENVIRONMENTAL HEALTH

For carrying out titles II, III, and XVII of the PHS Act with respect to environmental health, [$165,303,000] $157,000,000.

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] *$216,165,000.*

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] *$200,000,000.*

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] $350,000,000, of which [$128,421,000] *$69,547,000* for international HIV/AIDS shall remain available through September 30,

[2017] 2019: 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] *$1,266,000,000*, 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 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: Provided further, That in making awards under section 319C-1 of the PHS Act from funds made available under this heading, the Secretary may determine the amounts of such awards without regard to paragraph (3)(B)-(D) and paragraph (4)(C) of subsection (h) of such section* [, 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

For [acquisition of real property,] equipment, construction, demolition, and renovation of facilities, [$10,000,000] *$20,000,000*, [which shall] *t*o 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] *2022*.

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] *$105,000,000*: 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] 2019: *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.*

CDC-RELATED HHS GENERAL PROVISIONS

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]*2018*:

(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.

(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, chronic and environmental diseases, and other health activities abroad.

(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.

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.

([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.

APPROPRIATIONS LANGUAGE ANALYSIS – COMPARISON TO FY 2016 CONSOLIDATED APPROPRIATIONS ACT

Language Provision	Explanation
EMERGING AND ZOONOTIC INFECTIOUS DISEASES	
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.	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	
Provided, That amounts in this account, including amounts transferred to such account, are available for the Director of the Centers for Disease Control and Prevention (CDC) to administer a program, to be known as America's Health State Block Grant, to provide increased flexibility for States, territories, tribes, and tribal organizations to improve public health: Provided further, That for purposes of carrying out such program, the Director is hereby authorized to award grants to States, territories, tribes, and tribal organizations, and this grant awards shall be provided through a formula, as determined by the Director, that takes into account the population and disease burden of the grantee: Provided further, That the Director may set aside not more than 15 percent of the amounts awarded for grants described in the previous proviso for the same purposes, on a competitive basis, to cities, Federally-recognized tribes, and public health entities serving rural and frontier areas or other entities:	For the new block grant, *America's Health*. This Block Grant will provide flexibility to grantees and focus on the top public health challenges faced by states, tribes, localities, and territories.

Language Provision	Explanation
[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:]	Language is not necessary in FY 2018.
PUBLIC HEALTH SCIENTIFIC SERVICES	
Provided, That in addition to amounts provided herein, $142,968,000 shall be available from amounts available under section 241 of the PHS Act to carry out the Public Health Scientific Services.	Language reflects PHS Evaluation transfer.
INJURY PREVENTION AND CONTROL	
[Provided, 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 2018.
PUBLIC HEALTH PREPAREDNESS AND RESPONSE	
Provided, That [in the event the Director of the CDC activates the Emergency Operations Center,] the Director of 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: *Provided further, That in making awards under section 319C-1 of the PHS Act from funds made available under this heading, the Secretary may determine the amounts of such awards without regard to paragraph (3)(B)-(D) and paragraph (4)(C) of subsection (h) of such section* [, 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].	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, 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. The Budget restructures HHS preparedness grants to direct resources to States with the greatest need and provide more innovative approaches. 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.
BUILDINGS AND FACILITIES	
[Provided, That funds previously set-aside by CDC for repair and upgrade of the Lake Lynn Experimental Mine	Language is not necessary for 2018.

Language Provision	Explanation
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]	
CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT	
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:	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
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.	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.
CDC-RELATED HHS GENERAL PROVISIONS	
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]*2018*: (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. (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	The date change updates a FY 2016 provision so that it applies in FY 2018. 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.

Language Provision	Explanation
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, chronic and environmental diseases, and other health activities abroad. *(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.* *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.* ([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	

Language Provision	Explanation
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.	

AMOUNTS AVAILABLE FOR OBLIGATION [1,2,3]

	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Discretionary Appropriation:			
Enacted	$6,270,745,000	$6,270,745,000	$4,991,675,000
Flint Response and Lead Poisoning Prevention (PL 114-254)	N/A	$35,000,000	N/A
Permissive Transfer	($4,531,000)	$0	$0
Reprogramming	$148,000,000	$0	$0
ATB Rescission	N/A	($11,920,000)	N/A
Subtotal, adjusted Appropriation	**$6,414,214,000**	**$6,293,825,000**	**$4,991,675,000**
Mandatory and Other Appropriations:			
Transfers from Other Accounts[4]	$892,300,000	$891,300,000	$840,600,000
Receipts from User Fees	$2,226,000	$2,226,000	$2,226,000
Receipts from CRADA[5]	$1,344,931	$1,344,931	$1,344,931
Receipts from Royalties[5]	$1,300,054	$1,300,054	$1,300,054
Appropriation (EEOICPA)	$50,210,000	$50,320,000	$55,358,000
Subtotal, adjusted Mandatory and Other Appropriations	**$947,380,985**	**$946,490,985**	**$900,828,985**
Recovery of prior year Obligations	$16,325,573	$0	$0
Unobligated balance start of year	$146,825,087	$179,837,882	$127,338,164
Unobligated balance expiring	$5,390,673	$0	$0
Unobligated balance end of year	($179,837,882)	($127,338,164)	($143,811,396)
Total Obligations	**$7,350,298,436**	**$7,292,814,703**	**$5,875,970,753**

[1] Excludes Vaccine for Children, World Trade Center Health Program, Ebola Preparedness and Response, and Zika Preparedness and Response funds.

[2] Excludes the following amounts for reimbursements: FY 2016 $319.765M and FY 2017 $412.109M.

[3] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

[4] Includes transfer from Prevention and Public Health Fund (PPHF).

[5] FY 2016 amount represents actual collections. FY 2017 and FY 2018 amounts are estimates assuming level receipts. FY 2017 and FY 2018 actual may vary.

SUMMARY OF CHANGES

	Dollars	FTEs
FY 2017 Annualized CR (Program Level)	**$7,185,125**	11,696
FY 2018 President's Budget (Program Level)	**$5,975,243**	11,696
Net Change	-$1,209,882	0

	FY 2017 FTE	FY 2017 Annualized CR	FTE Change	FY 2018 +/- FY 2017
Increases:				
Immunization and Respiratory Diseases				
Influenza	---	$172,230	---	$7,770
Emerging and Zoonotic Infectious Diseases				
Vector-borne Diseases[1]	---	$37,003	---	$12,456
Emerging Infectious Diseases[2]	---	$146,721	---	$8,736
Chronic Disease Prevention and Health Promotion				
America's Health Block Grant (PPHF)	---	N/A	---	$500,000
Buildings and Facilities		$9,981	---	$10,019
Public Health Preparedness and Response				
Strategic National Stockpile	---	$573,903	---	$1,093
All Other Increases		N/A		$8,419
Total Increases	**N/A**	**$939,838**	**N/A**	**$548,493**
Decreases:				
Immunization and Respiratory Diseases				
Immunization Program Level	---	$610,302	---	-$89,474
HIV/AIDS, Viral Hepatitis, STI and TB Prevention				
Domestic HIV/AIDS Prevention and Research	---	$787,213	---	-$147,148
Sexually Transmitted Infections	---	$157,011	---	-$27,011
Tuberculosis	---	$141,986	---	-$11,986
Emerging and Zoonotic Infectious Diseases				
Epi and Lab Capacity Program (PPHF)[2]		$40,000		N/A
Antibiotic Resistance	---	$159,696	---	-$22,696
Healthcare-Associated Infections (PPHF)	---	$12,000	---	N/A
Prion Disease	---	$5,989	---	-$5,989
Chronic Fatigue Syndrome	---	$5,390	---	-$5,390
Chronic Disease Prevention and Health Promotion				
Other State-Based Chronic Disease Programs[3]	---	$599,460	---	N/A
REACH	---	$50,950	---	-$50,950
Cancer Screenings	---	$355,497	---	-$18,073
Prevention Research Centers	---	$25,413	---	-$25,413
Other Chronic Diseases	---	$27,972	---	-$11,479
Hospitals Promoting Breastfeeding	---	$8,000	---	-$8,000
Let's Move/National Early Child Care Collaboratives	---	$4,000	---	-$4,000
Million Hearts	---	$4,000	---	-$4,000
Oral Health	---	$17,966	---	-$966
Birth Defects, Developmental Disabilities, Disability and Health	---	$135,352	---	-$35,352
Environmental Health				
Amyotrophic Lateral Sclerosis Registry (ALS)	---	$9,981	---	-$9,981
Climate Change	---	$9,981	---	-$9,981
Environmental and Health Outcome Tracking Network	---	$33,935	---	-$8,935
Asthma	---	$28,945	---	-$3,945
Flint Response[4]	---	$35,000	---	N/A
Injury Prevention and Control				

Injury Control Research Centers	---	$8,983	---	-$8,983
Injury Prevention Activities	---	$28,895	---	-$8,602
Elderly Falls	---	$2,046	---	-$2,046
Public Health Scientific Services				
Surveillance, Epidemiology, and PH Informatics	---	$278,470	---	-$18,470
Public Health Workforce and Career Development	---	$52,101	---	-$7,101
Health Statistics	---	$160,092	---	-$5,092
Occupational Safety and Health				
Occupational Safety and Health Research	---	$310,030	---	-$110,030
Education and Research Centers	---	$28,446	---	-$28,446
Global Health				
Global HIV/AIDS	---	$128,177	---	-$58,630
Global Immunization Program	---	$218,584	---	-$12,584
Global Public Health Protection	---	$55,095	---	-$5,095
Public Health Preparedness and Response				
Public Health Emergency Preparedness Cooperative Agreement	---	$658,745	---	-$107,745
Academic Centers for Public Health Preparedness	---	$8,184	---	-$8,184
CDC Preparedness and Response Capability	---	$161,492	---	-$21,492
Cross-Cutting Activities and Program Support	---		---	
Preventive Health and Health Services Block Grant (PPHF)	---	$160,000	---	-$160,000
Public Health Leadership and Support		$113,354		-$8,354
Total Decreases	**N/A**	**$5,638,733**	**N/A**	**-$1,758,375**
Transfers				
	---	$0	---	$0
Built-In:				
1. Annualization of Jan - 2017 Pay Raise	---	---	---	$0
2. FY 2018 Pay Increases	---	---	---	$0
3. Changes in Day of Pay	---	---	---	$0
4. Rental Payments to GSA and Others	---	---	---	$0
Total Built-In		**$0**		**$0**
Absorption of Current Services				**$0**
Total				**$0**
Total Increases (Program Level)		**$939,838**	**0**	**$548,493**
Total Decreases (Program Level)		**$5,638,733**	**0**	**$1,758,375**
NET CHANGE - L/HHS/ED Program Level	**11,696**	**$7,185,125**	**0**	**-$1,209,882**
Other Program Level Changes				
1. Vaccines for Children	---	$4,437,000	---	$161,358
2. World Trade Center[5]	---	$347,114	---	$18,448
3. Energy Employees Occupational Illness Compensation Act (EEOICPA)	---	$50,320	---	$5,038
4. User Fees	---	$2,226	---	$0
Total - Program Level Net Increase	**11,696**	**$4,836,660**	**0**	**$184,844**
NET CHANGE: CDC BUDGET AUTHORITY & PROGRAM LEVEL	**11,696**	**$12,021,785**	**0**	**-$1,025,038**

1 FY 2017 and FY 2018 total for Vector-Borne Diseases include Lyme Disease.

2 In FY 2018, the Epidemiology and Laboratory Capacity program will be supported by funding for Emerging Infectious Diseases under NCEZID.

3 FY 2017 totals reflect funding for: Tobacco Prevention and Control; Nutrition, Physical Activity, and Obesity; Heart Disease and Stroke; Diabetes; and Arthritis. In FY 2018, these activities will be allowable uses under the newly-established *America's Health* Block Grant.

4 FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

5 Reflects Federal share estimated obligations only; NYC share estimated obligations are not included.

BUDGET AUTHORITY BY ACTIVITY[1]

(dollars in thousands) Budget Activity/Description	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Immunization and Respiratory Diseases	$457,805	$458,182	$497,228
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	$1,121,017	$1,120,145	$934,000
Emerging and Zoonotic Infectious Diseases	$530,228	$526,882	$377,000
Chronic Disease Prevention and Health Promotion	$837,701	$836,553	$452,250
Birth Defects, Developmental Disabilities, Disability and Health	$135,610	$135,352	$100,000
Environmental Health[1]	$165,303	$199,989	$157,000
Injury Prevention and Control	$236,059	$235,610	$216,165
Public Health Scientific Services	$491,022	$490,662	$317,032
Occupational Safety and Health	$338,621	$338,476	$200,000
Global Health	$426,621	$426,309	$350,000
Public Health Preparedness and Response	$1,413,250	$1,402,329	$1,266,000
Cross-Cutting Activities and Program Support	$250,977	$113,354	$105,000
Buildings and Facilities	$10,000	$9,981	$20,000
Total CDC, Budget Authority -	**$6,414,214**	**$6,293,825**	**$4,991,675**
Total CDC, FTEs	**11,421**	**11,696**	**11,696**

[1] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

AUTHORIZING LEGISLATION

(dollars in thousands) Enabling Legislation Citation[1]	Enabling Legislation Status	Allocation Methods	FY 2017 Annualized CR	FY 2018 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	$782,532	$700,828
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	$1,120,145	$934,000
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	$578,882	$514,000
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 Protection and Affordable Care Act of 2010,§ 4201* (P.L. 111-148)	Permanent Indefinite	Direct Federal Intramural; Competitive Cooperative Agreements/Grants, including Formula Grants; and Competitive Contracts	$1,174,503	$952,250
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	Permanent Indefinite	Direct Federal/Intramural, Competitive Grants, Cooperative Agreements and Contracts	$135,352	$100,000

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	PHSA Title II §§ 301, 307, 310, 311, 317*, 317A*, 317B*, 317I*, 327, 352, 361, 366, 1102; Title XVII*	$216,989	$157,000
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	$235,610	$216,165
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	$490,662	$460,000
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	Permanent Indefinite	Direct Federal/Intramural, Competitive Grant/Cooperative Agreements, Contracts, Other	$338,476	$200,000

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.				
Global Health				
PHSA Title II §§ 301, 304, 307, 310, 319*, 327, 340C, 361–369*, Title VVII*, 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 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)	Permanent Indefinite	Direct Federal/Intramural, Competitive Grants/Cooperative Agreements, Direct Contracts, Interagency Agreements	$426,309	$350,000
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	$1,402,329	$1,266,000
Buildings and Facilities				
Consolidated Appropriations Act of 2016, PL 114-113	Permanent Indefinite	Direct Federal/Intramural, Contracts	$9,981	$20,000
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	$105,000

[1] Expired/Expiring noted with *

APPROPRIATIONS HISTORY TABLE[1]

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
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	--	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	6,875,144,000	6,153,448,000	--
2017 Public Health Prevention Fund	944,470,000	908,300,000	891,300,000	--
2018	4,991,675,000	--	--	--
2018 Public Health Prevention Fund	840,600,000	--	--	--

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 PL 111-148 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) Program	Last Year of Authorization	Authorization Level	Appropriations in Last Year of Authorization	Appropriations in FY 2017 Annualized CR1
Sexually Transmitted Diseases Grants (PHSA 318)	FY 1998	Such Sums…	$113.671	$157.011
National Cancer Registries (PHSA 399B)	FY 2003	Such Sums…	N/A	$49.346
National Center for Health Statistics (PHSA 306)	FY 2003	Such Sums…	$125.899	$160.092
WISEWOMAN (PHSA 1509)	FY 2003	Such Sums…	$12.419	$21.080
Asthma Surveillance & Grants (PHSA 317I, 399L)	FY 2005	Such Sums…	$32.422	$28.945
Folic Acid (PHSA 317J)	FY 2005	Such sums…	$2.188	$3.144
Injury Prevention and Control (PHSA 391—394A)	FY 2005	Such Sums…	$138.237	$235.610
Oral Health Promotion (PHSA 317M)	FY 2005	Such Sums…	$11.204	$17.966
Safe Motherhood/Infant Health Promotion (PHSA 317K, 317L)	FY 2005	Such Sums…	$44.738	$45.913
Birth Defects, Developmental Disability, Disability and Health (PHSA 317C)	FY 2007	Such Sums…	$122.242	$135.352
Developmental Disabilities Surveillance and Research Program (Autism) (PHSA 399AA)	FY 2011	$21.000 in FY 2011	$21.380	$23.056
Breast and Cervical Cancer1 (PHSA 1501-10)	FY 2012	$275.000 in FY 2012	$204.779	$209.601
Johanna's Law (PHSA 317P)	FY 2012	$18.000 in FY 2012	$4.972	$5.490
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	$141.986
CDC Public Health Workforce and Career Development (PHSA 778)	FY 2013	$39.500 in FY 2013	$64.000	$52.101
National Diabetes Prevention Program (PHSA 399V-3)	FY 2014	Such sums…	$10.000	$19.962
Section 317 Immunization (PHSA 317)	FY 2014	Such sums…	$610.847	$610.302
Young Women's Breast Health Awareness (PHSA 399NN)	FY 2014	$9.000	$4.951	$4.951
Congenital Heart Disease Programs (PHSA 399V-2)	FY 2015	Such sums	$4.000	$3.992

[1] Breast and Cervical Cancer appropriation includes WISEWOMAN funding

NARRATIVES BY ACTIVITY

IMMUNIZATION AND RESPIRATORY DISEASES

(dollars in millions)

	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$457.805	$458.182	$497.228	+$39.046
PPHF	$324.350	$324.350	$203.600	-$120.750
PHSSEF[1]	$15.000	$0.000	$0.000	$0.000
Total Request	**$797.155**	**$782.532**	**$700.828**	**-$81.704**
FTEs	636	654	654	0
Immunization Program Level	**$609.597**	**$610.302**	**$520.828**	**-$89.474**
-Immunization Program - BA	$285.247	$285.952	$317.228	+$31.276
-Immunization Program - PPHF	$324.350	$324.350	$203.600	-$120.750
Influenza/Influenza Planning and Response	**$187.558**	**$172.230**	**$180.000**	**+$7.770**
-Influenza Planning and Response – BA	$172.558	$172.230	$180.000	+$7.770
-Influenza Planning and Response–PHSSEF[1]	$15.000	$0.000	$0.000	$0.000

[1] The FY 2017 Omnibus directs $15 million in PHSSEF pandemic influenza supplemental unobligated balances to be transferred to CDC.

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 U.S. populations 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 and conducts preparedness planning for pandemic influenza.

Immunization and Respiratory Diseases Funding History	
Fiscal Year	Dollars (in millions)
2013 (BA)	$602.593
2013 (PPHF)	$90.883
2013 (PHS Eval)	$12.864
2013 (PHSSEF)	$11.829
2014 (BA)	$609.809
2014 (PPHF)	$160.300
2014 (PHS Eval)	$12.864
2015 (BA)	$573.105
2015 (PPHF)	$210.300
2015 (PHSSEF)	$15.000
2016 (BA)	$457.805
2016 (PPHF)	$324.350
2016 (PHSSEF)	$15.000
2017 (BA)	$458.182
2017 (PPHF)	$324.350

Immunization Program Ten-Year Funding History	
Fiscal Year	Dollars (in millions)
2008 (BA)	$527.359
2009 (BA)	$557.359
2009 (ARRA)	$300.000
2010	$561.459
2011	$488.576
2011 (PPHF)	$100.000
2012 (BA)	$452.215
2012 (PPHF)	$190.000
2013 (BA)	$461.160
2013 (PPHF)	$90.883
2014 (BA)	$450.547
2014 (PPHF)	$160.300
2015 (BA)	$400.547
2015 (PPHF)	$210.300
2016 (BA)	$285.247
2016 (PPHF)	$324.350
2017 (BA)	$285.952
2017 (PPHF)	$324.350

Immunization Program Budget Request

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 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. It also supports 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 2018 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 2018 request of **$520,828,000** for the Immunization Program, including $203,600,000 from the Prevention and Public Health Fund, is $89,474,000 below the FY 2017 Annualized CR level. In FY 2018, CDC will work collaboratively with its awardees and partners to sustain record-high childhood immunization coverage rates and ensure that all Americans have access to vaccines.

At this funding level, CDC will continue to provide funding to the 64 immunization awardees for state infrastructure awards and vaccine direct assistance, but at a reduced level. CDC will also continue providing technical assistance and laboratory support to states and local communities responding to vaccine-preventable disease investigations, including outbreaks, but at a reduced level.

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 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 that informed the Advisory Committee on Immunization Practices' (ACIP) recommendation to reduce the number of doses of HPV vaccine from three to two.

In addition, CDC collects, analyzes, and reports scientific data about vaccines to ensure the effectiveness and safety of our national vaccine programs and policies and to inform policy and program changes. This includes:

- Conducting key vaccine safety studies through vaccine safety monitoring for rare adverse events
- Updating technology to enhance electronic adverse-event 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, state, and local progress, documenting programmatic achievements, and identifying disparities in immunization coverage rates. In FY 2018, CDC will continue to fund the NIS to monitor progress and inform programmatic strategies.

CDC supports science-based communication 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.

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

In 2016, CDC provided technical support to over 60 vaccine-preventable disease investigations and conducted over 2,300 laboratory tests in support of these investigations. In March 2017, CDC assisted the Washington State Department of Health (WA DOH) in responding to an outbreak of mumps that included over 600 cases across 12 counties, including 16 cases at the University of Washington. CDC, state, and local health departments, and the University of Washington worked together to report cases, conduct surveillance, and provide outbreak control guidance. Nearly 300 doses of MMR vaccine were provided to high-risk students to help control the outbreak and prevent further cases.

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. The discretionary vaccines serve uninsured adults and 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, from March through December 2016, over 13,000 doses of meningococcal conjugate vaccine, purchased using CDC funding, were used to respond to a deadly outbreak of meningitis in Southern California. Outreach and vaccination activities are currently ongoing in collaboration with community-based organizations, pharmacies, and healthcare providers.

In FY 2018, CDC will work collaboratively with its awardees and partners to sustain record-high childhood immunization coverage rates and ensure that all Americans have access to vaccines.

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 continues to support billing activities through routine

cooperative agreement funds for all awardees. 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 changes in the healthcare environment. In FY 2018, CDC will continue to 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.

Supporting State and Territorial Immunization Programs

In FY 2018, 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, collaboration, and a strong public-private partnership, 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 continue to provide its 64 awardees with direct assistance for vaccine purchased from the federal contracts. CDC monitors spend plans developed by awardees, and makes further adjustments as needed throughout the year so that no vaccine goes to waste.

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

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

Immunization Cooperative Agreements[1, 2, 3]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	64	64	TBD
- New Awards	0	0	TBD
- Continuing Awards	64	64	TBD
Average Award	$5.778	$5.778	TBD
Range of Awards	$0.609–$32.983	$0.609–$32.983	TBD
Total Awards	$369.767	$369.767	TBD

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

[2] Immunization 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.

[3] These funds are awarded by formula.

Influenza Planning and Response Budget Request

CDC's influenza program works to detect, respond to, and prevent influenza disease that can cause 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. CDC estimates that from the 2010-2011 to 2014-2015 flu seasons, influenza-associated deaths in the United States ranged from a low of 12,000 (during 2011-2012) to a high of 56,000 (during 2012-2013), representing an increase in previously reported estimates. Flu-related hospitalizations have also increased over previously reported estimates. From 2010-2011 to 2015-2016 flu seasons, CDC estimates that influenza-related hospitalizations in the United States ranged from a low of 140,000 (2011-2012) to 710,000 (2014-2015) annually. During 2015-2016, more than 15,000 children younger than 5 years were hospitalized from flu complications. Flu-related hospitalizations of children younger than 5 years in the United States are estimated to have ranged from 7,000 to 26,000 since 2010. A study1 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 both 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.

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 2018 request of **$180,000,000** for Influenza Planning and Response is $7,770,000 above the FY 2017 Annualized CR level. FY 2018 funding will support the following activities:

- Influenza prevention, detection, and monitoring
- State/Municipality/Territorial laboratory capacity support
- Planning and responding to influenza pandemics and/or viruses with potential to become pandemics, such as H7N9.

[1] http://www.ncbi.nlm.nih.gov/pubmed/17544181

Influenza Prevention

In FY 2018, 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 estimates that for the 2015-2016 influenza season, influenza vaccination prevented approximately 5.1 million influenza illnesses, 2.5 million influenza-associated medical visits, and 71,000 influenza-associated hospitalizations.[2] This represents a 19 percent reduction in the burden of influenza illness; which is similar to what has been seen previously during seasons when most circulating influenza viruses were like the vaccine viruses. A CDC published, December 2016 report underscores the benefits of the current vaccination program while highlighting areas where improvements in vaccine update and effectiveness could deliver greater benefits to the public's health.

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.

Influenza Detection and Monitoring

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[3]
- 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 2018, 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. During FY 2016, CDC was able to fully characterize 6,206 specimens using Next Generation Sequencing (NGS). NGS uses advanced molecular detection (AMD) to identify gene sequences from each virus in a sample. This level of detail can directly benefit public health decision-making in important ways, but data must be carefully interpreted by highly-trained experts in the context of other available information.

CDC continues to 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 may occur when a virus that is predominantly transmitted

[2] https://www.cdc.gov/flu/about/disease/2015-16.htm
[3] http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

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. For example, with the emergence of H5N8 and H5N2 in birds in the United States in 2015, CDC worked with its animal health partners, as well as with state and local public health, to ensure capacity to detect and respond to human infection.

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 to countries that continue to experience animal outbreaks and human cases of H5N1 and H7N9 influenza.

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.

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, three municipalities, and four territories through the ELC to conduct influenza surveillance and diagnostic activities with funding from the Influenza Planning and Response budget line.

In FY 2018, 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.

Planning for and responding to Influenza Pandemics

In FY 2018, CDC will work to ensure the availability and effectiveness of medical countermeasures and equipment in the event of an influenza pandemic. Scientific experts will continue to 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 collaborates 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 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 2017, CDC will test its response capabilities with federal, state, and local partners in FY 2018 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.

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

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$1,121.017	$1,120.145	$934.000	-$186.145
FTEs	1,108	1,098	1,098	0
- Domestic HIV/AIDS Prevention and Research[1]	$787.651	$787.213	$640.065	-$147.148
- Viral Hepatitis	$34.000	$33.935	$33.935	$0.000
- Sexually Transmitted Infections	$157.110	$157.011	$130.000	-$27.011
- Tuberculosis	$142.256	$141.986	$130.000	-$11.986

[1] Funding totals reflected include support for CDC's Adolescent and School Health Program.

CDC's National Center for HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections (STIs), and Tuberculosis Prevention (NCHHSTP) prioritizes cost-effective, scalable programs, policies, and research to achieve the greatest impact on reducing the incidence of HIV, viral hepatitis, STIs, and tuberculosis and preventing related illness and death. These infections result in high personal, societal, and economic costs. NCHHSTP also works to reduce health disparities associated with these diseases and to help adolescents avoid infection.

HIV, Viral Hepatitis, Sexually Transmitted Infections, and TB Funding History	
Fiscal Year	Dollars (in millions)
2013	$1,095.371
2013 (PHS Eval)	$3.691
2014	$ 1,117.609
2015	$ 1,117.609
2016	$ 1,121.017
2017	$ 1,120.145

Domestic HIV/AIDS Prevention and Research Budget Request

CDC is America's lead agency in the fight to prevent new HIV infections. The incidence of HIV has decreased by 70% since the peak of the epidemic in the mid-1980s, and the annual number of new HIV diagnoses is at the lowest level ever, about 40,000 per year. Sustained investments and improving efficiency in HIV prevention and treatment have yielded major successes – saving lives and money. The estimated lifetime costs of a single person living with HIV infection is greater than $400,000. America saved more than $125 billion in direct medical costs resulting from the approximately 350,000 infections that were prevented between 1991 and 2006.4 However, 15,000 deaths per year are among people living with HIV and the lifetime medical costs of the large number of new cases remain substantial, highlighting the importance of continuing to improve prevention efforts.

CDC invests in a high-impact HIV prevention approach. This combination of scientifically proven, cost-effective, and scalable HIV prevention interventions, targeted to the most heavily affected populations and geographic areas has yielded major successes, with HIV diagnoses declining by 19% over the past decade in the United States. As a result of sustained testing efforts, the proportion of Americans with HIV who know their status has reached 85%. People living with HIV are living longer, healthier lives due to better, life-prolonging treatments. More youth are delaying their first sexual experience. The percent of 9th and 10th graders who have ever had sex is lower than it has been in the last decade, at 36% of 10th graders and 24% of 9th graders. Despite progress, some people and regions are being left behind as HIV-related disparities worsen. Currently, more than 1.1 million Americans live with HIV and populations such as, gay, transgender, bisexual, and other men who have sex with men (MSM), Blacks or African Americans, Hispanics or Latinos, and people who live in the Southern United States, are disproportionately affected.

To sustain the progress that has been made in addressing HIV and to move toward the goal of no new infections, CDC must:

Prevent new HIV infections by implementing highly effective biomedical, risk reduction, and HIV prevention education initiatives.

- Increase knowledge of HIV status through HIV testing.
- Reduce transmission of HIV by linking persons infected with HIV to care and ensure that they are retained in care and achieve viral suppression.
- Use robust surveillance data to inform prevention efforts, as well as strengthen our interventional surveillance capacity to best respond to outbreaks and active networks of HIV transmission.

CDC's HIV prevention efforts are designed to reduce the number of new HIV infections, increase access to care and improve health outcomes for people living with HIV, and reduce HIV-related health disparities. The declines in annual HIV infections reflect the success of CDC's national HIV prevention and treatment efforts and commitment to high impact prevention. Of the total CDC funds that support programs focused on domestic HIV prevention, with approximately 89% of the funding spent externally to support state and local health departments, community based organizations and other partners. CDC protects Americans' health by:

- Supporting, managing, and providing guidance and resources to state and local health departments, community-based organizations, and other partners to implement HIV prevention interventions.

[4]JAIDS Journal of Acquired Immune Deficiency Syndromes: 15 August 2010 - Volume 54 - Issue 5 - pp 565-567

- Collaborating with national, state and local partners to monitor HIV trends and characterize related risk factors to guide public health action at federal, state, and local levels.
- Conducting epidemiologic, behavioral, biomedical, and bio-behavioral research to better understand individual, social, and structural HIV risk factors, the current and changing context around HIV transmission, and the most effective and impactful prevention strategies to shape public health action at federal, state, and local levels.
- Providing science-based and culturally appropriate training and capacity building support for partner organizations to strengthen and sustain the capabilities of the HIV prevention workforce.
- Monitoring and evaluating the effectiveness of HIV prevention programs at the federal, state, and local levels to ensure HIV resources have the greatest impact.
- Developing, producing, and disseminating scientific communication on HIV for public and private providers, persons at risk of HIV infection, and the general public to ensure these audiences have the tools needed to protect themselves or their patients from being infected with HIV.
- Partnering with state, local, and territorial education agencies to monitor youth health behavior, implement HIV and other disease prevention programs, and providing expert guidance to schools and youth organizations on school health services, prevention programs, and safe and supportive school environments.

Budget Request

CDC's FY 2018 request of **$640,065,000** for Domestic HIV/AIDS Prevention and Research is $147,148,000 below the FY 2017 Annualized CR level. At the FY 2018 requested amount, CDC will reduce activities around testing, support services for persons living with HIV, and prevention services. In addition, CDC's ability to implement innovative demonstration projects or research examining strategies related to high impact prevention and new tools supporting HIV prevention will be reduced. CDC will focus its efforts on sustaining the declines that have been achieved and reaching those Americans who are at highest risk. CDC will continue to work towards the national HIV/AIDS targets. Although fewer HIV tests would be paid for directly with CDC Federal funds, Health Department capacity has increased to directly bill for testing HIV and related co-infections in health care settings.

Key HIV Prevention Activities

CDC leads America's fight against HIV/AIDS by focusing domestic HIV prevention work in these key areas: preventing new infections, increasing knowledge of HIV status, preventing transmission of HIV and strengthening interventional surveillance and response activity.

Preventing New HIV Infections

HIV prevention in the United States has had a substantial impact on public health. Recent estimates show annual HIV infections in the U.S. declined by 18%, between 2008-2014 preventing 33,200 cases at estimated cost savings of $14.9 billion for medical care[5][6][7]. Sustained investments in HIV prevention and treatment save lives and money across America.

[5] Farnham 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. J Acquir Immune Defic Syndr 2013; 64: 183-189.
[6] Mermin J, Fenton KA. The Future of HIV Prevention in the United States. JAMA. 2012;308(4):347-348.
[7] https://www.cdc.gov/nchhstp/newsroom/2017/croi-hiv-incidence-press-release.html

CDC invests prevention resources in the places and among populations most affected by HIV. CDC has awarded approximately $330 million to health departments over the last four years. CDC awards funds to health departments to focus prevention efforts in communities and local areas where HIV is most heavily concentrated. CDC also supports capacity-building assistance and ensures that on-the-ground prevention programs and their staff are best able to provide HIV prevention services in their communities. With CDC funding, health departments also supported services and data-to-care activities for persons at risk for or living with HIV in areas with a high burden of disease. CDC prevention efforts are described below.

- **Improving Uptake of Bio-Medical Interventions** - CDC is leading multiple efforts to improve awareness and delivery of bio-medical interventions for prevention in community settings. Bio-medical interventions, when used with other prevention strategies, have the potential to help at-risk individuals protect themselves and reduce new HIV infections in the U.S. When taken as directed, these interventions, such as pre-exposure prophylaxsis, can reduce the risk of HIV infection by more than 90%. For example, CDC currently provides funding for a free national service for clinicians seeking advice and consultation on prescribing these medications. This service provides a valuable resource for primary care providers (e.g., physicians, nurse practitioners, and physician assistants) who care for uninfected patients in communities most affected by HIV.
- **HIV Prevention Education and Risk Reduction** - Prevention education and risk reduction programs include a variety of methods to support and sustain positive health behaviors to limit and eliminate HIV-related health risks. CDC assesses evidence on behavioral interventions to determine which ones have the greatest potential to reduce HIV transmission. Through funding to health departments and community based organizations, CDC prioritizes behavioral interventions that help HIV-positive individuals remain in care and avoid transmission. Funded partners may also pursue selected behavioral interventions targeting HIV-negative, high-risk individuals. In addition, CDC supports efforts to link individuals to other services they need to remain in care or avoid infection, including drug abuse treatment, mental health services, housing, and transportation. CDC targets these efforts to identify individuals at highest risk of acquiring or transmitting HIV.
  It is also critical to equip all Americans with the information needed to protect themselves and their partners. To help individuals and clinical care providers make informed choices about the prevention options that are right for them and their patients, CDC supports efforts to provide the latest science and education tools to the public and clinical community to assist them in navigating the changing HIV prevention environment.
- **Supporting Syringe Services Programs** - The United States is experiencing a growing opioid epidemic, which has made many communities vulnerable to outbreaks of HIV and viral hepatitis among people who inject drugs (PWID). Currently, the opportunity exists for state and local health departments to use Federal funds, including CDC, under limited circumstances to support certain components of Syringe Services Programs (SSPs), after consulting with CDC and in accordance with state and local law. The HIV outbreak in Indiana was a powerful reminder that PWID are at high risk for both HIV and viral hepatitis infection. Vigilance in prevention, testing, and care is needed to prevent HIV from spreading within community. Based on existing evidence, the U.S. Surgeon General has twice determined that SSPs, when part of a comprehensive HIV prevention strategy, can play a critical role in preventing HIV among PWID, can facilitate entry into drug treatment and medical services, and do not increase illegal drug use. CDC is providing support to state and local communities who wish to implement SSPs. SSPs are community-based programs that provide PWID an opportunity to reduce risks and overcome addiction by providing access to sterile injection equipment, disposal services for used equipment, and other services such as medication assisted therapy, screening for HIV and viral hepatitis, linking people to care for HIV and/or viral hepatitis, and counseling for substance use treatment.

- **Preventing HIV among youth** -- Engaging in risky behaviors during the adolescent years not only presents immediate risk but can have serious health consequences into adulthood, with 18% of all new HIV diagnoses occurring among people aged 13–24 years. Decreasing adolescent sexual risk behaviors by promoting knowledge of sexual risk behaviors and associated health outcomes as well as promoting access to youth-friendly health services is critical. CDC's adolescent and school health work is unique, providing funding, expert guidance, and technical assistance to state and local education agencies to support the implementation of HIV and other STD prevention programs. CDC focuses on promoting environments where teens can establish healthy behaviors for a lifetime, connect to health services, and avoid becoming infected with HIV or STDs into adulthood. CDC's school-based HIV prevention program focuses in three areas: surveillance, implementation of primary prevention programs, and building the evidence for what works in prevention.
- **Increasing Knowledge of HIV Status** - CDC tests people at risk for HIV, primarily through health department and community based organizations programs. Of the estimated 1.1 million people living with HIV in the United States, approximately one in seven are unaware of their HIV infection. From CDCs most recent data (2015), approximately 3 million CDC-funded HIV testing events were conducted; 12,547 (0.4%) persons were newly diagnosed as HIV-positive and 84.9% of these individuals were linked to HIV medical care within 90 days. In addition, CDC partners with state and local organizations, especially in states with low diagnosis rates (i.e., lower rates of persons diagnosed with HIV among all persons living with HIV) to focus testing efforts to better achieve targets related to diagnosing HIV in persons previously unaware of their infection.

CDC is also working with the healthcare sector to increase the implementation of the U.S. Preventive Services Task Force (USPSTF) recommendation to screen for HIV infection in all adolescents and adults aged 15 to 65 years. CDC is investing in improved diagnostic testing methods and technologies to make testing easy, quick, and able to detect HIV very early after infection.

Preventing Transmission of HIV

Through research, scientific advancement, and best practices, it is known now better than ever before how to prevent HIV and preserve the health of those infected. In addition to evidence that HIV testing can lead to earlier treatment and longer, healthier lives for those infected, recent data shows that people who begin taking antiretroviral drugs early are less likely to transmit HIV, with at least a 96% reduction in transmission risk. Nine of 10 new US HIV infections are transmitted by HIV-infected people who are undiagnosed or by those diagnosed but not retained in care.

- **Achieving Viral Suppression** - Improving health outcomes for persons living with HIV and preventing HIV transmission are cornerstones of CDC's prevention efforts. Evidence shows that the majority of HIV infections in the United States could be averted by diagnosing people living with HIV and ensuring they receive early, ongoing care and treatment to achieve viral suppression. For this reason, CDC focuses specifically on diagnosing people with HIV early; rapidly linking them to ongoing care, treatment, risk reduction programs, and related support and social services; and helping them receive regular care, adhere to their medication regimens, and achieve viral suppression. Since many persons living with HIV fall out of care, and too many of them do not achieve ongoing viral suppression, CDC supports the use of cutting-edge disease surveillance tools to identify and follow-up with them to re-engage them in medical care.

  CDC examines new approaches, including studies of clinical, behavioral and structural interventions to help people with HIV stay in care and adhere to their medications. Additionally, CDC developed guidelines and educational materials for health care providers related to HIV testing, care, treatment, and prevention. CDC also works with states to improve the completeness of their laboratory data and

reporting of viral suppression information and advancing efforts to use state and local public health information to identify persons living with HIV who have fallen out of HIV medical care and engage them in care. CDC also works with states to improve the completeness of their laboratory data and reporting of viral suppression information. CDC will work with states to encourage the implementation and uptake of strategies, such as Data to Care, and other efforts to utilize state and local public health information to identify persons living with HIV who have fallen out of HIV medical care and engage them in care.

Strengthening Interventional Surveillance and Response Capacity

CDC's national HIV surveillance systems are used in innovative ways to target HIV prevention efforts in real-time. Ensuring that people living with HIV are virally suppressed is of highest importance to reduce transmission and improve health outcomes. Targeting this work to networks with active transmission can improve success and save time and cost. CDC will continue to use surveillance data, including HIV RNA sequence data, to identify clusters of recent and rapid linked transmissions that include persons with HIV who are not in care or virally suppressed and persons at high risk for HIV, who should receive intensive intervention to interrupt transmission and ensure viral suppression.

CDC develops surveillance reports and conducts analyses to guide national, state, and local prevention and testing programs and health education efforts directed towards affected populations. These reports help CDC determine which populations are most impacted by HIV infection and to inform providers on how to improve performance and care. CDC's surveillance systems also inform other federal programs and ensure resources are targeted to the communities that need them most.

Reducing HIV-Related Health Disparities

Although advances in HIV/AIDS prevention have been made, including declines in new infections, HIV continues to be a major public health problem in the United States. Declines in new infections have been uneven. Recent data shows HIV infections increased by 35% in 25-34 year old gay and bisexual men; and new infections increased by 20% among Latino gay and bisexual men between 2010-2014. CDC's most recent data (2015), shows that most newly diagnosed HIV infections occurred among persons of color, especially black/African Americans (45%) and Latinos or Hispanics (24%) and among young people under the age of 35 years.

Likewise, HIV touches every corner of the United States, but the rate of HIV diagnoses (number of diagnoses per 100,000 people) is highest in the South and Northeast, compared with the West and Midwest. Southern states today account for an estimated 44% of all people living with an HIV diagnosis in the U.S., despite having only about one-third (37%) of the overall U.S. population. In addition, people living with HIV in the South are less likely to be aware of their infection than those living in other U.S. regions.

CDC will continue to allocate the majority of HIV resources to populations most affected by HIV. CDC will work with partners at the local, state, and federal level who can effectively bring HIV prevention information and resources into affected communities and advance HIV prevention in the U.S.

Key Strategies for Advancing Domestic HIV Prevention

CDC invests in: health departments, surveillance, improving program effectiveness and approaches, national, regional, local, community, and other organizations, and school health to implement key HIV prevention activities.

Investing in Health Departments to Prevent HIV

CDC investments in core state and local health department HIV prevention programs provides the foundation for HIV prevention and control in America. CDC directly funds health departments to increase HIV testing,

provide critical prevention interventions known to be most effective, improve linkages to, retention in, and when needed, re-engagement in care, and with the goal of achieving greater rates of viral suppression in communities with the highest rates of HIV. This flagship HIV prevention program is a chief contributor to HIV prevention success in the United States, including increases in persons who know their HIV status as well as reductions in perinatal HIV infections and HIV diagnoses. 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 monitoring and evaluating performance and holds programs accountable for implementing high impact prevention strategies.

Investing in HIV Surveillance

CDC's surveillance activities, which take place in all 50 states, the District of Columbia, and U.S. territories, are essential to identifying and targeting prevention efforts—including HIV testing—towards populations that have high rates of acquiring and transmitting HIV. CDC investments in HIV surveillance data provide important information on the number of people living with HIV in the U.S., and national trend data. CDC also tracks how well states, cities, and local communities are doing in getting patients into care, keeping them in care, and achieving viral suppression. High quality surveillance data assesses the delivery of services to people living with HIV across the entire continuum of care: HIV diagnosis, linkage to and retention in HIV medical care, starting and staying on antiretroviral therapy, and suppressing viral load.

In addition, surveillance efforts serve as a resource for health information across CDC on youth, and play a critical role in documenting public health trends and challenges. They also provide invaluable information for state and local decision-making. Surveillance activities include monitoring adolescent health risk behaviors and school-based HIV prevention activities such as health education, health services, and safe and supportive environments.

Investing in Efforts to Improve Program Effectiveness and Identifying Effective HIV Prevention Approaches

CDC investments support prevention research and demonstration projects in several domains that are crucial to support successful HIV prevention programs in health departments and community-based organizations. These domains include epidemiological and laboratory science, outbreak investigation and response, social and behavioral science, and statistical and economic analyses. This work includes efforts to identify better strategies CDC grantees can use to link persons with HIV to care, to engage and retain them in HIV medical care, and promote adherence to their antiretroviral medication regimens. Also, these investments support laboratory research, in collaboration with NIH, to identify new biomedical approaches to HIV prevention, as well as outbreak investigation and response efforts needed to interrupt active networks of transmission. Resources support providing public and clinical care providers with information on effective HIV prevention strategies, so they can best protect themselves or their patients from acquiring or transmitting HIV. Finally, CDC also examines how new biomedical and bio-behavioral interventions are being used in communities to improve HIV prevention and identifies related best practices that can be shared nationally to maximize the impact of our prevention efforts.

Investing in National, Regional, Local, Community, and Other Organizations

CDC invests in prevention across America at the community level. CDC formally partners with community based organizations to expand the impact and reach of HIV prevention activities in communities disproportionately affected by HIV and has since the late 1980's. Community based organizations' access, history and credibility with members of most affected communities, enables the organizations to be 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.

CDC partners with community-based organizations to focus on HIV testing, linkage to and retention in HIV medical care, support services for persons living with HIV and for HIV negative persons living in communities most affected by HIV, as well as other effective interventions. CDC ensures that resources are effectively targeted to areas where the majority of HIV diagnoses are occurring in the United States.

Investing in School Health

CDC also invests in school-based support for effective programs to prevent HIV infection and other STDs among adolescents. These school-based programs are expected to delay initiation of sexual activity in adolescents through skill-building, support of healthy behaviors in school environments, and the promotion of parent involvement. CDC funds state education agencies (SEAs) and local education agencies (LEAs) to provide health education and services, reaching approximately 1.7 million students in the United States. Funding is used to implement effective disease prevention and health promotion strategies to prevent risk for HIV and other STDs, including sexual risk, substance use, and other associated risk factors (e.g., violence). Jurisdictions where nearly 62% of the HIV diagnoses among 15-19 year olds in the United States were diagnosed are served by CDC's program. CDC partners with nongovernmental organizations (NGOs) to help state and local grantees effectively implement their HIV/STD prevention efforts.

CDC also invests in organizations that provide science-based training and capacity building support for partner organizations to strengthen and sustain the capabilities of the HIV prevention workforce serving youth. These investments ensure that on-the-ground prevention programs and their staff have the skills, information, and organizational support needed to best serve people living with, and at risk for, HIV in their communities.

Viral Hepatitis Budget Request

Approximately four million people, or almost the entire populations of Boston and Los Angeles combined, live with viral hepatitis, with about 53,000 new viral hepatitis infections occurring annually. Yet, it is estimated that as few as 33% of people with hepatitis B and 54% of people with hepatitis C are aware of their infection status. CDC's most recent data from 2015 shows 20 states accounted for 85% of new cases of hepatitis B and C reported nationally. Reported cases of acute hepatitis C infection increased more than 2.9 times from 2010 to 2015. This new epidemic of hepatitis C is fueled by the opioid epidemic and increases in injection drug 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.

Of the hepatitis viruses, hepatitis A, hepatitis B, and hepatitis C are the most common. Although each can cause similar symptoms, they are transmitted differently and have different effects on the liver. Hepatitis A causes illness lasting from a few weeks to a few months and can be prevented with a vaccination. Hepatitis B and hepatitis C infections are typically "silent", initially causing no obvious symptoms. In many people, the hepatitis B and hepatitis C viruses attack and damage the liver for decades. As a result, these chronically infected people remain unaware of their infection until they develop liver damage, cirrhosis, liver failure, or liver cancer; and along the way suffer from viral hepatitis-related kidney disease, arthritis, diabetes, and blood disorders. Deaths related to hepatitis B and hepatitis C are increasing each year, yet almost all of these deaths are preventable. Hepatitis B infection can be prevented by a vaccine that provides greater than 95% immunity in three doses. Hepatitis B therapy lowers the risk of liver cancer. Hepatitis C infection can be cured in greater than 95% of patients with 8-12 weeks of antiviral medication.

Implementation of CDC and the U.S. Preventive Services Task Force (USPSTF) recommendations for hepatitis C testing and linkage to curative treatment can save an estimated 320,000 lives. In 2016, the National Academies of Sciences, Engineering, and Medicine determined that hepatitis elimination goals for the United States can be achieved with the right resources, commitment, and strategy. In 2017, the National Academies released A National Strategy for the Elimination of Hepatitis B and C which set targets for the elimination of hepatitis B and hepatitis C as public health threats by 2030 and recommended actions to achieve these goals.

Budget Request

CDC's FY 2018 request of **$33,935,000** for Viral Hepatitis is level with the FY2017 Annualized CR level. The FY 2018 Budget will protect Americans at greatest risk of becoming infected with hepatitis B and hepatitis C, and helps Americans who are living with viral hepatitis infection to lead healthier, more productive, and longer lives. Approximately 78% of CDC's viral hepatitis budget is invested to advance prevention efforts at the state, local, and community level.

Key Hepatitis Activities

CDC is implementing its viral hepatitis strategic plan which includes assuring target populations are vaccinated to prevent hepatitis A and hepatitis B; assuring early detection and response to stop transmission of hepatitis A, hepatitis B, and hepatitis C; and assuring persons living with hepatitis B and hepatitis C are identified and linked to care and treatment. These priorities are consistent with the **HHS Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis.**
CDC partners with state and local health departments, universities, medical centers, community-based organizations, and others to carry out its three priorities:

- Decrease mortality by diagnosing and treating people who are living with viral hepatitis

- Reduce the number of new infections associated with injection drug use and other modes of transmission
- Prevent perinatal (mother-to-child) transmission of hepatitis B and hepatitis C

Additionally, CDC will pursue the implementation of demonstration projects for the elimination of hepatitis B and hepatitis C.

Decrease mortality by diagnosing and treating people who are living with viral hepatitis
An early diagnosis, coupled with care and treatment of those infected, greatly reduce the risk of liver disease and mortality caused by viral hepatitis. To increase the number of people being diagnosed and treated in the United States, in FY 2018 CDC will prioritize:

- Increasing the number of health systems and their providers who test, manage, and treat hepatitis B and hepatitis C;
- Updating CDC recommendations for hepatitis C testing to assure new risk populations are offered testing with linkages to care for those persons diagnosed with hepatitis C;
- Continuing to use electronic health record data to monitor and evaluate testing and linkage to care and treatment; and
- Continuing to support state and local health departments to implement and evaluate interventions to improve viral hepatitis testing and linking to care, particularly for populations with viral hepatitis-related health disparities.

State and local health departments voluntarily report cases of viral hepatitis to CDC. Collecting, verifying, and reporting the many cases of hepatitis B and hepatitis C in the United States is beyond the capacity of many health departments; therefore, not all states report data to CDC and/or permit CDC to publish their data in national surveillance reports. CDC funds hepatitis surveillance and case investigation to collect more extensive and complete information about patients and disease transmission trends in a select number of jurisdictions. CDC supports improved active surveillance of acute and chronic hepatitis B and hepatitis C in a limited number of statewide jurisdictions experiencing high rates of new cases of hepatitis B, hepatitis C, or both.

These efforts will enable jurisdictions to better utilize data to prioritize activities for hepatitis B and/or hepatitis C surveillance and prevention and to evaluate and support prevention programs. In addition, a select number of jurisdictions will receive additional funds to promote hepatitis B and hepatitis C testing in venues likely to serve infected persons, especially PWID who have been difficult to reach and link them to care and treatment.

CDC also continues to work with local health authorities to ensure rapid and coordinated surveillance, detection, and response to hepatitis A outbreaks related to multi-state or national distribution of contaminated food products; as well as hepatitis B and hepatitis C outbreaks resulting from poor infection control practices.

In FY 2018, state and local grantees will be asked to select up to two settings in jurisdictions heavily burdened by chronic viral hepatitis in which they will implement and evaluate interventions to increase viral hepatitis diagnosis and treatment.

Reduce the Number of New Infections Associated with Injection Drug Use and Other Modes of Transmission

Millions of Americans are infected with hepatitis B and hepatitis C, and the numbers are increasing each year. However, the scale and burden of the disease is largely unrecognized. CDC found that the highest reported incidence of new cases of hepatitis C is among people aged 20-29 years, most often transmitted through injection drug use of prescription opioids or heroin. New cases of hepatitis B are also being seen in this same population. Increases in opioid injection drug use are fueling multiple epidemics of hepatitis B and hepatitis C in

tribal nations and among young white persons in non-urban communities, particularly in Appalachia. In response to the urgent need to curb the epidemic of new viral hepatitis infections. CDC's work in states with a substantial burden of viral hepatitis will promote:

- Supporting surveillance systems for detecting new infections, deploying epidemiologic and laboratory assets to conduct case investigations, understand patterns of disease transmission, and guiding interventions to interrupt transmission and ensure persons with hepatitis B and hepatitis C are provided care for their hepatitis infection and treatment for their substance use.
- Training state and local health department staff to identify networks of hepatitis C transmission among persons who inject drugs and other high risk populations.
- Provides guidance and technical assistance for implementing comprehensive syringe services programs that include access to clean injection equipment, medication assisted therapy, hepatitis B vaccination, and, hepatitis B and hepatitis C testing and treatment.

Prevent Perinatal (Mother-to-Child) Transmission of hepatitis B and hepatitis C

Through CDC's implementation of effective vaccination strategies, the annual rates of new hepatitis A and hepatitis B infections have decreased more than 90% since 1995. However, transmission of hepatitis A and hepatitis B continues to occur among several key populations. The youngest and highest risk population for hepatitis B infection is the approximately 24,000 infants born each year to hepatitis B-infected mothers. These infants are at highest risk for developing chronic hepatitis B infection later in life.

CDC continues to support activities focused on the national goal of eliminating mother-to-child transmission of hepatitis B. The cornerstones of preventing perinatal hepatitis B transmission are giving a birth dose of hepatitis B vaccine to all infants before hospital discharge and identifying and managing hepatitis B-infected pregnant women and their newborns.

Of additional concern are increasing reports of infants born to hepatitis C-infected mothers which is one emerging consequence of the hepatitis C epidemic among young persons associated with injection drug use of prescription opioids or heroin and other modes of transmission. CDC will update and promote implementation of recommendations for hepatitis C testing and surveillance for women of childbearing age and hepatitis C-exposed newborns to assure hepatitis C-infected pregnant women and their newborns are identified and received recommended care and treatment services.

Establish Demonstration Projects for Eliminating Hepatitis B and Hepatitis C

Building on the successes and progress of projects in the Cherokee Nation, New Mexico, and New York, CDC will continue to develop best practices for controlling hepatitis C infection by assisting with the implementation and evaluation of select hepatitis C elimination programs. In addition, CDC will support the development of a limited number of projects for the elimination of hepatitis B and hepatitis C in state, local, territorial, or tribal jurisdictions.

Sexually Transmitted Infections Budget Request

Sexually transmitted infections (STIs) compromise Americans' health and cost millions in healthcare. Adverse outcomes associated with STIs include pelvic inflammatory disease (PID), infertility, neurological conditions, and increased risk of HIV infection. CDC's most recent data from 2015 shows there were more cases of chlamydia, gonorrhea, and syphilis (including congenital syphilis in babies) than ever reported before. The 1.5 million cases of chlamydia in 2015 represent the highest number of annual cases of any condition ever reported to CDC. The

20 million new STI cases cost the U.S. healthcare system $16 billion in direct medical care annually[8][9]. The 5,000 STI-attributable HIV cases in the U.S. cost $1.75 billion[10]. While young people and women are most severely affected by STIs, increasing rates among men contributed to the overall increase in 2015 across these STIs. To prevent further spread of STIs, CDC currently funds all states and 15 territorial or local health departments to conduct STI prevention and control. CDC estimates that approximately $3.7 billion in medical costs were saved by preventing 32 million cases of gonorrhea over a 33 year period[11].

Budget Request

CDC's budget request of **$130,000,000** for Sexually Transmitted Infections is $27,011,000 below the FY 2017 Annualized CR level. With substantial increases in the rates of STIs in 2016, CDC will continue to fund states to conduct Sexually Transmitted Infections (STIs) prevention and control activities at reduced levels, focusing on where resources are needed most. This reduction will reduce levels of support for Disease Investigation Specialists (DIS) and training for healthcare clinicians.

Key STI Prevention Activities

State, Local, and Territorial STI Prevention and Control

CDC is the only federal agency that directly supports core STI prevention and control by state, territorial, and local health departments including funding for disease intervention specialists (DIS). DIS are public health professionals who work in communities across America to find people diagnosed with STIs and link them to treatment. CDC investments support surveillance; infrastructure; field staff around the country, including epidemiologists, information technologists, evaluators, and disease intervention specialists for tracing and behavior counseling; and a small fraction of STI testing for uninsured women and their partners. CDC field staff protect Americans by responding to STI outbreaks as well as disease crises. In addition to STIs, DIS CDC field staff protect Americans by responding to STI outbreak and disease crises which have recently included Zika, Ebola, flu, and SARS. CDC's STI prevention and control activities complement the delivery of STI health care services provided by private health insurance or publicly funded programs, and are not duplicative of any services covered. These programs are critical to STI prevention and control across the United States and they are a proven investment in protecting America's health.

Tracking STI Cases

CDC funds states and large cites to support Reportable STD Surveillance. Public health programs follow CDC data and confidentiality guidelines in tracking four reportable STIs - syphilis, gonorrhea, chlamydia, and cancroid. Advancements in electronic health records allows STI programs to enhance STI surveillance, monitor disease trends, and improve resource allocation.

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[8] Satterwhite CL, et al. Sexually transmitted infections among U.S. women and men: Prevalence and incidence estimates, 2008. Sex Transm Dis 2013; 40(3): pp. 187-193.

[9] Owusu-Edusei K, et al. The estimated direct medical cost of selected sexually transmitted infections in the United States, 2008. Sex Transm Dis 2013; 40(3): pp. 197-201.

[10] H. Chesson et al, Formulas for Estimating the Costs Averted by Sexually Transmitted Infection (STI) Prevention Programs in the United States. Cost Effectiveness and Resource Allocation 2008 May 23; Volume 6(10

[11] Chesson, H. Estimated Effectiveness and Cost-Effectiveness of Federally-Funded Prevention Efforts on Gonorrhea Rates in the United States, 1971-2003, Under Various Assumptions About the Impact of Prevention Funding Sexually Transmitted Diseases, October Supplement 2006, Vol. 33, No. 10, p.S140–S144

CDC's long-running and successful Gonococcal Isolate Surveillance Project funds cities to contribute laboratory samples to the only national and regional source of antibiotic resistance tracking for gonorrhea. This surveillance system guides CDC's STD Treatment Guidelines.

Through the STD Surveillance Network CDC supports select jurisdictions to conduct enhanced surveillance and in-depth patient interviews to capture enhanced information on disease transmission dynamics not currently available from any other source.

Maintaining Cutting Edge Laboratory Resources

CDC provides access to its one-of-a-kind repository of STI laboratory samples for federal agencies, researchers, and the pharmaceutical sector for testing new diagnostics, treatments, and vaccines.

Promoting Quality Prevention and Care

- State and local STI programs with CDC funding use Program Evaluation to gauge the impact and reach of their efforts to improve STI prevention and control. Key assessment areas include increasing linkage to HIV medical care and re-engagement with HIV medical care among HIV-infected patients with early syphilis and gonorrhea and their partners; increasing chlamydia screening among low screening providers; and documenting the impact of DIS testing sex partners of persons diagnosed with HIV and linking them to care. This data allows CDC to assess the quality and impact of STI funding, informing future program planning.
- CDC conducts Congenital Syphilis assessments in states with the highest number of cases of congenital syphilis to address barriers and develop intervention tools. This will prevent more babies from being born with this preventable, costly, and debilitating disease.

Providing Guidance and Recommendations

CDC will continue to work with state and local STI programs to ensure public and private healthcare providers adhere to CDC recommendations for screening and treatment. CDC will continue to work with partners and health plans to identify evidence-based strategies to increase STI screening. Screening is especially important since many STIs do not have noticeable symptoms and can lead to serious medical consequences like infertility in women.

Tuberculosis Budget Request

CDC's goal is to eliminate Tuberculosis (TB) from the United States. CDC provides TB funding for prevention, control, laboratory services, research, and training to states, select cities and territories or affiliated countries. CDC also provides expert guidance and technical assistance to local and state TB programs and performs pragmatic research that ensures more effective and efficient program implementation. CDC's most recent data shows that National efforts have prevented up to 319,000 TB cases averting $6.7 billion in costs between 1995 and 2014. The United States has one of the lowest TB disease incidence rates in the world[12.] However, the rate at which the number of TB cases is declining has stalled. After two decades of annual declines, TB incidence in the United States has leveled off at approximately 2.9 new cases per 100,000 persons, or a total of 9,287 cases in 2016.

86% of TB cases result from reactivated latent TB infection (LTBI), which has no symptoms and cannot be transmitted. However, without treatment, about 5-10% of LTBI cases will develop into TB disease, often years later. CDC estimates that up to 13 million people in the United States have LTBI. The remaining 14% of U.S. TB disease cases result from recent exposure to someone who is actively sick with TB. Eliminating TB in the United States requires a dual approach—increase testing and treatment among people who are at high risk for having LTBI and continue aggressive case finding and treatment for active TB disease.

Budget Request

CDC's budget request of **$130,000,000** for Tuberculosis (TB) is $11,986,000 below the FY 2017 Annualized CR level. At this funding level, CDC will continue to support States to conduct TB surveillance and contact tracing, and focus on States with the highest prevalence of TB. Training hours and educational materials for health care professionals and studies to improve TB treatment, diagnostic tools, and program delivery will also be reduced. CDC will continue to focus efforts on maintaining TB control within the United States.

Key Tuberculosis Activities

CDC will support health departments across the nation, in larger cities, Washington D.C., Puerto Rico, the Virgin Islands, and other territories to:

- Investigate and report every case of TB disease;
- Identify contacts and provide treatment to prevent future TB cases ;
- Genotype TB bacteria and test for drug resistance; and
- Ensure provision of medical care, laboratory testing, and other services to achieve complete cure of TB patients, which halts further transmission.

Prevent new cases of TB

CDC provides technical assistance or provides supplemental funding to health departments that need more capacity to conduct contact investigations. Investigations focus on controlling TB transmission by locating and evaluating anyone who has had prolonged contact with a person who had active TB. More than 100,000 people each year are evaluated. CDC's most recent data from 2016 shows that from 2009 to 2016, state and local health departments issued 22 invitations to CDC to provide onsite assistance for outbreaks in settings that

[12] Castro, KG et al. Estimating tuberculosis cases and their economic costs averted in the United States over the past two decades Int J Tuberc Lung Dis 20(7):926-933 2016 The Union http://dx.doi.org/10.5588/ijtld.15.1001

included a neonatal intensive care unit and other healthcare facilities, overnight facilities for persons experiencing homelessness, residential facilities for persons with mental health diagnoses, correctional facilities, and workplaces. Three investigations addressed drug-resistant TB.

Ensure the provision of medical care, laboratory testing, and other services to cure TB patients

CDC will continue to fund Regional Training and Medical Consultation Centers (RTMCCs). Given the low incidence of TB disease in the United States, few U.S. health care workers have encountered TB disease in their medical training. However, misdiagnosis and failure to treat TB results in transmission of disease in families and communities and months of debilitating illness for the patient. To counter this, the RTMCCs provide training (both in person and via distance learning) and technical assistance to increase human resource development in TB programs; TB educational materials; and medical consultation for health care professionals treating TB patients, particularly those with complex or drug-resistant cases. From 2013-2016, the RTMCCs provided over 4,320 hours of training to 42,856 participants, and provided 14,971 medical consultations to providers with TB patients.

CDC-funded research improves the evidence base for diagnosing, preventing, and treating TB. Current treatment for TB disease takes six to nine months with four different antibiotics. Patients need to be monitored for side effects and to make sure they are getting better. To provide better treatment, especially for children and people with other health conditions such as diabetes or cancer, CDC will continue to fund academic institutions to carry out clinical and epidemiologic research. CDC supports the TB Trials Consortium (TBTC) conducts clinical trials to make TB treatment regimens shorter and less toxic. Over the past 20 years, TBTC clinical trials have enrolled more than 14,000 patients and volunteers, and undertaken nine major trials and 15 sub-studies. TBTC has produced at least 69 publications in peer-reviewed journals; contributed to 127 major medical or scientific meetings; and influenced three guideline publications. CDC also funds the TB Epidemiologic Studies Consortium (TBESC) applies epidemiologic, behavioral, economic, laboratory, and operational research for better approaches to TB control in communities. Currently, TBESC study sites work with other public and private primary care providers to help patients understand their risk for LTBI and link them to care.

CDC's TB laboratory serves as a reference laboratory and a source for innovation, including development of advanced molecular detection (AMD) methods. In 2016, CDC expanded its Molecular Detection of Drug Resistance service for health departments, allowing the rapid detection of MDR TB that is essential for treating and controlling TB. The TB lab also increased its ability to identify matching cases of TB disease using whole genome sequencing, providing an ever-clearer picture of locations where transmission of active TB disease has occurred. Through these advancements, CDC will continue to address the treatment and control of TB in 2018.

Stop transmission and prevent drug resistance

Currently, approximately 1% of U.S. TB cases are multi-drug resistant, but each case is expensive to treat and hard on the patient. Accordingly, CDC strives to prevent drug resistant TB from developing in the first place. One way to do this is to ensure that TB treatment is completed without interruption. TB drug shortages have affected more than 80% of TB control programs. CDC has established a small commercial stockpile of TB drugs to ensure that patient treatment will not be interrupted in the event of a nationwide shortage of critical TB drugs. CDC is also conducting a clinical trial to compare the effectiveness of directly observed therapy (DOT) delivered in person and by video cameras (the video method is potentially more efficient and cost saving), and developing more sophisticated systems for surveillance and laboratory testing for MDR TB. CDC will continue to refine these and other innovative activities to prevent the spread of drug resistant TB in 2018.

CDC-Wide HIV/AIDS Funding

Fiscal Year	Domestic HIV/AIDS Prevention and Research (Infectious Disease)	Other Domestic HIV Prevention	Global HIV/AIDS Program1	CDC-Wide HIV Total
2008[1]	$691,860,000	$40,000,000	$118,863,000	$850,723,000
2009[1]	$691,860,000	$40,000,000	$118,863,000	$850,723,000
2010[2]	$799,270,000	$0	$118,961,000	$918,231,000
2011	$800,445,000	$0	$118,741,000	$919,186,000
2012[3]	$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 Annualized CR	$787,213,000	$0	$128,177,000	$915,390,000
2018 President's Budget	$640,065,000	$0	$69,547,000	$709,612,000

[1]In 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.

[2]In 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 PPHF allocation.

[3]FY 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: Viral Hepatitis Surveillance and Prevention[1]

	FY 2016 Final	FY 2017 Annualized CR	FY 2018 Estimate	FY 2018 Estimate +/- FY 2017 CR
Alabama	$95,000	$125,000	$125,000	$0
Alaska	$98,000	$125,000	$125,000	$0
Arizona	$101,000	$125,000	$125,000	$0
Arkansas	$0	$126,000	$126,000	$0
California	$250,000	$133,000	$133,000	$0
Colorado	$95,000	$126,000	$126,000	$0
Connecticut	$150,000	$134,000	$134,000	$0
Delaware	$98,000	$88,000	$88,000	$0
Florida	$501,000	$549,000	$549,000	$0
Georgia	$90,000	$318,000	$318,000	$0
Hawaii	$83,000	$89,000	$89,000	$0
Idaho	$20,000	$65,000	$65,000	$0
Illinois	$89,000	$0	$0	$0
Indiana	$80,000	$283,000	$283,000	$0
Iowa	$110,000	$131,000	$131,000	$0
Kansas	$71,000	$0	$0	$0
Kentucky	$101,000	$317,000	$317,000	$0
Louisiana	$102,000	$354,000	$354,000	$0
Maine	$109,000	$98,000	$98,000	$0
Maryland	$88,000	$125,000	$125,000	$0
Massachusetts	$539,000	$712,000	$712,000	$0
Michigan	$543,000	$334,000	$334,000	$0
Minnesota	$108,000	$128,000	$128,000	$0
Mississippi	$111,000	$125,000	$125,000	$0
Missouri	$86,000	$125,000	$125,000	$0
Montana	$32,000	$40,000	$40,000	$0
Nebraska	$110,000	$99,000	$99,000	$0
Nevada	$68,000	$125,000	$125,000	$0
New Hampshire	$74,000	$126,000	$126,000	$0
New Jersey	$91,000	$372,000	$372,000	$0
New Mexico	$72,000	$105,000	$105,000	$0
New York	$977,000	$259,000	$259,000	$0
North Carolina	$63,000	$325,000	$325,000	$0
North Dakota	$62,000	$79,000	$79,000	$0
Ohio	$114,000	$303,000	$303,000	$0
Oklahoma	$109,000	$291,000	$291,000	$0
Oregon	$135,000	$131,000	$131,000	$0
Pennsylvania	$223,000	$133,000	$133,000	$0
Rhode Island	$125,000	$126,000	$126,000	$0
South Carolina	$65,000	$131,000	$131,000	$0
South Dakota	$0	$0	$0	$0
Tennessee	$347,000	$376,000	$376,000	$0
Texas	$94,000	$126,000	$126,000	$0
Utah	$77,000	$284,000	$284,000	$0
Vermont	$91,000	$82,000	$82,000	$0
Virginia	$49,000	$130,000	$130,000	$0
Washington	$578,000	$661,000	$661,000	$0
West Virginia	$58,000	$354,000	$354,000	$0
Wisconsin	$122,000	$126,000	$126,000	$0

	FY 2016 Final	FY 2017 Annualized CR	FY 2018 Estimate	FY 2018 Estimate +/- FY 2017 CR
Wyoming	$96,000	$86,000	$86,000	$0
Cities				$0
Chicago	$0	$102,000	$102,000	$0
New York City	$0	$122,000	$122,000	$0
Philadelphia	$391,000	$283,000	$283,000	$0
San Francisco	$520,000	$260,000	$260,000	$0
Washington, D.C.	$42,000	$125,000	$125,000	$0
				$0
Subtotal States	$7,550,000	$9,605,000	$9,605,000	$0
Subtotal Cities	$953,000	$892,000	$892,000	$0
Total	**$8,503,000**	**$10,497,000**	**$10,497,000**	**$0**

[1]This State Table is a snapshot of selected programs that fund 49 states (and in some cases local awardees).

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$530.228	$526.882	$377.000	-$149.882
PPHF	$52.000	$52.000	$137.000	+$85.000
Total Request	$582.228	$578.882	$514.000	-$64.882
FTEs	1,186	1,233	1,233	0
Emerging and Zoonotic Infectious Diseases				
- Antibiotic Resistance – BA	$160.000	$159.696	N/A	-$159.696
- Antibiotic Resistance – PPHF	N/A	N/A	$137.000	+$137.000
- Lab Safety and Quality	$8.000	$7.985	$7.985	$0.000
- Emerging and Zoonotic Core Activities	$29.840	$29.783	$29.783	$0.000
- Vector-borne Diseases1	$37.073	$37.003	$49.459	+$12.456
- Lyme Disease (non-add)	$10.663	$10.643	$10.643	-$0.000
- Prion Disease	$6.000	$5.989	$0.000	-$5.989
- Chronic Fatigue Syndrome	$5.400	$5.390	$0.000	-$5.390
- Emerging Infectious Diseases	$147.000	$146.721	$155.457	+$8.736
- Food Safety	$52.000	$51.901	$51.901	$0.000
- National Healthcare Safety Network	$21.000	$20.960	$20.960	$0.000
- Quarantine	$31.572	$31.512	$31.512	$0.000
- Federal Isolation and Quarantine (non-add)	N/A	N/A	$1.000	+$1.000
- Advanced Molecular Detection	$30.000	$29.943	$29.943	$0.000
- Immediate Zika Response	$2.343	N/A	N/A	N/A
- Epidemiology and Laboratory Capacity (PPHF)	$40.000	$40.000	N/A	N/A
- Healthcare-Associated Infections (PPHF)	$12.000	$12.000	N/A	N/A

[1]FY 2016 and 2017 Vector-borne Diseases amounts are comparably adjusted to reflect $10.6 million movement from Lyme Disease line.

Emerging and Zoonotic Infectious Diseases Funding History	
Fiscal Year	Dollars (in millions)
2013 (BA)	$297.222
2013 (PPHF)	$44.174
2014 (BA)	$337.655
2014 (PPHF)	$52.000
2015 (BA)	$352.990
2015 (PPHF)	$52.000
2016 (BA)	$530.228
2016 (PPHF)	$52.000
2017 (BA)	$526.881
2017 (PPHF)	$52.000

CDC protects America's health, safety, and security by preventing and controlling a wide range of infectious diseases, from anthrax and Ebola to Salmonella food poisoning and Zika. CDC's world-class scientists, researchers, laboratories, and emergency responders protect Americans by:

- Reducing illness and death associated with emerging and zoonotic infectious diseases, and

- Protecting people against unintentional or intentional spread of infectious diseases

CDC's FY 2018 request of **$514,000,000** for Emerging and Zoonotic Infectious Diseases, including $137,000,000 from the Prevention and Public Health Fund, is $64,882,000 below the FY 2017 Annualized CR level.

CDC is home to the world's leading experts and laboratories in infectious disease prevention and control. CDC's experts provide rapid epidemiological and laboratory assistance to states and foreign ministries of health during outbreaks of infectious disease. CDC's unique scientific expertise includes the ability to detect and track a broad range of microbes and respond to disease threats from many different pathogens, such as yellow fever in Angola, Zika in the western hemisphere, emerging and resistant infections like Candida Auris and MCR-1, and numerous foodborne outbreaks around the country. Through specialized surveillance systems that serve as early warning systems and rapid response capability, CDC's experts detect and protect the public from both well-known infectious diseases and less familiar, but equally dangerous threats. CDC's specialized laboratories are a critical asset and help track disease, provide early warning for emerging or changing germs, and serve as vital reference laboratories for the United States and the world.

Eliminations

The FY 2018 budget request eliminates funding for CDC's Chronic Fatigue Syndrome (CFS) and Prion Disease programs.

Chronic Fatigue Syndrome

CFS affects between one and four million people in the United States. CDC's CFS program works with states and experienced clinicians to develop tools to gather and analyze surveillance data and to educate clinicians and the public on the results of evidence-based studies. NIH has been funded to conduct biomedical research on CFS. In FY 2018, CFS activities are proposed for elimination, prioritizing funding to programs that support a broad range of diseases to maximize effectiveness in this limited-resource environment.

Prion Disease

Prion diseases are a group of rare brain diseases affecting humans and animals that are uniformly fatal. Prion activities have been proposed for elimination to focus surveillance and monitoring activities on a broader range of high consequence pathogens and emerging diseases. Public health preventive measures recently instituted by the USDA will further reduce the risk of exposure to the U.S. population from Prion diseases. NIH also supports research on Prion diseases.

Vector-borne Diseases Budget Request

The United States is increasingly vulnerable to vector-borne disease threats occurring within and outside our borders. Vector-borne diseases transmitted by ticks, mosquitoes, fleas, and other insects, account for 17 percent of the estimated global burden of all infectious diseases. The United States has seen an increase in the number and spread of vector-borne diseases. In the United States, the most common vector-borne diseases causing regular outbreaks include mosquito-borne West Nile and dengue viruses; tickborne Lyme disease and Rocky Mountain spotted fever; and flea-borne plague. More vector-borne diseases continue to be discovered; in the last decade alone, CDC has discovered five new tickborne pathogens in the United States.

The emergence and spread of the Zika virus is the latest and most notable viral vector-borne threat. Zika virus has spread to 64 countries and territories and is the only mosquito-borne arbovirus known to be sexually transmitted or to cause microcephaly and other associated severe birth defects in fetuses. As of March 20, 2017, over 4,700 pregnant women living in the United States and its territories have evidence of being infected with Zika virus. The primary vectors of Zika, Aedes aegypti and Aedes albopictus mosquitoes, are widespread throughout the United States and its territories and have been found in an increasing number of locations in the last decade. They are also the primary vectors for the other important vector-borne viruses worldwide. Both species also transmit dengue and chikungunya. Aedes aegypti also transmits yellow fever.

CDC's vector-borne diseases program is the focal point of our nation's capacity to detect, control, and prevent bacterial, rickettsial, and viral pathogens transmitted by ticks and insects. CDC's vector-borne scientists have deep expertise in entomology, microbiology, and public health that does not exist elsewhere. CDC experts work with and support state and local health departments directly during outbreak investigations; provide tools for outbreak preparedness and response; identify novel repellents and other prevention tools; and identify, improve, and deploy diagnostic tools and tests.

CDC's core vector-borne disease activities in FY 2016-2017 included the following activities.

Developing and supporting laboratory capacity to rapidly diagnose vector-borne diseases

CDC supports domestic and international diagnostic laboratories by developing testing guidelines, distributing reagents and supplies, and performing confirmatory testing for difficult or complex cases. In addition, CDC develops new diagnostic methods to improve testing speed, accuracy, and reliability and provides training to domestic and international partners. For example, during the Zika response:

- CDC produced and shipped reagents for Zika diagnostic testing to 44 countries and 51 states and territories sufficient to perform over 1,485,000 tests.
- Together with the Laboratory Response Network, more than 160,000 tests for Zika were conducted, including more than 98,000 conducted by CDC laboratories.
- Prior to this epidemic, CDC was the only public health laboratory capable of testing for Zika. Now, 49 states, DC, and Puerto Rico have this capacity.

Developing innovative technologies

CDC develops and evaluates technological innovations that will protect against and control the spread of diseases from mosquitoes, ticks, and fleas. Recent innovations include:

- Autocidal Gravid Ovitrap (AGO): CDC developed a simple to use and inexpensive mosquito trap for mosquito surveillance and control that does not require the use of insecticides. Following successful field trials where mosquito populations and incidence of disease were reduced in communities where traps were installed, CDC is evaluating the large-scale use of AGO traps in Puerto Rico.

- Lyme Disease Prevention Tools: CDC is working with partners to test host-targeted Lyme disease prevention methods, including commercially-licensed rodent bait boxes.
- Yellow Fever Test Kit: CDC scientists quickly adapted, assembled, and shipped 240 ready-to-use yellow fever diagnostic test kits to Angola during a large yellow fever outbreak in 2016, enough to test over 2,800 samples in field trials. The CDC-developed kit contains pre-made, pre-measured components that can be stored for at least 6 months without freezing and reduces testing time from 2 days to 4 hours.

Conducting surveillance to quickly catch cases of disease

Vector monitoring systems allow for national and state-based monitoring of specific vectors that pose risks for outbreaks, which can be used to inform vector control and management activities within states and localities. Systems that monitor documented cases of disease allow for the early detection of outbreaks and can help decision-makers determine when and how to act in the interest of the public's health.

CDC operates three vector-related surveillance systems, which are populated by state, territorial, city, or local health departments supported through the Epidemiology and Laboratory Capacity (ELC) or Emerging Infections Program (EIP) cooperative agreements.

1. ArboNET: the national surveillance system for arboviruses. ArboNET supports activities including human case investigations, collection and testing of mosquitoes for the presence of arboviruses, and supporting standardized, reliable laboratory testing nationwide.

2. TickNET: a collaborative public health effort that fosters coordinated surveillance, research, education, and prevention of tickborne diseases. TickNET research activities include laboratory surveys, high-quality prevention trials, and pathogen discovery.

3. MosquitoNET: a web-based data system for participating ELC recipients to report data on Aedes aegypti and Aedes albopictus mosquitoes and insecticide resistance testing. These data will be used to regularly update maps demonstrating where the most important mosquito vectors that transmit viruses like Zika, dengue, and chikungunya can be found throughout the United States and its territories.

Responding quickly to outbreaks

CDC routinely provides broad-range scientific support and leadership as requested by states responding to vector-borne outbreaks. Support is provided to states in the areas of laboratory diagnosis, epidemiology and surveillance, vector surveillance and control, and health communications. In addition to the extensive support provided to numerous states and territories through the Zika Emergency Response (including, Puerto Rico, U.S. Virgin Islands, American Samoa, Florida, Utah, and Texas), CDC also provided support on a number of other outbreak investigations in FY 2016-2017. These outbreaks included collaborating with Puerto Rico and Hawaii on dengue.

In addition, CDC has played a central role in responding to Yellow fever epidemics in Africa and the Americas. In 2016, a large epidemic of yellow fever, one of the few vaccine-preventable arboviral diseases, affected Angola and the Democratic Republic of the Congo (DRC). When a vaccine supply shortage occurred, CDC experts provided advice to the World Health Organization (WHO) and assisted WHO and the Ministry of Health of the DRC in rapidly implementing a campaign using 1/5 of the standard dose as well as simultaneously conducting an evaluation of the comparable effectiveness of the fractional and full dose of vaccine. No further cases of yellow fever were reported following the DRC vaccination campaign. CDC is currently evaluating samples from DRC to verify the protective efficacy of fractional dosing of vaccine to support future uses of this approach, including in the current outbreak of yellow fever in Brazil.

Budget Request

CDC's FY 2018 request of **$49,459,000** for vector-borne activities is $12,456,000 above the FY 2017 Annualized CR level. In FY 2018, the United States will remain vulnerable to existing and new vector-borne disease threats such as Zika Virus. Therefore, the FY 2018 request will address critical needs in the nation's vector control system, by focusing on two primary goals:

CDC will continue to build comprehensive vector programs at the federal, state, and local levels to address threats such as Zika Virus. This work will include:

1. Development of a skilled vector workforce that can respond to the full variety of pathogens and the vectors that transmit them
2. Supporting a selection of states to expand their expertise in laboratory, case and outbreak investigation, and vector control that can identify and mobilize for action against existing and emerging threats

CDC will work to advance innovation and discovery in the areas of vector-borne diseases such as Zika Virus and vector control and management. This work will include:

1. Development of priority cutting edge diagnostic tools for fast and accurate detection of vector-borne infections
2. Identification of new and emerging vector-borne diseases and increased understanding of the magnitude of existing vector-borne threats
3. Conducting priority Research and Development (R&D) by government, universities, and industry to develop ways to monitor and prevent insecticide resistance and foster new vector control technologies

In FY 2018, CDC will provide enhanced support for up to 9 states at the greatest risk for vector-borne disease outbreaks. Each vector program would include increasing state entomological expertise, as well as support for:

1. Laboratory activities, including the ability to test for current and past vector-borne disease infections in people and the ability to test for vector-borne disease in mosquitoes and animals.
2. Case and outbreak investigation activities, including the ability of healthcare providers and the community to recognize symptoms of vector-borne diseases, and the ability of the state to complete standard epidemiological investigations on suspected or confirmed vector-borne disease outbreaks and to contribute to national vector surveillance systems.
3. Vector control and management activities, including the ability to conduct vector surveillance and insecticide resistance testing, to collect and use data to make vector control decisions, and to conduct and evaluate routine vector control through an integrated pest management approach that focuses on increasing effectiveness, with the least amount of pesticide use.

Through this work, and together with its partners, CDC will begin to build a sustained foundation to address the persistent threat of mosquito-borne and tick-borne diseases.

Advanced Molecular Detection and Response to Infectious Disease Outbreaks Budget Request

Advanced molecular detection (AMD) introduces rapid technological innovation, such as genomic sequencing of pathogens, to allow for better prevention and control of infectious diseases. The past decade has witnessed revolutionary advances in certain technologies, particularly DNA sequencing ("next-generation sequencing", NGS or "whole-genome sequencing", WGS), bioinformatics (methods for analyzing the data), and related technologies. CDC's AMD innovation and modernization program was established to bring these technologies into the U.S. public health system. Three years ago, CDC was behind in the adoption of these technologies and is now a leader in many areas. CDC's investments in AMD have shown many important successes. AMD technologies incorporate newer, more powerful pathogen detection methods, often replacing more costly, time-consuming methods, many of which have been in use for the past 50–100 years. As a result, AMD is obtaining higher quality data, detecting outbreaks sooner, and responding more effectively—ultimately saving lives and reducing costs. Additionally, AMD is helping to understand, characterize, and control antibiotic resistance and develop and target prevention measures, including vaccines.

Through AMD investments, CDC is seeing improvements in both public health outcomes and preparedness, applying AMD technologies in dozens of areas such as foodborne disease, influenza, antimicrobial resistance, hepatitis, pneumonia, and meningitis. Since FY 2015, AMD has been rolling genetic sequencing technologies out to state and local health departments, all of which have been funded to acquire new technology. Examples of AMD impact include:

- **Foodborne Illness:** The first foodborne pathogen to transition to whole-genome sequencing (WGS) was Listeria, which affects about 800 Americans a year and which causes severe disease. Data from the first three years of monitoring have shown that WGS detects clusters of illness sooner, some of which would not have been detected at all by older methods, and links more outbreaks to specific foods—allowing for action to prevent future outbreaks. WGS is now being rolled out for all foodborne pathogens, including *E coli, Salmonella, and Campylobacter*, and to all states.
- **Influenza:** CDC's influenza program characterizes about 8,000 to 10,000 influenza isolates each year in order to determine which strains should go in the annual influenza vaccine. Processing these specimens previously took 3 weeks and involved a very labor-intensive procedure. With AMD support, the program has now switched to a "sequencing-first" approach, which takes a few days at most, is much more automated, and provides additional data made publicly available to world experts in real time. As a result, the twice yearly strain selection for the world's influenza vaccines is now based on better data, which could improve vaccine effectiveness and save lives.
- **Zika:** Before recognition of the emergence of Zika virus in Brazil, CDC was supporting the implementation of sequencing for two related pathogens, Chikungunya virus and dengue virus, in the Americas. Within three weeks of receiving the first Zika virus-positive sample, a protocol for Zika virus testing was developed, validated, and shared with public health laboratories in the United States and Latin America. Had this AMD-funded infrastructure not been in place at the time, this same process would have taken three to four months, delaying public health's ability to quickly diagnose Zika and target prevention and control strategies.
- **Meningitis:** In 2014 alone, CDC reduced the time it took to test and analyze meningitis isolates by 75%. Over the course of one year, CDC increased by nine-fold the number of specimens it tested. This expanded capacity, along with increased state capacity, can improve detection of and response to outbreaks of this deadly disease.
- **HIV:** As part of a January 2015 HIV outbreak investigation in southeastern Indiana, CDC scientists used AMD methods to identify connections between infected people. AMD techniques revealed how closely an HCV and an HIV outbreak were co-occurring with useable, easy-to-interpret graphics and showed

that the HCV outbreak was an old infection. These findings and tools helped public health officials direct resources to where they were needed most to prevent as many future infections as possible and to identify similar transmission clusters elsewhere in the United States.

- **Improved efficiency:** 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.

Budget Request

CDC's FY 2018 request of **$29,943,000** for Advanced Molecular Detection is level with the FY 2017 Annualized CR level. AMD is introducing cutting edge technologies into public health that will fundamentally change the public health system and modernize the ability of CDC and state health departments to protect Americans' health.

In FY 2018, the AMD Program will focus on four key areas:

- **Roll-out of AMD technologies:** CDC continues to fund disease-specific projects to implement AMD protocols and technologies both at CDC and at state and local health departments. The program is now working with all state health departments to implement AMD in fields that will have some of the highest impact. The program is also readying to make protocols and technologies available in other areas once state health departments have gained experience with core AMD methods. AMD is continuing to modernize and improve operations at CDC laboratories to provide better, faster data for public health action.
- **Applying the technologies to other disease areas:** While current AMD investments have focused on high-impact areas, AMD has the potential to transform a vast horizon of infectious diseases in the future. This technology will almost certainly play a role in responding to the next emerging infectious disease threat, as it has in recent outbreaks of Ebola virus, Zika virus, and Elizabethkingia. With emerging infections, there will constantly be new priorities for application of AMD technologies.
- **Enhancement of supporting infrastructure:** Application of sequencing and related technologies requires access to such infrastructure as high-performance computing and expertise in certain specialized areas, including bioinformatics. The rapid increase in sequencing currently under way in state health departments will require expansion of existing services if the reliability and rapid turn-around-time of the system is to be maintained.
- **Workforce modernization:** Although AMD 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. Training CDC scientists and state public health staff in methods for pathogen genetic sequencing, analysis, and interpretation is critical. One example is a Molecular Epidemiology training the AMD program has offered for CDC and state epidemiologists.

In the past 10 years, next-generation sequencing and related technologies have advanced at an astounding pace—much faster, for example, than the rapid rate of advances in computer processing. This technologic revolution is showing no signs of slowing down, resulting in greater capacity, lower costs, and increased automation, all of which are opening opportunities both in the private sector and in public health. Continued investment to keep up with ongoing, rapid changes in physical technology and innovation of public health will be crucial to ensuring CDC does not fall behind again. Continued investment will also ensure that there is ongoing, dedicated support for innovation both at CDC and at state and local public health laboratories.

Emerging Infectious Diseases and Emerging and Zoonotic Core Activities Budget Request

Protecting Americans from zoonotic and emerging infections—infections that have increased recently or are threatening to increase in the near future—involves a cascade of public health activities. These actions must occur at many levels (local, state, national, and international) because pathogens, diseases, and people move across borders. Ensuring capacity and working collaboratively at all levels is essential in protecting individuals from emerging and zoonotic infectious disease threats. CDC invests in building a public health system for infectious diseases 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 an appropriately sized and competent public health workforce with deep expertise across a broad range of pathogens

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

In order to build national emerging infectious disease capacity, CDC will continue to invest in two flagship Cooperative Agreements: the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) platform and the Emerging Infections Program (EIP) in FY 2018. 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. Multiple CDC programs use the ELC platform to protect the public health and safety of the American people by building capacity for health departments to effectively detect, respond to, prevent, and control a wide range of known and emerging (or re-emerging) infectious diseases. In FY 2018, CDC will continue to support 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.

Budget Request

CDC's FY 2018 request of **$185,240,000** for Emerging Infectious Diseases and Emerging and Zoonotic Core Activities is $8,736,000 above the FY 2017 Annualized CR Level. The increase will allow CDC to provide greater support to states in preparing for and responding to emerging and zoonotic health threats.

CDC's Emerging Infectious Diseases and Emerging and Zoonotic Core Activities budget request includes a number of activities that support surveillance, laboratory, and prevention programs in multiple infectious disease areas. These areas include high-consequence pathogens (rare, but deadly pathogens such as anthrax and smallpox), emerging respiratory pathogens, preparedness and emerging infections, healthcare-associated infections, and Adverse Event Outbreak Response.

High-Consequence Pathogens

CDC conducts disease detection and control activities that protect the United States from dangerous viral, bacterial, and unknown infectious agents. These include Hantavirus, Ebola and Marburg hemorrhagic fevers, rabies, monkeypox, anthrax, and smallpox. Since these pathogens can be lethal and some can spread as epidemics, CDC maintains Biosafety level (BSL)-3 and BSL-4 laboratories that support epidemiology, research,

and prevention efforts to reduce the public health threat of these highly hazardous and infectious pathogens. Many of these pathogens are considered bioterrorism threats and are regulated as Tier 1 select agents.

CDC provides laboratory reference and diagnostic support for state and local health departments and federal agencies, such as the Food and Drug Administration (FDA), the National Institutes of Health (NIH), and the Department of Defense (DOD). CDC investigates all suspect domestic cases of known high-consequence pathogens and infectious diseases of unknown causes reported to CDC by state and local health departments.

CDC's unique gold standard laboratories, including the BSL-4 laboratories which require pressurized suits and specialized airflow systems to safely study high-consequence pathogens, serve as reference laboratories for the nation. These laboratories, along with CDC's scientific and medical experts, reduced the public health threat of hazardous and infectious pathogens in FY 2016 and FY 2017:

Investigated and responded to several outbreaks: CDC staff responded to the world's deadliest infections. They worked around the clock, within the United States and internationally, tracking infections and investigating new outbreaks to protect Americans from lethal infectious diseases.

- **Elizabethkingia** - CDC worked closely with investigators in Wisconsin, Michigan, and Illinois to inform public health departments and clinical partners on effective diagnosis, treatment, and surveillance for the recent multi-state Elizabethkingia outbreak. Elizabethkingia, a rare disease usually of the elderly or immunocompromised, sickened 66 people including 21 deaths. CDC staff were deployed to investigate the rare outbreak, and CDC laboratories continue to receive and analyze samples from states across the country. This outbreak was the first of this rare infectious disease to use Advanced Molecular Detection (AMD) genomics to assist CDC epidemiologists in the field.
- **Seoul virus** - CDC assisted health officials in 15 U.S. states and Canada in response to an outbreak of Seoul virus infection in pet rats and people that was initially reported in Wisconsin and infected 17 people in 7 states. Seoul virus is a type of hantavirus that can cause flu-like symptoms and, in severe cases, kidney disease. CDC has been assisting states with determining where infected rats may have come from and where they were distributed, as well as determining how many people may have been infected with the virus. CDC has also been in contact with Canadian health officials, who are closely monitoring Seoul virus infections there in association with this outbreak.
- **Leptospirosis** - CDC helped lead an investigation of several outbreaks of leptospirosis in the United States. Leptospirosis is an animal-borne bacterial disease that can be spread by rats and water. CDC helped investigate several cases of leptospirosis associated with flood water exposure in Louisiana, as well as human cases that occurred on a single city block in New York City.
- **Ebola and dangerous viral pathogens** - CDC tested specimens from numerous travelers who became ill in the United States after visiting other countries. A case of Lassa Fever was diagnosed in one traveler, and multiple travelers were screened for Ebola virus infection. In addition, CDC worked with survivors of the 2014-2016 Ebola epidemic in Liberia and Sierra Leone to determine how long the Ebola virus can persist in semen. This work helped document the presence of Ebola virus genetic fragments in some patient's semen after a period of 500 days. These important findings led to prevention efforts to stop the spread of the disease, including the recommendation for continued prevention strategies in male survivors residing in West Africa (until they have had at least two negative Ebola screening tests).

Identified unrecognized infectious diseases

CDC played a critical role in the discovery of new and emerging infectious diseases, using advanced molecular detection techniques to solve medical mysteries and identify pathogens faster and more accurately. Laboratory specimens from all over the nation and globally are sent to CDC, often in cases where the cause of illness is

unknown. CDC receives over 20,000 slides and tissue samples to examine annually, and helps diagnose over 600 cases of unexplained illness or death each year.

- **Zika** - In response to the epidemic of Zika virus in Latin America, CDC developed a novel Zika detection test for tissues that disclosed the direct evidence of Zika virus in the brains of infants with microcephaly and in the placenta of infected infants, which confirmed the link between the virus and birth defects.
- **E-Pathology** - CDC continued implementation of an electronic platform called e-Pathology, which allows physicians and scientists to electronically submit images and scanned pathology slides to CDC pathologists for evaluation. CDC is expanding e-Pathology to offer users real-time pathology consultation. CDC's world renowned pathology team in Atlanta can examine digital images sent from anywhere to help determine a diagnosis.

Developed innovative tools to reduce and better understand threats

CDC maintained word-class laboratories that conduct ground-breaking research to improve CDC's efforts to reduce public health threats and protect Americans, including:

- **Rabies** - CDC developed a new molecular test for detecting the rabies virus in human and animal samples. The exciting new test detects rabies faster and more accurately when compared to other currently available tests. The new test is being piloted in several State public health laboratories who are doing a side-by-side comparison testing to the current gold standard test.
- **Ebola** - In order for the United States to be prepared in the event of an imported case or bioterrorism event, CDC worked with U.S. commercial partners on laboratory activities that lead to the development of a drug that could be used to treat individuals with the virus, providing resources to treat Americans. In addition, CDC scientists discovered clues to why some people can survive Ebola that suggest avenues for treatment.
- **MicrobeNet** - This innovative online tool helps laboratorians and doctors around the world get the information they need to accurately diagnose diseases faster, which has saved lives. The tool allows unprecedented access to CDC's virtual microbe library of more than 2,400 rare and emerging infectious disease at no cost. Traditionally, clinicians or laboratorians who need to identify a bacteria or fungus send a sample to CDC and await test results. With MicrobeNet, CDC is dramatically improving the health of people in the United States by cutting this testing time from about one week to a few hours.

In FY 2018, CDC will promote the use of these tools and demonstrate their impact on public health. In addition, CDC will:

- Improve diagnostic tests, evaluate antivirals, and create new vaccines for high-consequence pathogens.
- Develop medical and public health interventions for deadly diseases that often have no specific therapies for treatment.
- Utilize a "One Health" approach to address the complex interplay between human health, animal health, and the environment by integrating surveillance and response strategies.

Emerging Respiratory Pathogens

CDC works to detect and respond to respiratory disease threats domestically and abroad through disease tracking, epidemiologic investigation and response, and laboratory activities. In 2016, CDC continued assisting partners abroad and preparing for possible Middle East Respiratory Syndrome (MERS) cases in the United States. CDC provided trainings on the CDC laboratory diagnostic assay for MERS, participated in outbreak

investigations assessed for genetic changes in the virus, trained Customs and Border Protection officers, and provided guidance to healthcare providers, travelers, and airline crews.

In FY 2018, CDC will continue to provide state and local health departments 24/7 consultation regarding MERS identification and testing, partner at U.S. borders to increase surveillance for MERS, and deploy epidemiologists to help in public health investigations in affected countries. CDC continues to closely monitor the MERS situation globally and 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).

CDC continues to monitor the effectiveness of pneumococcal conjugate vaccines in the EIP, demonstrating the dramatic impact of the pneumococcal conjugate vaccine (PCV13), licensed in 2010 for prevention of invasive pneumococcal disease in both children and adults.

In FY 2018, CDC will support epidemiologic and laboratory surveillance for existing and emerging respiratory diseases. Specific activities include:

- Continued funding of all ten 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 expertise to respond to emerging viruses such as EV-D68 in 2014

Healthcare-associated Infections and Adverse Event Outbreak Response

Healthcare-associated infections (HAIs) are infections that people can get while receiving medical treatment in any healthcare setting. For example, in hospitals alone, one in 25 hospitalized patients gets at least one HAI at any given time, with over one million infections occurring across the United States every year[13,14.]

While CDC has made great progress leading a culture shift toward prevention of HAIs, more work remains to eliminate these infections to save lives[15]. CDC's world-class scientists have provided critical epidemiological support and laboratory testing to investigate outbreaks in healthcare, including a multi-state and local outbreaks of contaminated medical devices and products. Increasingly, CDC has been called to address issues related to the healthcare environment, surfaces, and equipment that create unintentional risks to patients, spreading infections including those caused by highly resistant bacteria (e.g., CRE). Recent examples range from design flaws in sinks and other healthcare plumbing, to surgical support equipment for open-heart surgeries that have inadvertently blown pathogenic bacteria into patient surgical sites.

In FY 2018, to protect America's health security and prevent the spread of life-threatening infections in healthcare, CDC will:

[13] https://health.gov/hcq/prevent-hai-action-plan.asp
[14] http://www.nejm.org/doi/full/10.1056/NEJMoa1306801#t=articleResults
[15] These activities complement and are informed by CDC's National Healthcare Safety Network (NHSN) reporting capabilities.

- Continue to provide national leadership and expertise in (HAI) prevention, identify emerging threats, and protect patients through outbreak response, detection, and control. This includes working with health departments and healthcare facilities when problems arise and engaging other public and private health partners to prevent HAIs.
- Continue to serve as the world's gold standard laboratory to identify untreatable pathogens, and develop and evaluate new tests to protect the nation from emerging public health threats.
- Continue to develop evidence-based infection prevention guidelines to give healthcare providers and facilities the tools they need to prevent HAIs and improve the quality of care.
- Continue to increase awareness and educate the public, healthcare providers, and facilities on sepsis, including the need to prevent infections that lead to sepsis, and urgently treat suspected sepsis cases to save American lives.

Antibiotic Resistance Budget Request

Antibiotic resistance (AR), when bacteria don't respond to the drugs designed to kill them, is a threat to the population at large, to modern medicine, and to the healthcare, veterinary, and agriculture industries. Life-saving treatments such as surgery and chemotherapy, depend on antibiotics that work because the risk of infections that comes with those procedures can be prevented or reduced by antibiotics. While antibiotic resistance itself is not stoppable, its spread can be contained.

Some AR infections are already untreatable and add considerable burden to both patients and to the U.S. healthcare system. Each year, CDC estimates that over two million illnesses and about 23,000 deaths are caused by AR in the United States alone, leading to approximately $20 billion in excess direct healthcare costs[[1]]. In addition, nearly half a million Americans suffer from Clostridium difficile (C. diff) infections in a single year. Taking antibiotics is the most important risk factor for developing C. diff infection.

Nationwide AR infrastructure provides fundamental public health capabilities combined with specialized programs for the country to effectively prevent, detect and respond to AR pathogens like carbapenem-resistant Enterobacteriaceae (CRE), C. auris and resistant Salmonella. Laboratory and epidemiological expertise in all 50 states, six large cities, and Puerto Rico is vital to rapidly identify, contain, and prevent transmission of AR threats in healthcare, in the food supply and in the community. Furthermore, the Antibiotic Resistance Laboratory Network (ARLN), provides specialized capabilities that serve as a critical resource for cutting-edge lab support to states, and to foster innovations in antibiotic and diagnostic development. Finally, programs in 25 states and 3 cities prevent and contain HAI/AR threats, through the coordinated efforts of state/local public health and healthcare facilities to target prevention of infections.

Public and private sector innovation research is crucial to discover new ways to protect people from antibiotic-resistant infections and prevent their spread. Such promising research includes exploring ways that the microbiome can be used to predict and prevent infections caused by drug-resistant organisms. Applied research into infection control strategies is also essential to combat emerging antimicrobial threats such as C. auris.

Containment of global AR threats through efforts to build infection prevention capacity, to identify emerging and existing antibiotic resistant pathogens, and to implement "early warning" systems for national surveillance programs prevent the importation of urgent AR threats to the United States. CDC's Global Health Security work focuses on international AR.

In FY 2017, CDC is continuing to improve detection and protecting patients and communities from the AR threats outlined in CDC's AR Threat Report:

- Improved Tracking, Faster and More Effective Response, Prevention, and Containment:
    - Sustaining core state and local laboratory and epidemiological capacity for detecting, responding, and preventing antibiotic-resistant infections related to healthcare, foodborne, and community infections.
    - Supporting the Antimicrobial Resistance Laboratory Network (ARLN) of seven AR Regional Laboratories to serve as a critical resource for cutting-edge lab support to states and rapid detection of existing and emerging resistance.
- Improving Antibiotic Use:
    - Improving and refining strategies so Americans are informed about how to protect themselves from AR and sepsis, including knowing when to get antibiotics when they are needed. This includes working with public health, healthcare systems, and professional organizations to

[1]https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf

integrate antibiotic stewardship principles in all healthcare facility program activities such as early recognition of sepsis.

- Supporting New Approaches to Combat Antibiotic Resistance:
    - Investing in research on the link between antibiotics, the microbiome—the microorganisms that live naturally in and on our bodies—and the downstream consequences of widespread antibiotic use.

Budget Request

CDC's Antibiotic Resistance Solutions Initiative supports national infrastructure to detect, respond, and contain AR infections across healthcare, food and the community. The FY 2018 budget request includes **$137,000,000** from the Prevention and Public Health Fund to combat antibiotic-resistant (AR) pathogens, a reduction of $22,696,000 from FY 2017 Annualized CR level. In FY 2018, CDC will continue to work with state and local health departments to protect Americans from the growing threat of antibiotic resistance, but will focus resources on States with demonstrated performance and highest need, reducing investments in research.

National Healthcare Safety Network (NHSN) Budget Request

Healthcare facilities identify and prevent healthcare-associated infections (HAI) and other health events using CDC's NHSN—the nation's most comprehensive and widely used HAI/AR surveillance and quality improvement system. Currently, 35 states and the District of Columbia have implemented HAI reporting requirements using NHSN, and over 21,000 healthcare facilities nationwide use NHSN as the cornerstone of their HAI elimination strategies.

Public health and healthcare partners--including healthcare facilities (e.g., hospitals, dialysis facilities, and nursing homes), state and local health departments, and federal partners (e.g., CMS, HHS, FDA, DOD, and VA)—have used NHSN data and system tools to significantly reduce HAIs.

Budget Request

CDC's FY 2018 request of **$20,960,000** for NHSN is level with the FY 2017 Annualized CR level. The FY 2018 budget request will support NHSN reporting in healthcare facilities across the continuum of care, including acute-care hospitals, dialysis facilities, nursing homes, and ambulatory surgical centers, enabling CDC to:

- Continue to enhance the use and maintenance of NHSN reporting components to protect patients
- Improve NHSN infrastructure to reduce reporting burden and increase the use of electronic reporting
- Promote technology and innovation to enhance HAI prevention within and across healthcare facilities
- Combat AR infections and improve antibiotic prescribing

Enhance the Use of and Maintain NHSN to Protect Patients

Data collected to target HAI prevention efforts and measure progress provides accountability and transparency, empowering patients and their healthcare provider to improve the quality of their care. CDC will maintain NHSN reporting of specific device- and procedure-associated infections and provide these data to the CMS Hospital Compare website—empowering healthcare providers and health facilities to track and prevent infections locally, and increasing awareness to patients and the public. However, some healthcare facilities (e.g., nursing homes and smaller hospitals in rural areas) continue to lag behind in HAI reporting and infection prevention. Many of these facilities (e.g., critical access hospitals) provide vital services in rural areas and often serve as the foundation of rural healthcare delivery systems. To address this, CDC has engaged CMS and other health partners to focus on improving NHSN reporting capabilities and HAI prevention efforts in nursing homes, critical access hospitals, and other smaller rural hospitals through FY 2018.

Improve NHSN Infrastructure to Reduce Reporting Burden and Increase the Use of Electronic Reporting

The collection and dissemination of trusted, reliable, and credible data stimulates efforts to protect patients and preserve quality healthcare. CDC is constantly making improvements in response to end-user needs to reduce burden on NHSN users and improve data reliability and accuracy to enable healthcare providers to use the data to better prevent infections and protect patients. In FY 2018, CDC will continue to promote the use of electronic data capturing from health records as an alternative to manual data entry, removing the burden of user entry and increasing objectivity. Currently, approximately one-third of the facilities reporting in NHSN use this method.

Promoting Technology and Innovation through Partnerships to Enhance HAI Prevention

In FY 2018, CDC will fund awardees through existing cooperative agreement programs to better detect, contain, and prevent HAIs from occurring in medical and surgical units throughout the facility, 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, professional societies, and state hospital associations—to develop or enhance HAI prevention efforts.

National Healthcare Safety Network Grant[1,2]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	9	9	TBD
- New Awards	3	0	TBD
- Continuing	6	9	TBD
Award			TBD
Average Award	$0.499	$0.499	TBD
Range of Awards	$0.300-$0.700	$0.300-$0.700	TBD
Total Awards	$4.500	$4.500	TBD

[1] Reflects awards supported with CDC's NHSN budget authority.
[2] These funds are not awarded by formula.

Combating AR Infections and Improving Antibiotic Prescribing through NHSN Data

In FY 2018, CDC will use its NHSN data to target prevention efforts and to assess antibiotic prescribing for facilities in support of national HAI/AR prevention goals. Measurement of antibiotic use in hospitals (including VA and DoD 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* infections. CDC is also working to improve reporting of carbapenem-resistant *Enterobacteriaceae* (*CRE*) infections in NHSN. For more additional information, please refer to CDC's AR Solutions Initiative budget narrative.

Preventing One of the Leading Causes of Death: Sepsis

Sepsis is a life-threatening condition caused by the body's overwhelming response to an infection, leading to tissue damage, organ failure, and even death. Sepsis often manifests outside the hospital and many patients who developed sepsis received frequent medical care prior to their sepsis illness. Thus, opportunities exist for more infections to be prevented, and there is a critical need to engage public health partners and healthcare providers to quickly recognize and treat sepsis with appropriate antibiotics—improving patient outcomes and saving lives. In FY 2018, CDC will leverage resources to better track, detect, and prevent disability and death from this devastating illness. CDC will also continue working with CMS and other healthcare partners to develop and pilot a surveillance definition algorithm based on data routinely collected in the patient's electronic health record to standardize reporting in 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.

Food Safety Budget Request

CDC works to prevent the estimated 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths each year caused by pathogens in contaminated food. Although 1 in 6 Americans get sick from contaminated foods or beverages every year, significant progress has been made in reducing human illness caused by three major bacteria compared to 1996-1998 baseline incidence: *Listeria* incidence has decreased 45%, *E. coli* O157 incidence has decreased 44%, and *Campylobacter* incidence has decreased 26%.

CDC has a unique role in monitoring the occurrence of foodborne illness and attributing illnesses to specific foods and settings. CDC provides the vital link between illness in people and the food safety systems of government agencies and food producers. CDC collaborates closely with FDA, USDA, state and local health departments, and food industries to protect Americans from food contaminated with dangerous pathogens.

Budget Request

CDC's FY 2018 request of **$51,901,000** for food safety activities is level with the FY 2017 Annualized CR level. The FY 2018 request will help address 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. CDC will achieve these priorities in part through programs that enhance state and local public health capacity to support vital national surveillance, improve foodborne outbreak detection and investigations, enhance food safety prevention efforts, and be vigilant for emerging threats to our nation's food supply. These priority areas include:

Innovate to better detect, stop, and prevent outbreaks

PulseNet is a national network of laboratories that solves outbreaks of foodborne disease. For the past 20 years, CDC's PulseNet laboratory system has been a cost effective tool for detecting foodborne disease outbreaks and correcting problems in the food production chain. Every year, PulseNet prevents approximately 270,000 illnesses and saves at least half a billion dollars in medical costs and lost productivity. For every $1 invested, $70 are saved.

Every state has at least one public health laboratory that uses PulseNet's technology to identify ill people that are infected by bacteria with the same DNA fingerprint. Advanced Molecular Detection innovations such as Whole Genome Sequencing (WGS) technology provide CDC new tools to revolutionize PulseNet and foodborne outbreak investigations. These innovations allow PulseNet laboratories to reveal all the genetic material of an organism, including its antibiotic resistance characteristics, in one efficient process. Implementation of WGS at CDC and in state health departments is dramatically improving our ability to detect wide-spread problems in the food supply. Since its implementation, whole genome sequencing of *Listeria* DNA has helped solve more Listeria outbreaks and with fewer cases per outbreak investigation, compared to using the older technology that WGS is replacing. CDC is rapidly expanding PulseNet capacity in all 50 states to conduct sequencing on *Salmonella*, *E. coli*, *Shigella*, *Campylobacter*, and *Listeria* from human cases. By continuing to equip state health departments with WGS for PulseNet laboratories, enhanced investigation tools, and epidemiologists, outbreak detection and investigation will be improved throughout the country. Using WGS also means that as soon as an outbreak is detected, the antibiotic resistance of the infecting bacteria can be known, which helps prioritize efforts to investigate and stop those outbreaks.

A rapidly emerging threat to PulseNet is culture-independent diagnostic test (CIDT) technologies that are increasingly being used in clinical laboratories (e.g., laboratories in hospitals). Culture-independent diagnostic tests, or CIDTs, detect the DNA of bacteria directly from patient samples, like stool, to determine whether a patient has been infected with a foodborne pathogen, but do not provide all of the data required to connect cases and detect outbreaks. Until new technologies are available that provide the information directly from

clinical samples, CDC is working with partners to ensure that cultures remain available for public health, and preserve the effectiveness of PulseNet.

To support the continuing function of PulseNet laboratories, the FY 2018 budget request will:

- Track adoption of new CIDTs in clinical laboratories and analyze their impact on foodborne disease surveillance
- Help public health laboratories collect bacterial isolates for PulseNet with WGS to preserve ability to detect and control outbreaks until new laboratory technologies are developed
- Innovate new advanced metagenomics technologies that hold the promise of obtaining genomic information necessary for advanced outbreak detection directly from clinical samples

To address the expected increase in foodborne disease outbreaks detected by PulseNet, CDC will:

- Develop technologies to automatically triage and prioritize outbreaks so limited state and local health department resources can be deployed effectively to stop the outbreaks
- Create new methods and technologies for conducting more rapid and complete interviews of patients to determine what they ate that made them sick

Expand capabilities of state and local health departments to detect and solve outbreaks

The FY 2018 budget request will allow CDC to continue to support, coordinate, and enhance the state epidemiology, laboratory, and environmental health capacity needed to track illnesses and detect and respond to foodborne disease outbreaks. CDC leads efforts in approximately 30 multistate foodborne outbreak investigations each year with local, state, and federal agency partners. Outbreak data reported to CDC from state and local health departments helps CDC identify and coordinate responses to large and multi-state outbreaks and provides critical data to prevent future outbreaks. Together, CDC, states, and other partners stop outbreaks, prevent illness, and demonstrate 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 (FoodCORE) program and the Integrated Food Safety Centers of Excellence. FoodCORE centers at 10 sites (located in CO, CT, MN, NYC, OH, OR, SC, TN, UT, and WI) develop and test practices and procedures that speed up outbreak tracking and response. CDC's six Food Safety Centers of Excellence (located in CO, FL, MN, NY, OR, and TN) provide assistance and training to other state and local public health programs to build their capacity to track and investigate foodborne disease.

In FY 2018, CDC will increase program efforts to:

- Improve disease detection and outbreak response by integrating the new whole genome sequencing technology into routine public health practice
- Support state and local capacity for monitoring foodborne illness and response to outbreaks
- Train state public health personnel in best practices for foodborne disease diagnosis, surveillance, pathogen identification, outbreak investigation, and control
- Implement widely the FoodCORE program metrics to identify strengths and weaknesses, measure program improvements, and enhance accountability
- Expand Integrated Food Safety Centers of Excellence support regionally for state and local food safety programs

Drive Prevention with Data and Analysis

Knowing more about the foods, germs, and settings where outbreaks occur increases our understanding of their impact on human health and is the first step towards prevention. Tracking trends in foodborne infections

through robust state-based surveillance systems each year uncovers problems and identifies potential solutions. CDC provides leadership for foodborne illness surveillance through systems that track specific foodborne illnesses, monitor foodborne outbreaks, and detect emerging antibiotic resistant foodborne infections. CDC, the U.S. Food and Drug Administration (FDA), and the Food Safety and Inspection Service (FSIS) of the United States Department of Agriculture (USDA) created the Interagency Food Safety Analytics Collaboration (IFSAC) to determine the amount of foodborne illness caused by various categories of food. This information helps industry, consumers, and regulatory partners focus actions on identifying high risk foods to prevent foodborne illnesses and to measure progress of prevention measures.

In FY 2018, CDC will increase program efforts to:

- Monitor foodborne diseases through:
  - Population surveys to determine the burden of foodborne illness
  - Collection and analysis of more foodborne outbreak data
  - Evaluating use of WGS technologies to monitor emerging antibiotic resistance
- Gather accurate information from the population on frequency of consuming specific foods
- Rapidly assess trends in foodborne illness, identify high-risk foods, and assess the effectiveness of prevention strategies, through 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 by working with FDA and USDA's Food Safety and Inspection Service to improve targeting of prevention efforts

Food Safety Funding Provided through Epidemiology and Laboratory Capacity and Emerging Infections Program Cooperative Agreements[1,2]

(dollars in millions)	**FY 2016 Final**	**FY 2017 Annualized CR**	**FY 2018 President's Budget**
Number of Awards	57	57	TBD
- New Awards	0	0	TBD
- Continuing Award	57	57	TBD
Average Award	$0.377	$0.377	TBD
Range of Awards	$0.036-$1.636	$0.036-$1.636	TBD
Total Awards	$21.520	$21.520	TBD

[1]Reflects estimated awards funded by CDC's Food Safety budget authority.

[2]These funds are not awarded by formula.

Quarantine and Migration Budget Request

Modern air travel allows an infected person to fly anywhere in the world within 24 hours, often in less time than it takes for that individual to develop symptoms of disease. The recent Ebola, Zika Virus, and Middle East Respiratory Corona Virus outbreaks demonstrate that novel pathogens and disease outbreaks in distant locations pose a potential threat to communities in the United States.

CDC's global migration and quarantine activities focus on preventing the introduction and spread of infectious disease into and within the United States through both regulatory action, such as isolation orders to limit the spread of an infectious disease, and targeted interventions in globally mobile populations, such as contact investigations of ill or exposed travelers. CDC uses its specialized knowledge of global travel dynamics and the complex issues surrounding U.S. 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 health security impact through a network of private sector and health partners, and federal front line responders (e.g., domestic and foreign air industry, 760 panel physicians, 3,000 civil surgeons, and approximately 28,000 Customs and Border Protection agents).

CDC performs its regulatory and public health missions through the following activities:

- **Protecting public health at U.S. ports of entry.** CDC protects the U.S. public's health by rapidly responding to sick travelers who arrive in the United States, alerting travelers about disease outbreaks, and restricting the importation of animals and products that may carry disease. During the Ebola outbreak in West Africa, staff implemented 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.
- **Keeping Americans healthy during travel and while living abroad.** CDC helps reduce illness and injury in U.S. residents traveling internationally or living abroad through alerts, recommendations, education, and support to travelers and healthcare providers based on the best science (which includes the Yellow Book – a reference for those who advise international travelers about health risks). During the ongoing Zika virus outbreak, CDC has issued dozens of travel advisories and provided guidance on the risks inherent in traveling to areas with active Zika transmission.
- **Ensuring the health of individuals coming to live and work in the United States.** This work includes mandatory health screenings for all immigrants and refugees entering the United States, as well as overseas vaccination and parasitic treatment programs. These activities prevent the importation of infectious diseases, particularly tuberculosis, and provide relevant health information for healthcare providers continuing care after arrival in the United States.
- **Partnering to protect the health of U.S. communities along the southwest border.** CDC works with state, local, and Mexican public health institutions to detect, notify, investigate, and respond to illness reports and infectious disease among residents and travelers in U.S. communities along the US-Mexico border.

Budget Request

CDC's FY 2018 request of **$31,512,000** for Migration Health and Quarantine is level with the FY 2017 Annualized CR level. CDC will use these funds in FY 2018 to implement public health programs to protect U.S. communities from infectious diseases and medically screen people who are relocating to the United States from another part of the world.

In FY 2018, CDC will also continue to fund domestic and international partners through existing and new cooperative agreements. The awards help protect the health of U.S. communities, people coming to live and

work in the United States, and international travelers; improve the tracking of disease outbreaks and trends; and build epidemiologic and public health capacity to respond to public health emergencies.

Additional efforts during FY 2018 include:

- Continuing to Strengthen Public Health Security at U.S. Ports of Entry
- Operate CDC's 20 Quarantine Stations to ensure that people, animals, and animal products coming to the United States do not spread disease
- The proximity of CDC quarantine stations to airports enables CDC to rapidly provide essential drugs to hospitals for emergency use to save the life of someone with malaria, botulism, or diphtheria. In FY 2016, CDC released 165 shipments of these life-saving drugs
- Respond to major health emergencies involving travel to and within the United States
- Collaborate with local, state, and federal partners in developing All-Hazards biodefense strategies, (e.g., pandemics including influenza, Ebola, Zika, Middle East Respiratory Syndrome, Yellow Fever, and others) including naturally emerging threats and those purposely synthesized for malicious intent as biologic weapons

Keeping Americans Healthy During Travel and While Living Abroad

- Track and analyze occurrences of disease throughout the world to help U.S. travelers and healthcare providers stay informed
- Continue to provide updated information to travelers on emerging infectious disease threats through the Travelers' Health website, mobile phone apps, and The Yellow Book. Improving the health of individuals coming to live and work in the United States.
- Deliver evidence-based guidelines for mandatory medical screening and comprehensive tracking of diseases in these populations
- Provide information to health departments and healthcare providers for medical follow-up of individuals coming to live and work in the United States
- Expand cost-effective overseas interventions to vaccinate and treat parasitic diseases for U.S.-bound refugees

Partnering to protect the health of U.S. communities along the southwest border

- Detect, notify, investigate, and respond to illness reports and infectious disease cases in individual traveling to and living in U.S. communities along the southwest border

Within the requested amount, up to $1,000,000 is proposed 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 highly contagious diseases such as MDR-TB protects the health security of travelers and U.S. communities.

Lab Safety and Quality Budget Request

In 2015, CDC reinvented its approach to laboratory safety and quality. As part of a package of bold reforms, CDC created a new position for a senior official to serve as the single point of accountability for laboratory safety and excellence who reports directly to the CDC Director. It consolidated all laboratory safety functions in a single new office, established new boards for the rigorous oversight of laboratory safety and quality, and developed or began developing 18 new laboratory safety courses to reinvigorate safety training at the agency.

Budget Request

CDC's FY 2018 request of **$7,985,000** for Laboratory Safety and Quality is level with the FY 2017 Annualized CR level. CDC will continue investing in key efforts to strengthen laboratory safety and excellence across the agency. Key priorities include:

- **Comprehensive safety oversight:** CDC will continue to implement and support centralized oversight of biological, chemical, and radiation safety across the agency, a vital investment to ensure optimal safety and security of CDC laboratories.
- **Advancing the science of safety:** CDC aims to apply the same rigorous scientific methods to the safety of its laboratories that it uses to confront threats to the public's health. To spur this "science of safety," CDC will continue investing in one-time awards to laboratories across the agency that propose innovative research or solutions to laboratory safety challenges.
- **Ensuring unimpeachable laboratory quality:** CDC serves as the public health reference laboratory for the nation and around the world. In FY 2018, CDC will build on this foundation of scientific excellence and continue to provide tools, training, and expertise to enhance laboratory science and quality.

CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$837.701	$836.553	$452.250	-$384.303
PPHF	$338.950	$337.950	$500.000	+$162.050
Total Request	**$1,176.651**	**$1,174.503**	$952.250	**-$222.253**
FTEs	889	851	851	0
Tobacco Prevention and Control	$210.000	$209.840	*	N/A
PPHF (non-add)	$126.000	$126.000	*	N/A
Nutrition, Physical Activity and Obesity	$49.895	$49.825	*	N/A
High Obesity Rate Counties (non-add)	$10.000	$9.981	*	N/A
School Health	$15.400	$15.371	$15.371	$0.000
Prevention Research Centers	$25.461	$25.413	$0.000	-$25.413
Heart Disease and Stroke	$159.937	$159.872	*	N/A
PPHF (non-add)	$73.000	$73.000	*	N/A
Diabetes	$170.054	$168.944	*	N/A
PPHF (non-add)	$73.000	$72.000	*	N/A
National Diabetes Prevention Program	$20.000	$19.962	$19.962	$0.000
Cancer Prevention and Control	$355.929	$355.497	$337.424	-$18.073
Breast and Cervical Cancer – PL	$209.780	$209.601	$210.000	+$0.399
WISEWOMAN (non-add)	$21.120	$21.080	$21.120	+$0.040
Breast Cancer Awareness for Young Women	$4.960	$4.951	$4.960	+$0.009
Cancer Registries	$49.430	$49.346	$49.346	$0.000
Comprehensive Cancer	$19.675	$19.638	$67.143	+$47.505
Johanna's Law	$5.500	$5.490	$5.500	+$0.010
Cancer Survivorship Resource Center	$0.475	$0.474	$0.475	+$0.001
Oral Health	$18.000	$17.966	$17.000	-$0.966
Safe Motherhood and Infant Health	$46.000	$45.913	$46.000	+$0.087
Arthritis	$11.000	$10.979	*	N/A
Racial and Ethnic Approaches to Community Health (REACH) (PPHF)	$50.950	$50.950	$0.000	-$50.950
Million Hearts® (PPHF)	$4.000	$4.000	$0.000	-$4.000
National Early Child Care Collaboratives (PPHF)	$4.000	$4.000	$0.000	-$4.000
Hospitals Promoting Breastfeeding (PPHF)	$8.000	$8.000	$0.000	-$8.000
Other Chronic Disease Prevention1	$28.025	$27.972	$16.493	-$11.479
Health Promotion (non-add)	$10.525	$10.505	$0.000	-$10.505
Epilepsy (non-add)	$8.000	$7.985	$0.000	-$7.985
National Lupus Patient Registry (non-add)	$6.000	$5.989	$0.000	-$5.989
Alzheimer's Disease (non-add)	$3.500	$3.493	$3.493	$0.000
America's Health Block Grant (PPHF)	N/A	N/A	$500.000	$500.000

* Denotes programs that could be supported by the new America's Health Block Grant.

[1] FY 2016 and 2017 Chronic Disease Prevention and Health Promotion budget structures are comparably adjusted to reflect Other Chronic Diseases funding line in FY 2018 President's Budget.

Chronic Disease Prevention and Health Promotion Funding History	
Fiscal Year	Dollars (in millions)
2013 (BA)	$769.517
2013 (PPHF)	$233.033
2014 (BA)	$740.001
2014 (PPHF)	$446.000
2015 (BA)	$747.220
2015 (PPHF)	$452.000
2016 (BA)	$837.701
2016 (PPHF)	$338.950
2017 (BA)	$836.553
2017 (PPHF)	$337.950

CDC's FY 2018 request of **$952,250,000** for Chronic Disease Prevention and Health Promotion is $222,253,000 below the FY 2017 Annualized CR level. With this total, the request includes resources to support States, tribes, and territories to address leading chronic diseases through the new *America's Health* Block Grant and supports improved cancer prevention through the Comprehensive Cancer Program. With this funding, CDC will continue to lead U.S. efforts to prevent and control chronic diseases and associated risk factors by:

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

Chronic diseases—such as heart disease, cancer, chronic lung diseases, stroke, and type 2 diabetes—account for most deaths in the United States and globally, and are the major causes of sickness, disability, and healthcare costs in the nation. They are responsible for 7 of 10 deaths among Americans each year. And noncommunicable diseases and conditions, including chronic diseases, account for 86% of our nation's healthcare costs, which were $2.9 trillion in 2013. The vast majority of chronic diseases result from a few 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 smoke.
- 78.6 million Americans are obese, a major risk factor for type 2 diabetes.
- Only half of American adults and a quarter of adolescents get enough physical activity to maintain good health and avoid disease; 87% do not consume the recommended amount of vegetables.
- 34 million of the 75 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, preterm birth, many cancers, diabetes, and stroke. Poor nutrition and associated obesity cause high blood pressure, high cholesterol, diabetes, heart disease, and breast and colorectal cancer. Lack of physical activity compromises health in multiple ways and is causally associated with many chronic diseases, including heart disease, cancer, and diabetes. Diabetes increases the risk of heart disease and cancer. Obesity increases the risk of arthritis and poor reproductive outcomes. Poor oral health can exacerbate diabetes and heart disease.

While chronic diseases affect all populations, they are not evenly distributed. Disease rates vary by 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 white women (20.7 deaths per 100,000) in 2012. Diagnosed diabetes is 66% higher among Hispanics/Latinos, and twice as high among American Indians and Alaska Natives, than non-Hispanic whites. Among adults 25-64 years of age, 31% with a high school diploma or less are current smokers, compared to 9% of adults with a bachelor's degree or higher.

CDC's chronic disease prevention framework[16] guides its efforts to collaboratively and efficiently build and strengthen the systems and environments that support Americans in taking charge of their own health. Four domains, or activity areas, comprise the framework. Work in each domain contributes to CDC's overarching goals of preventing and reducing chronic diseases, conditions, and associated risk factors and behaviors; promoting health; and eliminating health disparities.

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

Eliminations

The FY 2018 budget request eliminates funding for some cancer activities, Racial and Ethnic Approaches to Community Health (REACH), Prevention Research Centers, Epilepsy, Hospitals Promoting Breastfeeding, the National Lupus Patient Registry, Million Hearts, National Early Child Care Collaboratives, and Health Promotion activities. These eliminations are discussed below.

[16] Bauer 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.

Cancer Prevention and Control (-$18.073 million)

The FY 2018 request reduces funding for the Cancer Prevention and Control program by $18.073 million. At this funding level, there is no dedicated funding for Colorectal, Prostate, and Skin Cancer. Through the expanded Comprehensive Cancer program, CDC will support activities to more effectively address the overall risk factors associated with specific types of cancers.

Racial and Ethnic Approaches to Community Health (-$50.950 million)

The FY 2018 budget request eliminates funding for the Racial and Ethnic Approaches to Community Health (REACH) program. The FY 2018 Budget integrates existing disease-based activities into a new Block Grant to increase flexibility to States and Tribes to more efficiently and effectively address the leading causes of death and disability specific to each State. State, local, or tribal recipients of the $500 million *America's Health* Block Grant will continue work on the leading causes of death and disability in these communities. In FY 2016, CDC funded 49 governmental agencies and nongovernmental organizations, including state and local health departments, American Indian Tribes/Tribal Organizations, universities, and community-based organizations.

Prevention Research Centers (-$25.413 million)

The FY 2018 budget request eliminates funding for the Prevention Research Center (PRC) program. This program works with academic institutions to conduct research and disseminate prevention interventions across United States. In FY 2016, CDC funded PRCs at 26 universities in 24 states to study how individuals and communities can avoid or counter the risks for chronic illnesses. For example, the PRCs funded Tulane University to research the strategy of creating bicycle lanes to increase physical activity in New Orleans. The National Institutes of Health (NIH) also supports research on chronic diseases, including prevention research. CDC's chronic disease prevention portfolio will continue to focus on implementation of the most effective existing interventions.

Epilepsy (-$8.000 million)

The FY 2018 budget request eliminates funding for the Epilepsy program. Elimination of this program supports the transition of CDC's chronic disease prevention portfolio to focus more narrowly on the leading causes of death and disability. The Epilepsy Program works with national organizations and researchers to develop and share public education programs and campaigns, and provide services for people with epilepsy. In FY 2016, CDC funded the Epilepsy Foundation, which works with 44 state and local chapters and several research cooperative agreements, including the Managing Epilepsy Well Network, which is currently comprised of eight Prevention Research Centers.

Hospitals Promoting Breastfeeding (-$8.000 million)

The FY 2018 budget request eliminates dedicated funding for the Hospitals Promoting Breastfeeding program. This program was created in FY 2012, funded by the Prevention and Public Health Fund. This program promotes and supports evidence-based strategies in states, communities, and hospitals to help women who choose to breastfeed to start and continue breastfeeding. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote breastfeeding as a way to prevent obesity and type 2 diabetes.

National Lupus Patient Registry (-$6.000 million)

The FY 2018 budget request eliminates funding for the National Lupus Patient Registry. This program supports lupus registries and related studies, raises awareness, educates patients and healthcare providers, and promotes interventions. In FY 2016, CDC funded follow-up studies focused on natural history, disparities, and healthcare access and treatment in three lupus registries. Elimination of this program is a part of the transition of CDC's chronic disease prevention portfolio to focus on the leading causes of death and disability.

Million Hearts (-$4.000 million)

The FY 2018 budget request eliminates dedicated funding for the Million Hearts® program, which has previously been, funded by the Prevention and Public Health Fund. This program is a collaboration between CDC and the Centers for Medicare and Medicaid Services (CMS) to enhance cardiovascular disease prevention activities across the public and private sector. In FY 2016, CDC funded three partner organizations—including the National Association of Community Health Centers and the YMCA of USA. CDC remains committed to maximizing its efficiency and public health impact. CDC will continue to enhance cardiovascular disease prevention through existing resources.

National Early Child Care Collaboratives (-$4.000 million)

The FY 2018 budget request eliminates dedicated funding for the National Early Child Care Collaboratives program, which has previously been funded by the Prevention and Public Health Fund. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote similar prevention activities in the Early Child Care and Education (ECE) setting as a way to prevent obesity. This program implements obesity prevention initiatives targeting ECE settings to help establish and improve the healthy nutrition and physical activity habits of young children. To carry out this work, CDC supports ECE learning collaboratives in nine states to facilitate best practices in nutrition, breastfeeding support, physical activity, and screen time.

Health Promotion (-$10.505 million)

The Budget eliminates funding for activities funded under Health Promotion. This elimination also supports the transition of CDC's chronic disease prevention portfolio to focus on priority areas funded by the Other Chronic Disease program line.

Chronic Disease Prevention Block Grant Budget Request

The new five-year chronic disease prevention and health promotion Block Grant, *America's Health*, provides flexibility to focus on the top public health challenges faced by states, tribes, localities, and territories. These challenges are overwhelmingly chronic diseases, which account for seven of the ten leading causes of death, cause major suffering and disability to individuals and families, and are responsible for most of the nation's healthcare costs

The new Block Grant program, *America's Health*, focuses on the leading chronic disease challenges specific to each State, which could include preventing and better managing heart disease and diabetes—two of the most common and costly chronic diseases—as well as arthritis, the leading cause of disability in the United States. The newly-established *America's Health* Block Grant will provide flexibility in FY 2018 for each state to implement specific interventions that address leading causes of death and disability, including interventions to spur improvements in physical activity and the nutrition of children and adolescents, and other leading causes of death such as heart disease.

Budget Request

For FY 2018, CDC requests **$500,000,000** for the *America's Health* Block Grant, all from the Prevention and Public Health Fund (PPHF).

Approach

States and Tribes will have the flexibility to organize prevention and control efforts and deploy evidence-based interventions in a manner that makes the most sense to their jurisdictions and circumstances. Grantees could implement customized strategies to:

- Improve the health and quality of life of people living with leading causes of death and disability, such as heart disease, diabetes, and arthritis.
- Help people who use tobacco to stop using and people who don't use tobacco to stay tobacco-free.
- Help people make sensible, healthy food and beverage choices wherever they are.
- Increase opportunities for people to be physically active at home, at work, in communities, and throughout the day.

Effective public health interventions increase choices and opportunities for Americans to manage their chronic diseases, choose healthy foods and beverages, be physically active, and avoid tobacco use. As a result, grantees will be able to demonstrate real improvements in health by addressing the public health challenges facing their specific population.

Grantees will have the opportunity to work with governmental and nongovernmental partners, community programs and associations, employers, businesses, healthcare delivery systems, foundations, and philanthropies, among others, to bring additional skills, expertise, resources, and capacity to their chronic disease prevention and health promotion efforts.

Grantees will be allowed to use funding for the national public health accreditation process. Accreditation by the Public Health Accreditation Board (PHAB) signifies that a health department is meeting standards in providing essential public health services in the community.

Funding Approach

The extramural portion of the *America's Health* Block Grant program is comprised of two components—a core block grant component and an innovation component. The core component (at least 85% of extramural funding) will fund state (50) and territorial (8) health departments, the District of Columbia health department (1), and Tribal Epidemiology Centers (12). The **innovation component** (up to 15% of extramural funding) will fund, on a competitive basis, large cities (up to 10), rural and frontier areas (up to 15), and tribes (up to 15). Entities eligible to apply for the core component can also apply for funding through the innovation component—either on their own or on behalf of and with the support of a city, rural/frontier area, or tribe.

Potential Goals/Outcomes may include, but are not limited to:

- Improve health status and health outcomes for people with heart disease, diabetes, or arthritis
- Reduce tobacco use
- Improve nutrition
- Increase physical activity.

Outcome measures may include:

- The percent of adults with high blood pressure who have their blood pressure under control
- The percent of adults with diabetes who have an A1c level at or below 7 percent
- The percent of adults with arthritis who engage in regular physical activity
- Prevalence of cigarette smoking in the total population
- Percent of children/adolescents and adults who consume at least two servings of fruit and two servings of vegetables each day
- Percent of children/adolescents and adults who meet the Guidelines for Physical Activity recommendations
- Percent of children/adolescents and adults who achieve and maintain optimal weight.

Longer-term outcomes may include:

- Decreased incidence of type 2 diabetes
- Reduced mortality from diabetes or heart disease
- Decreased prevalence of obesity among children/adolescents and adults
- Decreased prevalence of tobacco use
- Decreased hospitalizations due to heart disease, diabetes, or arthritis.

Cancer Prevention and Control Budget Request[17]

Cancer affects an estimated one in three Americans, either through their own diagnosis or that of a loved one. It is the second leading cause of death in the United States, resulting in over 580,000 deaths annually—more than 1,500 deaths each day.

No one is immune to cancer. It affects every age group, and is responsible for more years of life lost than all other causes of death combined. Because of an aging and growing population, the total number of new cancer cases is estimated to increase to 1.9 million in 2020. This represents a more than 20% increase in the number of annual cancer cases since 2010.

While advances in cancer detection and treatment help reduce the proportion of people who die from cancer, not everyone is benefitting equally. Significant disparities in cancer prevention, screening, early detection, and quality of care persist. More than half of the cancer deaths in the United States could be avoided if strategies promoting cancer screening, early detection, and prevention were fully adopted.

CDC is a leader in national efforts to reduce the burden of cancer. CDC works with state health departments, national cancer organizations, and other key groups to improve cancer prevention and early detection through interventions that help Americans lower their cancer risk and increase the use of recommended cancer screenings.

Budget Request

CDC's FY 2018 request of **$337,424,000** for Cancer Prevention and Control is $18,073,000 below the FY 2017 Annualized CR level. In FY 2018, the Budget includes dedicated funding to support: the National Breast and Cervical Cancer Early Detection Program (NBCCEDP); Breast Cancer Awareness for Young Women; Johanna's Law; National Program of Cancer Registries; National Comprehensive Cancer Control (NCCCP); and Cancer Survivorship Resource Centers. The FY 2018 budget request eliminates dedicated funding for Colorectal Cancer, Prostate Cancer, and Skin Cancer. As a part of the expanded Comprehensive Cancer program, CDC will allow states the flexibility to use funding to focus on activities related to these and other specific cancer types.

National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

Breast cancer is the most common cancer affecting women: in 2017, an estimated 250,000 women will be diagnosed and more than 40,000 will die from this disease. The number of diagnoses of cervical cancers, which are almost entirely preventable, are about 12,000 per year, with over 4,000 women dying from cervical cancer annually. Breast and cervical cancer screening are proven methods to find cancers early, when treatment is more effective. Unfortunately, persistently lower-than-optimal breast and cervical cancer screening rates, especially notable in some population sub-groups, continue to result in women being diagnosed at later stages and more deaths that may have been prevented.

[17] The WISEWOMAN (Well-Integrated Screening and Evaluation for Women Across the Nation) program will continue to be supported from the Breast and Cervical Cancer program. WISEWOMAN reduces health disparities by providing screening and preventive services—including blood pressure and cholesterol testing, and health coaching and lifestyle programs—to uninsured and underinsured women aged 40 to 64 so they can manage their risk factors for heart disease and stroke.

CDC's NBCCEDP serves women who are uninsured or underinsured and at high risk for these cancers. For cervical cancer screenings, these are women who have never or rarely been screened for cervical cancer. For breast cancer screenings, it is women 50 years of age and older. NBCCEDP grantees implement evidence-based strategies to increase the number of women who access and complete the screening process. For example:

- The Hopi Breast and Cervical Cancer Screening Program (HBCCSP) works to increase breast and cervical screening and follow-up care by holding mobile mammography events, coordinating monthly well-woman preventive care clinic days in IHS facilities, providing education about test results and diagnostic procedures, and providing transportation to and from appointments.
- CDC supports a New York initiative that works with a network of 12 Federally Qualified Health Centers (FQHCs) in a five-county, underserved, rural area to identify women in need of breast or cervical cancer screening services. The FQHC network implemented a number of interventions including client reminders and one-on-one education. The increase in screening rates resulting from the initiative were so encouraging that the state is working to replicate the program. To date, the initiative has been successfully shared with 69% of FQHCs in New York State.

In FY 2018, CDC will continue to fund grantees to support screenings for these women. Grantees will also help healthcare providers make improvements to healthcare delivery systems and increase the use of proven interventions to address barriers to screening (e.g., reminder systems, patient navigators).

Breast Cancer Awareness for Young Women

While breast cancer mostly occurs among older women, 11 percent of all cases in the United States are reported in women younger than 45 years of age. Risk for breast cancer among young women varies based on factors such as family and personal history of cancer. CDC's Bring Your Brave campaign is a digital advertising and social media campaign aimed at raising awareness in young women about their risk. The campaign shares the stories of women affected by breast cancer. These stories about prevention; exploring a woman's own history and her family history of cancer; and talking with healthcare professionals bring to life the idea that young women can be affected by breast cancer—and that they can do something about managing their risk.

Johanna's Law

CDC's Inside Knowledge: Get the Facts About Gynecologic Cancer (Inside Knowledge) public health campaign supports the Gynecologic Cancer Education and Awareness Act of 2005, or Johanna's Law, which was signed into law on January 12, 2007. The law is named for Johanna Silver Gordon, who died of ovarian cancer in 2000. This campaign raises awareness of the five main types of gynecologic cancer: cervical, ovarian, uterine, vaginal, and vulvar. The campaign educates women of all ages, races, and ethnic groups, especially those aged 40 years and older, and healthcare providers about the signs, symptoms, risk factors, and prevention strategies related to gynecologic cancers. The campaign informs women that it is important for them to pay attention to their bodies and know what is normal for them so they can recognize the warning signs of gynecologic cancers.

National Program of Cancer Registries

CDC's National Program of Cancer Registries (NPCR) provides the technical expertise and funding necessary for 45 states, Washington, D.C., Puerto Rico, and the U.S. Pacific Island Jurisdictions to collect data about cancer cases and cancer deaths for 96% of the population. The NPCR provides researchers and federal, state, and local decision-makers with the data needed to:

- Define and monitor burden
- Identify trends in incidence

- Investigate patterns of cancer treatment
- Evaluate the effectiveness of investments to prevent cancer and to identify cancers early so there is a greater chance of survival.

States use registry data to better understand and address differences in cancer outcomes and to expand the reach of their screening and education programs. For example, an evaluation of breast cancer diagnosis data from the Indiana State Cancer Registry (ISCR) and the Indiana Breast and Cervical Cancer Program (IN-BCCP) showed that while the IN-BCCP served 23,670 women from 2009 to 2013, that number only represented 1.87% of women potentially eligible for the program. Cancer registry data were used to refine provider recruitment and identify communities in which to increase outreach.

In FY 2018, CDC will fund the second year of a five-year cooperative agreement.

National Comprehensive Cancer Control Program

At least half of all cancer deaths can be prevented through adoption of healthier behaviors. CDC's National Comprehensive Cancer Control Program (NCCCP) awardees create tailored plans that support effective activities to prevent and reduce cancer within their state or jurisdiction. Priorities of the program—which funds 50 states and Washington, D.C., seven tribal organizations, and seven U.S. territories—are:

- Helping people who want to adopt healthier behaviors to do so, decreasing their cancer risk
- Assisting healthcare systems to improve access to cancer screening services and quality cancer care and treatment
- Improving quality of life for cancer survivors.

NCCCP awardees coordinate cancer prevention and control efforts, using local data to produce a cancer control plan tailored to the needs of that particular state or jurisdiction. Awardees convene coalitions of stakeholders from community and partner organizations, leverage resources, and develop and implement plans that prioritize evidence-based strategies. Awardees have flexibility to focus on the leading causes of cancer death and the major cancer killers, as well as other cancers and cancer risk factors for which clear public health prevention strategies exist.

In FY 2018, CDC will continue to support awardees to implement plans for reducing the highest burden cancers in their respective jurisdiction. Awardees will have the flexibility and opportunity to invest grant funds in efforts to address colorectal, prostate, and skin cancer as part of their cancer prevention and control activities.

Recent Program accomplishments include:

- To reduce incidences of cervical cancer, the South Dakota Comprehensive Cancer Control Program partnered with other stakeholders to increase Human Papillomavirus (HPV) vaccination rates. Client reminders, provider assessment and feedback, and community education interventions resulted in increases in the number of youth who had received the initial dose of the vaccine from 52.4% in July 2015 to 65.2% in June 2016.

- Compared to the state average, American Indian populations in Michigan have higher smoking rates and start smoking at younger ages. The Michigan Comprehensive Cancer Control Program partnered with the Inter-Tribal Council of Michigan to develop and implement a clinic policy to screen youth (ages 12 – 18) in two tribes in the state for commercial tobacco use and to refer tobacco users to appropriate treatment services. This project resulted in increased capacity for tribal clinic providers to screen, educate, and refer young patients for cessation services, and increased screening and referral rates within the two tribal clinics. The Saginaw Chippewa Nimkee Wellness Center achieved a 100% screening

and referral rate. The Keweenaw Bay Indian Community built their policy into their electronic health record system and achieved a screening and referral rate of 71.6%.

Cancer Survivorship Resource Center

There are currently more than 15.5 million cancer survivors in the United States and this number is projected to increase to 26 million by 2040. CDC works to address the needs of survivors by making cancer survivorship a public health priority, conducting epidemiological and applied research and surveillance, and supporting programs for survivors. In 2017, CDC is working with partners on a variety of activities including: promoting smoking cessation for survivors to reduce risk of second cancers and improve their overall health; evaluating a self-management intervention for young survivors using patient navigation, care planning, and texting to promote adherence to care and lifestyle recommendations; and helping disseminate effective weight management and physical activity programs tailored to meet survivors' needs. In FY 2018, CDC will continue to work with public, non-profit, and private organizations to evaluate and disseminate promising practices and interventions to promote health and improve the quality of life of cancer survivors.

National Diabetes Prevention Program Budget Request

About 29.1 million Americans have diabetes and each year another 1.7 million Americans ages 20 years or older are newly diagnosed. Additionally, CDC estimates that 86 million American adults—more than one of three—have pre-diabetes, a serious health condition that increases the risk of developing type 2 diabetes, heart disease, and stroke.

Living with diabetes is hard and can lead to premature death: annually, more than 200,000 people in the United States die from diabetes-related complications. Diabetes is also expensive. In 2012, the total estimated cost of diabetes was $245 billion, which included $176 billion in medical costs and $69 billion for costs due to reduced productivity because of disability, loss of work, and premature death.

CDC's National Diabetes Prevention Program (National DPP) puts into practice groundbreaking clinical trial findings that type 2 diabetes can be prevented or delayed through lifestyle changes by high-risk adults.

Budget Request

CDC's FY 2018 request of **$19,962,000** for the National Diabetes Prevention Program (National DPP) is level with the FY 2017 Annualized CR level.

CDC's National DPP is a partnership of public and private organizations working together to make it easier for people with pre-diabetes to participate in evidence-based, affordable, and high-quality lifestyle change programs. The National DPP focuses on four components:

- Training: build a workforce that can cost effectively implement the lifestyle change program
- Recognition: ensure quality and standardized reporting by program providers
- Intervention: delivery of the lifestyle change program through organizations nationwide
- Promotion: increase referrals to and participation in the lifestyle change program.

Individuals who participate in one of the lifestyle change programs learn how to eat healthy without giving up all the foods they love; add physical activity to their life; deal with stress; and get back on track if they stray from their plan.

In FY 2018, CDC will continue to support the National DPP by:

- Funding national or regional organizations to establish and sustain new CDC-recognized diabetes prevention programs in underserved areas of the country and to reach priority populations at high risk for type 2 diabetes.
- Establishing a National DPP Customer Service Center to expand technical assistance and training for CDC-recognized program delivery organizations, employers, insurers, healthcare systems, and other key stakeholders.
- Updating the national CDC Diabetes Prevention Recognition Program Standards to align with the Centers for Medicare and Medicaid Services' expansion of the Medicare Diabetes Prevention Program as a covered benefit for Medicare beneficiaries with prediabetes, effective in 2018.

Accomplishments of the National DPP include:

- Since FY 2010, CDC partners have trained over 11,000 lifestyle coaches and 1,140 organizations are undergoing review for CDC recognition. This includes 34 virtual programs and 1,014 in-person programs. Eighty-five organizations have achieved full recognition from CDC.
- Expansion of the National DPP to all 50 states, Washington, D.C., and two U.S. territories. As of October 2016, organizations with CDC recognition have served more than 90,500 participants.

Safe Motherhood and Infant Health Budget Request

For nearly 50 years, CDC has worked to improve the health of moms and babies. This effort not only supports societal goals, but makes financial sense: preterm birth (less than 37 weeks) costs the U.S. healthcare system more than $26 billion per year, and the annual cost of unintended pregnancy is approximately $21 billion.

Budget Request

CDC's FY 2018 request of **$46,000,000** for Safe Motherhood and Infant Health is $87,000 above the FY 2017 Annualized CR level.

In FY 2018, CDC will continue to support Safe Motherhood and Infant Health, focusing on the following priority activities:

- Cooperative Agreements to Prevent Teen Pregnancy: Support six state and community organizations for teen pregnancy prevention including three awardees funded to evaluate innovative interventions designed for young men.
- Perinatal Quality Collaboratives (PQCs): Support six states to improve the quality of maternity care and health outcomes for women and newborns. Projects in the PQCs include studying the utilization of progesterone to reduce recurrent preterm birth, efforts to address preeclampsia (dangerously high blood pressure during pregnancy), and reducing hospital stays and length of treatment for newborns experiencing symptoms of drug withdrawal (Neonatal Abstinence Syndrome).
- Sudden Unexpected Infant Death (SUID) Case Registry: Support 12 states to provide comprehensive information about the circumstances associated with SUID and sleep-related infant deaths. This information can be used to develop targeted prevention and intervention strategies and improve data collection by medical and law enforcement personnel.
- Monitor Assisted Reproductive Technology (ART): Collect data through the National ART Surveillance System (NASS) from every clinic in the United States that uses ART to treat infertility. Also support three states for a States Monitoring ART (SMART) collaborative to monitor short- and long-term maternal and child health outcomes of ART treatments.
- Pregnancy Risk Assessment Monitoring System (PRAMS): Support 48 states, New York City, Washington D.C., Puerto Rico, and the Great Plain Tribal Chairmen’s Health Board to collect data through PRAMS. This data identifies factors that put women and infants at risk for health problems; monitors access to care and services; identifies trends in behavior and health status; and measures progress in improving the health of mothers and infants.

Pregnancy Risk Assessment Monitoring System (PRAMS) Grants1

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	51	51	51
- New Awards	11	0	0
- Continuing Awards	40	51	51
Average Award	$0.166	$0.166	$0.166
Range of Awards	$0.121–$0.175	$0.121– $0.175	$0.121– $0.175
Total Awards	$7.000	$7.000	$7.000

[1] These funds are not awarded by formula.

Oral Health Budget Request

Dental cavities are one of the most common chronic diseases in children and teens. Left untreated, cavities can cause pain, infection, and problems with eating, speaking, and learning. Dental sealants prevent 80% of cavities in the back teeth (where 9 in 10 cavities occur). Although the number of students in the United States with sealants has increased over time, low-income children are 20% less likely to receive sealants and twice as likely to have untreated cavities as higher income children.

CDC's oral health program supports states to reduce differences in the rate of cavities and oral diseases among youth in different population groups, and to integrate oral health programs into chronic disease prevention efforts and medical care services. CDC focuses resources on children at high-risk for oral health problems through school-based dental sealant programs in schools where at least 50% of students participate in free and reduced-cost meal programs.

In addition, CDC promotes science-based interventions that prevent decay and promote oral health, including community water fluoridation, one of the most practical, cost-effective, and safe measures communities can take to prevent cavities and improve the oral health of all residents.

Budget Request

CDC's FY 2018 request of **$17,000,000** for Oral Health is $966,000 below the FY 2017 Annualized CR level.

In FY 2018, CDC will issue a new 5-year funding opportunity announcement, building on strengths and successes from prior state awards and a pilot project to test models of collaboration between state chronic disease prevention and oral health programs. These resources, plus technical assistance and training, will help states promote good oral health, track oral health behaviors and problems, and conduct and evaluate prevention programs.

CDC will also 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 analyses.

Oral Health State Grants[1]

(dollars in millions)	**FY 2016 Final**	**FY 2017 Annualized CR**	**FY 2018 President's Budget**
Number of Awards	27	27	TBD
- New Awards	6	0	TBD
- Continuing Awards	21	27	
Average Award	$0.289	$0.289	TBD
Range of Awards	$0.200–$0.350	$0.200–$0.350	TBD
Total Awards	$8.469	$8.469	TBD

[1] These funds are not awarded by formula.

Other Chronic Disease Prevention Budget Request

Even chronic conditions that fall outside of the leading causes of death and disability can warrant monitoring and investigation as a consequence of the burden they place on individuals and their caregivers, or the need for increased understanding of their prevalence and disease progression.

Alzheimer's disease, for example, is the most common form of dementia. It involves parts of the brain that control thought, memory, and language, and can seriously impair a person's ability to carry out activities of daily living. In 2016, as many as 5.4 million Americans were living with Alzheimer's disease. By 2050, 14 million Americans are expected to have Alzheimer's disease, a nearly three-fold increase. Alzheimer's disease affects more than just the individual diagnosed. Almost 16 million Americans provide more than 18 billion hours of unpaid care for family and friends with Alzheimer's disease and other dementias. The total value of that unpaid care is estimated to be more than $221 billion.

Budget Request

CDC's FY 2018 request of **$16,493,000** for Other Chronic Disease Prevention activities is $11,479,000 below the FY 2017 Annualized CR level. Funding will support Alzheimer's Disease and All Other Chronic Disease Prevention activities.

Alzheimer's Disease

In 2013, CDC and its partners released "The Public Health Road Map for State and National Partnerships, 2013–2018"[18] (Road Map) detailing key activities for state and local public health agencies to address cognitive impairment and caregiving, and increase cognitive health awareness among the public and health professionals. The Road Map aligns with the U.S. Department of Health and Human Services' congressionally-mandated National Plan to Address Alzheimer's Disease.[19]

In FY 2018, CDC will use funding to support two national groups—the Alzheimer's Association and the Balm in Gilead—to promote implementation of the Road Map at the national, state, and local levels. FY 2018, funding will also support states and territories to collect, analyze, and disseminate data from CDC's state Behavioral Risk Factor Surveillance System (BRFSS) on cognitive decline and adult caregiving. The data provide information on adult perceptions about increased confusion and memory loss, and the provision of regular care or assistance to family and friends with a chronic illness or disability. CDC has updated its Healthy Aging Data Portal[20] to provide easy access to data on key indicators of cognitive and physical health and well-being, screenings and vaccinations, and older adult mental health.

All Other Chronic Disease Prevention

In FY 2018, CDC will leverage this flexible funding to:

- Collect data and conduct critical epidemiological research to define the public health burden.
- Assess disease and risk factor trends, and identify their relationship to other population-level trends such as the aging of the U.S. population.
- Identify how public health agencies can best reduce risk factors and their consequences.

This work will enable the public health community to anticipate the future burden of chronic disease.

[18] http://www.cdc.gov/aging/pdf/2013-healthy-brain-initiative.pdf
[19] http://aspe.hhs.gov/daltcp/napa/NatlPlan2013.pdf
[20] http://www.cdc.gov/aging/agingdata/index.html

School Health Budget Request

The academic success of America's youth is strongly linked with their health. The percent of children aged 6-11 years in the United States who were obese increased from 7% in 1980 to nearly 18% in 2014. Similarly, the percentage of adolescents aged 12-19 years who were obese increased from 5% to nearly 21% over the same period.

Schools are a critical partner in helping children develop lifelong, healthy habits by providing opportunities for quality physical education and physical activity, and providing healthy nutrition opportunities and information. CDC's School Health program works with states, school systems, communities, and national partners to prevent chronic disease now and later in life, and promote the health and well-being of children and adolescents in schools.

Budget Request

CDC's FY 2018 request of **$15,371,000** for School Health is level with the FY 2017 Annualized CR level. With this funding, CDC's School Health program will continue to support schools and school districts, and non-governmental organizations, to improve health outcomes for K-12 students and improve the management of students' chronic conditions.

Addressing Childhood Obesity

In 2015, data from CDC's Youth Risk Behavior Survey showed that approximately 30% of high school students were overweight or obese. CDC's School Health Program focuses on childhood obesity prevention through support for physical education, physical activity, and improved nutrition as part of the Whole School, Whole Community, Whole Child framework. In addition, CDC developed resources help schools and school groups engage parents in how to support healthier choices for their children and how to model these choices at home. CDC also supports school-clinical linkages that assess student body mass index (BMI), communicate weight status to parents, and offer referrals to community and clinical opportunities to reduce childhood obesity. CDC will continue to support these activities in FY 2018.

Physical Education and Activity

CDC tools, training, and funded partners support schools to incorporate more physical activity throughout the school day. CDC promotes a Comprehensive School Physical Activity Program (CSPAP) which helps schools incorporate more opportunities for students 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. This includes quality physical education; physical activity before, during, and after school; staff involvement; and family and community engagement.

Improved Nutrition

CDC provides schools with tools and training to create a nutrition environment that allows students to make healthier choices. In addition, CDC tools and resources help schools increase the availability of drinking water, and increase water consumption as a healthy beverage option. These efforts are succeeding, with 88% of schools now providing students with access to free drinking water in cafeterias during meal times.

Managing Chronic Conditions

Students who are able to manage their chronic health conditions tend to have better academic outcomes. CDC promotes family engagement, care coordination, and communication with the family's healthcare provider as essential components for helping students with chronic conditions stay healthy and ready to learn. For example, seventeen CDC-funded states have partnered with national organizations to train school nurses on diabetes management and managing food allergies in schools. This has resulted in increased understanding of causes of school absence and the number of students with chronic conditions who have a medical home.

BIRTH DEFECTS, DEVELOPMENTAL DISABILITIES, DISABILITIES AND HEALTH

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$135.610	$135.352	$100.000	-$35.352
FTEs	196	169	169	0

CDC's birth defects, developmental disability, and blood disorders programs advance CDC's mission of preventing the leading causes of disease, disability, and death, while promoting the health of people of all ages. CDC enriches the quality of life for America's young and most vulnerable while reducing healthcare costs by:

- Studying and addressing the causes of birth defects
- Helping children reach their potential by understanding developmental disabilities
- Reducing complications of blood disorders
- Improving the health of people living with disabilities

CDC and its partners put these research findings and recommendations into public health action to foster a safer, healthier population.

Birth Defects and Developmental Disabilities Funding History	
Fiscal Year	Dollars (in millions)
2013	$133.539
2014	$129.190
2015	$131.781
2016	$135.610
2017	$135.352

Budget Request

CDC's FY 2018 request of **$100,000,000** for Birth Defects, Developmental Disabilities, Disabilities and Health, is $35,352,000 below the FY 2017 Annualized CR level. At the proposed FY 2018 funding level, CDC will focus its birth defects and developmental disabilities portfolio on core public health activities that align with CDC's mission and have proven interventions to make an impact on American's health.

Birth Defects

Birth defects are common, costly, and critical. Every 4 ½ minutes, a baby is born with a major birth defect in the United States. That is about 1 in every 33 babies—or 120,000 babies every year. Hospital costs alone for the treatment of birth defects are more than $23 billion per year in the United States.[21] Babies born with a birth defect are much more likely to die before their first birthday, while those who survive are likely to have lifelong challenges, such as problems with physical movement, learning, and social interaction.

CDC and its partners are changing these figures. Our monitoring systems provide estimates of how many people are affected by birth defects. Our research identifies causes of birth defects, finds opportunities to prevent them, and improves the health of those living with birth defects.

CDC made these important findings:

- Found associations between medications and major birth defects.
- Confirmed the role of smoking in the causes of cleft lip and palate.
- Verified the role of pre-pregnancy obesity as a risk factor for major birth defects.
- Confirmed the link between Zika and major birth defects such as microcephaly.

As we learn about causes of birth defects, CDC implements proven strategies to prevent them. As a result of CDC's work:

- Between 600-700 American babies are born without spina bifida (a neural tube defect) every year as a result of folic acid fortification. This represents a savings of about $400 - $600 million every year.[22]
- The FDA approved corn masa flour fortification and allowed producers to include folic acid in their products, addressing the higher rates of NTDs in Hispanic babies.

Over the last 50 years thalidomide and rubella called our attention to the need to better understand causes of birth defects and how to prevent them, and to strengthen our national birth defects monitoring system. Our recent experience with the Zika virus shows how important our birth defects monitoring system is. Before another epidemic hits the next generation, there is a critical need to build on current infrastructure and birth defects expertise to rapidly identify, understand, and prevent emerging threats to protect every baby in every city, state, and territory.

Pregnant women and their babies are often among the most vulnerable to infectious disease threats, as we saw with the 2009 H1N1 pandemic influenza and the Zika virus outbreak. CDC's birth defects experts led efforts to reduce the risk and impact of Zika virus in pregnant women, infants, and children. Our experts responded rapidly to the Zika outbreak. Within three months, we knew Zika was a cause of serious brain defects. CDC rapidly built the most innovative and robust pregnancy and birth defects monitoring system ever developed to date. Its purpose is to protect pregnant women and their babies from Zika and help them access necessary services. This system extends to all U.S. states and territories. Recent CDC data show that 15% of women with Zika in early pregnancy will have babies with serious birth defects of the brain.

In FY 2018, CDC will focus on analyzing and sharing results from the Zika pregnancy registry. This registry supports state, tribal, local, and territorial health departments to collect information about pregnancy and infant outcomes following laboratory evidence of Zika virus infection during pregnancy. The registry guides updated

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21 Arth AC, Tinker SC, Simeone RM, Ailes EC, Cragan JD, Grosse SD. Inpatient Hospitalization Costs Associated with Birth Defects Among Persons of All Ages — United States, 2013. MMWR Morb Mortal Wkly Rep 2017;66:41–46. DOI: http://dx.doi.org/10.15585/mmwr.mm6602a1.

22 Grosse SD, Berry RJ, Tilford JM, Kucik JE, Waitzman NJ. Retrospective assessment of cost savings from prevention: Folic acid fortification and spina bifida in the U.S. American Journal of Preventive Medicine. January 2016 [epub ahead of print].

recommendations for clinical care, planning for services for pregnant women and families affected by Zika virus, and better prevention of Zika virus infection during pregnancy. CDC will provide technical assistance to states for Zika-related birth defect surveillance. This infrastructure and expertise helps rapidly identify, understand, and prevent emerging threats.

In response to the current opioid epidemic in the United States and as part of the National Drug Control Strategy, in FY 2018 CDC anticipates piloting surveillance of Neonatal Abstinence Syndrome (NAS) in three states and studying the opioid epidemic's impact on babies, including birth defects and developmental disabilities that appear later in childhood.

Developmental Disabilities

Developmental disabilities are among the most significant child health issues facing American families. They include conditions like autism spectrum disorder (ASD) and hearing loss. CDC helps children live life to the fullest by providing a better understanding of these conditions and helping parents and healthcare providers make informed decisions so children and their families get the support they need.

CDC data found that 1 in 68 children in the United States have ASD. CDC analyses also show that parenting a child with ASD is associated with high stress and that the costs of medical care, special education services and lost wages are staggering. CDC's investments in monitoring, research, and improved early identification are leading us to a better understanding of ASD and better results for children and their families.

CDC made the following important findings:

- 1 in 68 children in the United States have ASD. CDC documented an increasing prevalence of autism since 2000, when 1 in 150 children were estimated to have ASD.
- ASD is about 4.5 times more common among boys (1 in 42) than among girls (1 in 189).
- Black and Hispanic children are less likely to be identified with ASD than white children (1.2 times and 1.5 times). Those who are identified with ASD received comprehensive developmental exams later than white children.
- Children born to older parents are more likely to have autism: first children of 2 older parents were 3 times more likely to develop autism than were third- or later-born offspring of mothers aged 20-34 years and fathers aged less than 40 years.
- ASD commonly co-occurs with other psychological, genetic and developmental conditions. The co-occurrence of one or more non-ASD developmental diagnoses is 83%.
- Almost half (about 44%) of children identified with ASD has average to above average intellectual ability.

CDC prevalence estimates for ASD and information about the severity of the disorder in children with ASD are used by state and local health departments and social service agencies. These and other organizations use CDC data to plan for services and target children and communities most at need. In addition, CDC's world-class scientists conduct research on risk factors for autism to increase our understanding of causes.
Even though ASD can be identified in children before age 2, most children with ASD and other developmental conditions are not diagnosed until after age 4. Early screening and monitoring of developmental progress are important to help children get earlier access to services, during their most critical developmental period. This helps reduce the need for more costly interventions over time. CDC's aims to improve early identification of the 1 in 68 children with ASD and 1 in 6 children with a developmental disability so children and families can get the services and support they need as early as possible. CDC research showed children born in 2006 received comprehensive developmental evaluations five months earlier than children born in 2002. This indicates progress has been made in identifying children at younger ages.

As children with ASD age into adolescence and adulthood, we have little data to understand their challenges and needs. ASD captures a wide spectrum of ability - from people who are unable to live independently to those who are navigating nuances of social interactions at the office. More knowledge is needed to guide efforts to best support adolescents and adults with autism so they can live life to the fullest, contribute to society as much as each individual can, and reduce unnecessary costs on the healthcare and educational systems.

In FY 2018, CDC will prioritize supporting the tracking and research that help us better understand autism, how children and families are affected, and how we can best help them. CDC anticipates the release of a new autism

prevalence report that will provide the bi-annual update on the number and characteristics of children diagnosed with ASD in various communities across the United States. The updated information will help communities determine what progress has been made and where more needs to be done to improve early identification of children with ASD.

CDC also addresses other common developmental disorders and conditions that can lead to developmental delays if not identified early. Hearing loss can affect a child's ability to develop speech, language, and social skills. CDC helps states and territories identify babies who are deaf or hard-of-hearing and ensure they receive critical services early.

Because of CDC's work:

- Over 99% of babies born in the United States are now screened for hearing loss or deafness and CDC helps states and territories identify babies who are deaf or hard-of-hearing and ensure they receive critical services early.
- New CDC-supported research shows that newborn hearing screening and early intervention within the recommended time period results in children with hearing loss having the same language and communication skills as their peers without hearing loss.
- CDC has shown that the newborn hearing program saves $200 million in education costs each year.

While newborn hearing screening is now part of routine newborn care, many babies do not receive follow-up to confirm the hearing loss and get medical care and services. In FY 2018, CDC will focus support to public health departments on identifying newborn babies who are deaf or hard of hearing, and strengthening capacity for states and territories to use the data collection, tracking, and quality assurance components to close the gap in follow-up services for deaf and hard of hearing infants.

In FY 2018, CDC will focus on addressing Attention-Deficit/Hyperactivity Disorder (ADHD), one of the most common neurodevelopmental disorders of childhood, affecting an estimated 1 in 9 children aged 4 to 17 years. CDC will work to increase the number of young children with ADHD who receive recommended treatments through strategies to increase the number of trained providers and by exploring opportunities to improve access to providers in rural locations.

Blood Disorders

People with blood disorders are living longer than ever before, but with far too many costly and preventable medical complications. CDC addresses rare blood disorders such as hemophilia. While these conditions individually are rare, about 1 in 76 Americans have a blood disorder.

These conditions have serious, lifelong health consequences, and cost our healthcare system billions of dollars every year. CDC invests in activities that increase understanding of blood disorders and their complications, advance medical care and treatments to improve health, and reduce costs.

CDC has made the following important contributions:

- CDC's laboratory is the only place in the world where reliable testing for blood product resistance is conducted. CDC is working to make these tests more widely available to doctors and their patients.
- CDC identified an important vulnerability in the nation's blood supply with the discovery of infectious agents in blood.

- CDC has worked to increase the lifespan of HIV-infected individuals with hemophilia by 30 years through laboratory studies and drug therapy programs.
- CDC data has shown that a person with hemophilia who is treated at a CDC supported specialized care center has a 40% decrease in the risk of death as compared to those treated at a non-specialized center.
- CDC developed national laboratory testing guidance to detect a hemophilia patient's resistance to treatment. Just one patient with hemophilia who develops resistance to their treatment can cost the healthcare system $1 million or more annually.
- CDC launched a heath care-associated VTE challenge to hospitals and health systems, where approximately 50% of VTE are acquired. These hospitals implemented innovative, effective and sustainable VTE prevention methods, and are promoting their models nationwide.
- CDC funded the national campaign *Stop the Clot, Spread the Word* to promote the awareness of the signs, symptoms, and risk factors for VTE which reached more than 90 million people during 2016.

CDC works closely with hospitals and clinics across the country to track and analyze patient data for people with inherited blood disorders like hemophilia. Hemophilia is an inherited life-long bleeding disorder that can cause damage to internal organs and chronic joint disease and pain. CDC's Community Counts surveillance program gathers individual and population-level data that helps physicians and scientists improve the lives of patients.

Americans with hemophilia are more likely to be overweight, experience chronic joint pain, and organ failure. In FY 2018, CDC will work to develop a communication campaign to increase the number of people with hemophilia who are exercising safely and regularly, which can in turn increase lifespan and decrease complications of obesity. CDC will also complete the enrollment of all federally-funded Hemophilia Treatment Centers into its Community Counts system, and use this data to inform best practices for doctors in these clinics.

CDC works to prevent avoidable medical complications, such as venous thromboembolisms (VTE), which are blood clots in your veins. This condition affects as many as 900,000 American patients each year; one in 10 of these patients die from VTE, many without ever being diagnosed. VTE costs our healthcare system an estimated $10 billion annually and many of these events are preventable. CDC's preliminary data analysis found the overall estimated incidence rates of VTE appears to be significantly higher than currently estimated and further increased among black populations, indicating a higher national burden that should be addressed.

In FY 2018, CDC will focus on building an inventory of hospital associated-VTE prevention "best practices" and work closely with partner institutions to improve and tailor pilot VTE surveillance mechanisms at healthcare institutions. CDC also anticipates the deployment of a communication campaign targeted at cancer patients and pregnant women, who are at higher risk for VTE.

Disabilities and Health

CDC protects the health of children and adults with various birth defects, genetic disorders, and disabilities, including intellectual disabilities, and mental health conditions. CDC does this through research into their unique health care needs and works to ensure that people with disabilities have the same opportunity for good health as those without.

CDC gathers data on patients with these disorders, analyzes patient records, and leads research efforts. As a direct result, people with birth defects and genetic disorders are living longer lives. Now physicians and families in the U.S. need to be prepared with the best treatments to manage these conditions as children transition into adulthood. CDC's research helps understand prevalence, healthcare service use and costs, disparities in access to care, and treatment options associated with disease progression and survival. CDC partners with doctors and

national organizations to develop clinical guidance, track medication and treatment use and effectiveness, and reduce preventable medical complications.

CDC research has found:
Steroid medication treatment helped children with muscular dystrophy delay assistive devices such as wheel chairs by enabling them to walk on their own for longer period than children that did not receive steroid treatment.

A substantial gap between parent concern and the age at diagnosis of muscular dystrophy – potentially a delay of 2 1/2 years for treatment.

People with spina bifida develop kidney failure at a much younger age than people without, and require costly, specialized treatments. CDC worked with clinical experts to develop care guidelines to preserve kidney function.

- Women with disabilities are less likely to receive adequate preventive primary care services like cancer screening. CDC developed tools for providers to improve care and reduce this health disparity.
- Children with congenital heart defects are more likely to have problems with brain development and function, which led to the development of screening guidelines. As a result, these children are now 50% more likely to receive special education services than those without a birth defect.

In FY 2018, CDC will prioritize research efforts in Muscular Dystrophy, Spina Bifida (SB) and Congenital Heart Defects (CHD) by:

- Conducting population-based surveillance and longitudinal follow for muscular dystrophies and neuromuscular disorder(s) to answer public health and clinical research questions.
- Working with our SB partners to understand the changes in treatment, unique needs, and health outcomes adolescents face as they transition into adulthood with SB. This will inform a national model for clinics as they care for emerging adults with this complex chronic condition and educate physicians about the need for and models of care for a population of adults living with this and other chronic congenital conditions.
- Coordinating the multi-site CHD surveillance with a broad focus on surveillance among children, 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.

Up to 57 million Americans are living with a disability. The annual healthcare costs associated with disability are nearly $400 billion – over 25% of all health care expenditures for adults residing in the United States. People with disabilities require health care for the same reasons anyone else does – to stay well, active, and be a part of the community – but the health needs of this population are unique. CDC science shows that as a group, people with disabilities are more likely to be physically inactive and overweight, have heart disease or diabetes, yet are less likely to access needed preventive care programs and services. CDC's Disability and Health Data System provides all states and communities with timely, standardized information on their disabled population and how that disability may be leading to poor health. States rely on that information to target their health protection programs for vulnerable, high need people with disabilities. In FY 2017, CDC supported 19 state programs to improve health outcomes among people with mobility limitations and/or cognitive disabilities by improving the inclusiveness and accessibility of public health programs.

In FY 2018, CDC plans to provide technical assistance to federal, state, local, and nonprofit partners to help improve inclusion of people with disabilities in public health programs that prevent disease and promote healthy behaviors and safety.

PUBLIC HEALTH SCIENTIFIC SERVICES

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$491.022	$490.662	$317.032	-$173.630
PHS Evaluation Funds	$0.000	$0.000	$142.968	+$142.968
Total Request	**$491.022**	**$490.662**	**$460.000**	**-$30.662**
FTEs	1,484	1,515	1,515	0
Health Statistics	$160.397	$160.092	$155.000	-$5.092
PHS Evaluation Funds (non-add)	$0.000	$0.000	$142.968	+$142.968
Surveillance, Epidemiology, and Public Health Informatics	$278.425	$278.470	$260.000	-$18.470
Public Health Workforce and Career Development	$52.200	$52.101	$45.000	-$7.101

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 by:

- Providing leadership and training for a competent, sustainable, and empowered public health workforce
- Providing the needed infrastructure to modernize public health surveillance systems and overseeing CDC's Surveillance Strategy[23]
- Improving access to information needed by public health professionals who monitor and respond to disease outbreaks and other threats

CDC's FY 2018 request of **$460,000,000** for Public Health Scientific Services, including $142,968,000 in PHS Evaluation Transfer, is $30,662,000 below the FY 2017 Annualized CR level. CDC will continue to support the most effective public health workforce training and workforce development programs, and core healthcare statistics at the reduced level.

Public Health Scientific Services Funding History	
Fiscal Year	Dollars (in millions)
2013	$193.238
2013 (PPHF)	$51.501
2013 (PHS Eval)	$247.769
2014	$395.298
2014 (PHS Eval)	$85.691
2015	$481.061
2016	$491.022
2017	$490.662

[23] https://www.cdc.gov/ophss/docs/cdc-surveillance-strategy-final.pdf

Health Statistics Budget Request

Official federal statistics are collected, compiled, and disseminated by 13 Federal statistical agencies under the coordination of OMB by statute. CDC's National Center for Health Statistics[24] (NCHS) serves as the principal statistical agency designated by OMB to produce official health statistics for the nation. Federal health statistics provide critical information and evidence to shape policies, monitor programs, track progress, and measure change. A strong statistical system is critical to provide information that can answer important questions in public health and public policy. CDC's health statistics data provide critical information to support a robust portfolio of evidence informing a wide variety of program decisions in CDC, HHS, and in other federal agencies.

Budget Request

CDC's FY 2018 request of **$155,000,000** for health statistics, including $142,968,000 in PHS Evaluation Transfer, is $5,092,000 below the FY 2017 Annualized CR level. At a reduced capacity, the platform will continue to provide information on emerging issues of public health importance for CDC and HHS, such as the rise in drug overdose deaths.

As the nation's health statistics agency, the collection of information is supported by numerous federal partners working in collaboration to support data infrastructure to maximize the efficient use of taxpayer dollars and reduce duplication. These investments have resulted in an integrated data strategy that provides broader content and consistency.

At the FY 2018 requested level, CDC will:

- Continue to focus on providing quality information that can be used for evidence based policymaking by maintaining existing health data systems and postponing modernization activities, targeting investments to track progress in major health objectives for the nation.
- Maintain the core data systems used by CDC and HHS to continue to monitor changes in the healthcare system and limit content to the most critical public health issues.
- Target efforts to continue access to public use files and restricted microdata to the extent possible.
- Return survey sample size to baseline which permits the production of estimates on key health indicators at the national level.
- Safeguard investments and minimize duplication by increasing coordination and integration of data collection activities.

Major Data Collection Activities

Data Collection Systems	Method of Data Collection
National Vital Statistics System	Obtains information on the 4 million births and 2.5 million death events in the US each year to monitor natality and mortality.
National Health Interview Survey	Flagship survey for HHS conducting in person household interviews 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	The only federal health survey that assesses the physical health and nutritional status of a nationally representative sample of adults and children conducting

Data Collection Systems	Method of Data Collection
	household interviews, physical examinations and laboratory tests in mobile examination centers.
National Health Care Surveys	Collects information from health care providers about their organizational structure, services rendered, and patients served, as well as claims and clinical data from electronic health records.

Health Statistics: CDC and HHS rely on health statistics to measure, monitor, and track performance and progress, but the information is critical for other federal agencies as well.

- National Health and Nutrition Examination Survey (NHANES) data had an impact on the safety and health of American firefighters by providing evidence of the need for special designs for fire engines and protective gear.
- The Department of Homeland Security uses the average weight of Americans reported by NHANES for public safety purposes related to passenger weight and vessel stability.
- The Federal Aviation Administration and the Coast Guard used NHANES as the authoritative source for average weight in the U.S. for carrying capacity in multiple modes of transportation.
- Health statistics are used by the Office of the Chief Actuary (OCA) of the Social Security Administration to project the solvency of programs such as Social Security.
- At the request of Congress, the National Institutes of Health (NIH) implemented a process to provide better consistency and transparency in the reporting of its funded research. Using CDC's health statistics data alongside the budgeting categories, NIH is able to provide the public and policymakers with information about its research portfolio and its relationship to public health needs.

National Vital Statistics System

The National Vital Statistics System[25] (NVSS) provides key information on the 6.5 million births and deaths in the United States. The statistical system produces information on natality, infant mortality, life expectancy, mortality, and the leading causes of death. The NVSS is the result of a long-standing collaboration with vital registration jurisdictions that has improved the quality and utility of vital statistics data.

National Health Interview Survey

The National Health Interview Survey[26] (NHIS) has been the nation's principal health survey for almost 60 years and is the flagship survey for the Department. Data collected through personal household interviews in the NHIS have been instrumental in tracking health status, risk factors, health conditions, and access to care.

The NHIS has served as a highly efficient platform for the collection of data within HHS and for other federal agencies. The Medical Expenditure Panel Survey and other surveys rely on this infrastructure for minimizing

[25] http://www.cdc.gov/nchs/nvss.htm
[26] http://www.cdc.gov/nchs/nhis.htm

duplication and maximizing resources. CDC and HHS surveys use the NHIS as a benchmark for comparison of programs using state level data.

National Health and Nutrition Examination Survey

The National Health and Nutrition Examination Survey[27] is the only HHS survey combining household interviews with physical examinations and laboratory tests. The survey collects nationally representative data on the prevalence of both diagnosed and undiagnosed conditions in the population. Conditions include diabetes, hypertension, and high cholesterol. NHANES provided evidence of the rise in obesity in the United States for both adults and children, informing program planning and prevention efforts across HHS.

CDC and other federal agencies, including NIH and USDA, rely heavily on NHANES to provide measurements for targeting resources and planning and evaluating programs. NHANES data have also been instrumental in providing a complete picture of opioid use among population subgroups—groups for whom we often do not have sufficient information for developing program or policy.

National Health Care Surveys

The National Health Care Surveys[28] are a family of nationally representative provider-based surveys. The surveys cover a broad spectrum of health care settings to answer questions about the use of health care services and the delivery of care. Healthcare facilities, inpatient hospital units, and physician offices provide information on their practices, the delivery of services, and individual patient encounters. The National Hospital Care Survey[29] (NHCS) obtains information on emergency department (ED) visits, including critical information on drug-related ED visits.

Data Access and Analysis: To maximize efficiencies and improve the utility of the data, the Research Data Center (RDC) program has successfully participated with other HHS Operating Divisions to consolidate access to information while reducing burden to the government and data users. Additional partnerships have been established to expand access to health data, resulting in decreased costs and increased opportunities. Reduced funding would reduce the operations of the RDC for federal research and policy uses.

Strengthening the Use of Evidence and Evaluation: The principal statistical agencies have a long history of sharing research findings and products with other agencies, and within HHS. Data from the official health statistics agency has become the linchpin for models of access to care. Data includes estimating the impact of changes in national policy on various segments of the U.S. population. Measurement and data collection provide information and evidence needed for making sound health policy. This information enhances monitoring the performance of programs that expend taxpayer dollars.

[27]http://www.cdc.gov/nchs/nhanes.htm
[28]http://www.cdc.gov/nchs/dhcs.htm
[29]http://www.cdc.gov/nchs/nhcs.htm

Surveillance, Epidemiology, and Public Health Informatics Budget Request

CDC's ability to provide comprehensive, timely, and high quality public health surveillance data and best practice information about what works to save lives is at the crux of every major public health achievement, from smallpox eradication to reductions in smoking. Increased investments to build a strong, sustainable public health system infrastructure through innovative disease surveillance systems, enhanced workforce capacity, and evidence based public health practices are vital to addressing challenges to the social and economic infrastructure the nation is urgently facing.

CDC's public health scientific services provide expertise in public heath surveillance systems and informatics, epidemiologic analysis, and laboratory standards and services. CDC supports public health science through various surveillance systems. These efforts include using external sources of information, and sharing best practices in collecting, managing, and using information among CDC programs and the public health community.

Budget Request

CDC's FY 2018 request of **$260,000,000** for Surveillance, Epidemiology, Informatics, and Laboratory Science is $18,470,000 below the FY 2017 Annualized CR Level. At the requested level CDC will:

- Support core public health surveillance while providing limited support for surveillance modernization efforts. Surveillance modernization improves efficiency, reduces costs, and improves the quality and timeliness of data needed to protect Americans during national or public health emergencies.

- Provide limited surge capacity during public health emergencies. Surge capacity allows CDC to rapidly gather surveillance data to monitor disease trends and identify emerging threats; share new scientific information in response to emerging public health threats like Zika; establish testing capability to effectively combat infectious disease threats; and train clinical and public health laboratory professionals that serve as our first line of defense during disease outbreaks.

Laboratory Safety and Training

Two years ago, CDC launched ambitious reforms to ensure that its laboratories are a national model of scientific excellence and safety. These reforms led to the creation of the position of the Associate Director for Laboratory Science and Safety—a senior official who reports directly to the CDC director and serves as the single point of accountability for the science, safety, and security of CDC's laboratories. This position leads a lean office that advances two coequal and interrelated priorities: to enhance the scientific excellence and safety of every CDC laboratory.

CDC is committed to continual improvements in laboratory science and safety, as well as the quality of its public health laboratory services. The Laboratory Safety and Training portion of the Public Health Scientific Services' budget line will support two key priorities:

Reinvigorating laboratory training: Maximizing the impact of CDC's laboratories requires a workforce of laboratory scientists trained in cutting-edge techniques and technology. A comprehensive training curriculum and laboratory safety and quality courses ensure that CDC's laboratory scientists are equipped to meet current and future public health challenges. In FY 2018, at reduced funding levels, CDC will continue existing on-line laboratory safety and quality courses and a comprehensive lab safety training.

Securing the most dangerous pathogens: CDC will continue its rigorous oversight of its laboratories that work with the most dangerous pathogens and toxins to ensure they comply with the Federal Select Agent Program's rules to secure these agents and protect the public's health.

Laboratory Standards and Services

CDC provides leadership to the nation's clinical and public health laboratories aimed at improving patient care and population health. Currently, 70% of today's medical decisions are made from laboratory tests. With over 255,000 clinical laboratories serving the nation's communities, the need to strengthen the quality and safety of these laboratories has become increasingly evident. This is due in part to emergent infectious disease threats, increased use of new sophisticated technologies, a significant increase in the amount of laboratory data, and a rapidly changing workforce. CDC supports the needs of clinical and public health laboratories by:

- Managing the federally-mandated Clinical Laboratory Improvement Amendments (CLIA) program in partnership with the Centers for Medicaid and Medicare Services (CMS), and the Food and Drug Administration (FDA) to advance the quality and safety of clinical and public health laboratory testing and operations nationwide.

- Enhancing multidisciplinary collaborations with external stakeholders to share best laboratory practices.

- Strengthening laboratory interoperability, application of laboratory data, and information systems to provide patient-centered solutions—ensuring that patients receive accurate, secure, timely, and easy-to-understand laboratory tests results.

- Operating CDC's central specimen repository which manages and preserves six million unique specimens and by improving scientific access.

- Enhancing the knowledge and skills of the laboratory workforce within CDC and the public health sector through training and workforce development.

- Providing support for agency-wide improvements in laboratory science and safety.

Surveillance

CDC's scientific services include a suite of surveillance and information systems that serve as the foundation for the collection and use of a variety of public health indicators and information that support infectious disease, syndromic, and population health surveillance and data transmission. This information allows local, state, and federal health agencies to track, monitor, and share information in support of infectious and non-infectious disease outbreaks, understand risk behaviors and the use of preventive health services, and characterize unusual health events or activity to determine if further investigation is required.

CDC works in partnership with state and territorial health departments through cooperative agreements to administer the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is the world's largest continuously conducted telephone health survey, through both landline and cell phones. The BRFSS is the primary source of data for local entities and states on the health-related behaviors of adults. Reduced funding for BRFSS in FY 2018 may result in a reduced level of funding per award.

Behavioral Risk Factor Surveillance System (BRFSS) Grants[1,2]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 PB
Number of Awards	57	57	TBD
- New Awards	57	0	TBD
- Continuing Awards	0	57	TBD
Average Award	$0.279	$0.279	TBD
Range of Awards	$0.048 - $0.445	$0.048 - $0.445	TBD
Total Awards	$15.884	$15.884	TBD

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.

State and local efforts to monitor, control, and prevent the occurrence and spread of infections and noninfectious diseases are dependent on timely, high-quality data obtained from disease surveillance, a cornerstone of public health practice. CDC works in partnership with state and territorial health departments through cooperative agreements to operate and modernize public health surveillance.

National Notifiable Diseases Surveillance System (NNDSS) Grants1

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	63	63	TBD
- New Awards	0	0	TBD
- Continuing Awards	63	63	TBD
Average Award	$0.155	$0.160	TBD
Range of Awards	$0.007–$0.348	$0.006–$0.331	TBD
Total Awards	$9.468	$10.247	TBD

1These funds are not awarded by formula.

Epidemiology

CDC supports evidence-based decision making by providing access to epidemiological resources, evidence-based recommendations, scientific literature, tools, and other resources for preventing and solving public health problems. Health departments, non-profit hospitals, clinicians, and others engaged in protecting the health of their communities use these resources to inform and enhance their work at state and local levels. CDC provides:

- Access to some of the largest health-related datasets in the nation. This consolidation increases access to data for use by CDC scientists and programs, public health professionals, and academia. The effort reduces the operational costs of providing the data used to support public health responses.

- Tools to collect epidemiologic data during outbreak investigations.

- Information sharing – publications such as Morbidity and Mortality Weekly Report[30] and Vital Signs[31] provide timely public health guidance and scientific findings to a wide range of stakeholders.

[30] https://www.cdc.gov/mmwr/index.html
[31] https://www.cdc.gov/vitalsigns/

Public Health Workforce and Career Development Budget Request

A robust and well-trained public health workforce is critical to protecting America's health. CDC provides essential workforce and training programs that ensure a competent and sustainable public health workforce. Our fellowship programs strengthen the education and professional development of our critical first responders and ensure the current workforce has the updated knowledge they need to respond to any public health emergency that may arise. CDC provides leadership in national public health workforce efforts, and offers experiential service and learning opportunities in epidemiology, informatics, prevention effectiveness, policy, and leadership and management.

More than just serving the federal government, CDC fellowships provide a public health rapid response force that stands ready to deploy at a moment's notice to combat outbreaks when they occur. CDC's fellowships and training programs keep America safe by building a competent, sustainable workforce capable of surging in response to imminent public health threats. The next health threat is just a plane ride away, or even just around the block. A well-trained public health workforce is our first line of defense against the next outbreak.

CDC fellows and trainees served as first responders on the front lines of the recent Ebola pandemic and the Zika response. Between January 2016 and April 2017, 70 EIS officers participated in 99 Zika total deployments to 8 countries, 7 states, 2 U.S. territories, and to the EOC. In FY 2016, EIS officers also undertook investigations in their jurisdictions, including evaluation of surveillance systems, analytic projects, and investigations into various diseases, both infectious and chronic. At the same time, CDC's EIS officers also participated in 186 domestic responses to many infectious, non-infectious, environmental, and occupational threats the U.S. states and territories.

CDC's indispensable workforce and training programs provide staff, technical assistance, and education services across the agency and to state and local health departments. Our workforce is assigned to positions at CDC headquarters or state and local health departments; they receive training and mentoring and provide direct service during their assignments. CDC also provides short-term technical assistance in the areas of epidemiology, laboratories, health economics, and informatics to state or local health departments who need help resolving complex public health programs.

Budget Request

CDC's FY 2018 request of **$45,000,000** for Public Health Workforce and Career Development, is $7,101,000 below the FY 2017 Annualized CR level.

At the requested level, CDC will reduce the number of trained disease detectives and rapid outbreak responders who work on the front lines to protect Americans. These programs educate and prepare the current and future generations of public health professionals to serve on the front line of public health and support CDC's emergency response efforts whenever the next outbreak occurs.

ENVIRONMENTAL HEALTH

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR[1]	FY 2018 President's Budget	FY 2018 +/- FY 2017 Annualized CR
Budget Authority	$165.303	$199.989	$157.000	-$42.989
PPHF	$17.000	$17.000	$0.000	-$17.000
Total Request	**$182.303**	**$216.989**	**$157.000**	**-$59.989**
FTEs	445	454	454	0
- Environmental Health Laboratory	$56.000	$55.894	$55.894	$0.000
- Environmental Health Activities	$46.303	$46.215	$34.106	-$12.109
- Amyotrophic Lateral Sclerosis Registry (ALS) (non-add)	$10.000	$9.981	$0.000	-$9.981
- Climate & Health (non-add)	$10.000	$9.981	$0.000	-$9.981
- Environmental & Health Outcome Tracking Network	$34.000	$33.935	$25.000	-$8.935
- Asthma	$29.000	$28.945	$25.000	-$3.945
- Childhood Lead Poisoning Prevention	$17.000	$17.000	$17.000	$0.000
- PPHF (non-add)	$17.000	$17.000	$0.000	-$17.000
Flint Response	N/A	$35.000	N/A	N/A

[1] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

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.

Environmental Health Funding History	
Fiscal Year	Dollars (in millions)
2013 (BA)	$121.639
2013 (PPHF)	$20.740
2014 (BA)	$166.404
2014 (PPHF)	$13.000
2015 (BA)	$166.404
2015 (PPHF)	$13.000
2016 (BA)	$165.303
2016 (PPHF)	$17.000
2017 (BA)	$199.989
2017 (PPHF)	$17.000

CDC's FY 2018 request of $**157,000,000** for Environmental Health is $42,989,000 below the FY 2017 Annualized CR level, which includes $35 million for lead prevention and safe water activities, available through FY 2018. The

FY 2018 budget request eliminates funding for Climate and Health and Amyotrophic Lateral Sclerosis Registry. CDC will focus its environmental health portfolio on core activities required to protect America's health.

Climate and Health

Elimination of the program would end direct funding to states regarding health effects of climate change. States will continue to have access to other funds that would allow them to prepare and respond to public health emergencies, including natural disasters and adverse weather events. The Budget would eliminate funding for 18 state and local health departments and six tribal and territorial organizations.

Amyotrophic Lateral Sclerosis Registry

The Budget eliminates the ALS registry and the related research program. NIH-funded research on ALS will continue. External researchers may still use biospecimens previously obtained from the ALS biorepository. The Budget would eliminate funding for extramural researcher-initiated studies to explore the causes of ALS and potential risk factors and the registry.

Childhood Lead Poisoning Prevention Budget Request

There is no known safe level of lead exposure for children. Lead exposure can affect nearly every system in the body. Even low levels of lead in the blood can damage a child's brain and nervous system, slow growth and development, cause problems with hearing and speech, and affect IQ, academic achievement, and behavior. Lead poisoning also poses a social and economic burden on families, communities, and the country, totaling $192-$270 billion dollars.

But, lead control programs are highly cost effective. From FY 2014 to FY 2016, CDC received $15.8 million per year on average, and supported state lead programs that identified over 200,000 children (~70,000 per year on average) under 6 who had a blood lead level over CDC's reference value. By helping to identify these children and ensuring appropriate medical and environmental follow-up, CDC-funded programs potentially helped save $11.7 billion in lifetime earnings that would have been lost due to lowered IQ for these children. Consistent with CDC's lead program potentially providing a benefit hundreds of times greater than the cost of the program, studies indicate that for every $1 invested in lead paint hazard control, $17 to $221 is returned in health benefits including increased IQ, higher lifetime earnings and tax revenue, reduced spending on special education, and reduced criminal activity.[32]

Despite significant reductions in lead poisoning over the last several decades, homes remain the primary sources of lead exposure for children. Nearly 24 million homes in the United States still have deteriorated lead-based paint and lead-contaminated house dust.[33] Even the most conservative estimates suggest that more than 535,000 children under the age of 6 have blood lead levels high enough to damage their health.[34,35] Lead contamination in drinking water, which can place entire communities at risk of lead poisoning, is also a serious public health concern.

Lead poisoning is 100% preventable, and the effects of elevated blood lead levels can be mitigated through timely provision of educational, medical, and behavioral interventions and social services. The Childhood Lead Poisoning Prevention program provides national expertise and works with states to monitor childhood blood lead levels to prevent lead poisoning and help those who have elevated blood lead levels by assuring appropriate follow up and linkage to services. The program also supports state and local efforts to collect vital lead data that enables them to target and implement primary prevention and response activities.

Budget Request

CDC's FY 2018 request of $**17,000,000** for Childhood Lead Poisoning Prevention is level with the base funding included FY 2017 Annualized CR level. Funding for the program builds on CDC's past success in reducing children's blood lead levels in the United States. In FY 2018, CDC will continue 1) working to ensure a robust lead poisoning surveillance system; 2) funding 45 state and local lead poisoning prevention programs that serve over 13 million children under age 6; 3) advising state and local agencies and stakeholders in lead poisoning prevention; 4) providing epidemiological and laboratory expertise; and 5) monitoring trends in childhood blood lead levels.

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[32] Gould, E. (2009). Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control. *Environmental Health Perspectives*, 117(7), 1162-1167.
[33] National Center for Environmental Health (2014). *Prevention Tips: How are children exposed to lead?* Retrieved from https://www.cdc.gov/nceh/lead/tips.htm
[34] Greater than or equal to the reference value of 5 micrograms per deciliter (µg/dL)
[35] Centers for Disease Control and Prevention. Blood Lead Levels in Children Aged 1–5 Years — United States, 1999–2010. MMWR 2013;62: 245-248.

Lead Surveillance for Action

Effective surveillance is the key to successful lead poisoning prevention. Data collection through surveillance can identify areas at highest risk for lead poisoning, enabling public health officials to intervene more effectively by targeting interventions more accurately. For example, 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 healthcare. These activities will continue in FY 2018.

Funding State and Local Lead Poisoning Prevention Programs

Critical to controlling lead poisoning is CDC's support for state and local lead poisoning prevention programs. CDC's support enables these programs to conduct their own child blood lead surveillance. State and local health departments depend on surveillance support to estimate the extent of elevated blood lead levels among children, to identify potential sources of lead, and target prevention efforts. CDC-funded data collection gives state and local health departments the tools they need to control lead hazards before children are exposed and to target interventions and primary prevention activities toward people in the highest risk buildings, blocks, and neighborhoods. In FY 2018, CDC will continue 1) working to ensure a robust lead poisoning surveillance system; 2) advising state and local agencies and stakeholders in lead poisoning prevention; 3) providing epidemiological and laboratory expertise; and 4) monitoring trends in childhood blood lead levels for states that provide data.

Flint, Michigan Water Contamination

Between April 2014 and October 2015, approximately 99,000 residents of the City of Flint, MI, were exposed to lead when their water source was switched from the Detroit Water Authority to the Flint Water System (FWS). Because the FWS did not use corrosion control, the lead levels in Flint tap water increased above the EPA Lead and Copper Rule. In children, lead exposure can result in serious effects on cognitive and physiological development. Lead can reduce kidney function and increase risk of hypertension and essential tremor among adults. The lead contamination crisis in Flint, Michigan has renewed the nation's focus on this major problem.

In FY 2017, CDC received a total of $35 million from Congress to support the Water Infrastructure Improvement for the Nation (WIIN) Act. Specifically, this funding included $20 million[36] to implement a lead exposure registry and an advisory committee and $15 million[37] for CDC's childhood lead poisoning prevention program. During the crisis, CDC assisted Flint, Michigan with monitoring blood lead levels in more than 50% of the community's children under 6 years of age and connected more than 90% of children with elevated blood lead levels to case management.

[36] Funding is available through FY 2020.
[37] Funding is available through FY 2018.

Childhood Lead Poisoning Grants[1,2]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 PB
Number of Awards	35	45	TBD
- New Awards	0	10	TBD
- Continuing Awards	35	35	TBD
Awards			
Average Award	$0.314	$0.389	TBD
Range of Awards	$0.102-$0.421	$0.102-$0.421	TBD
Total Awards	$10.990	$17.490	TBD

[1] These funds are not awarded by formula.
[2] FY 2017 funding estimates include $10,990,000 from PPHF and $6,500,000 from the Water Infrastructure Improvement for the Nation (WIIN) Act.

Environmental and Health Outcome Tracking Network Budget Request

The Environmental and Health Outcome Tracking Network is a dynamic, web-based system that uniquely integrates health data with environmental data for people to use. The Tracking network is a foundational surveillance system that helps protect the public's health by making environmental health efforts work faster, better, and cost less. Tracking also helps researchers better understand the connections between environmental conditions and health outcomes.

Data is most useful in stopping environmental health threats when it focuses on specific geographic levels like county, city, and zip code. This makes it easier for public health professionals to respond in case of an emergency. CDC funded tracking networks serve more than 190 million people, or 62% of the U.S. population. To date, the national Tracking Network has 20 datasets, 107 indicators, and 419 health measures on data such as air quality, water, asthma, and birth defects.

Budget Request

CDC's FY 2018 request of **$25,000,000** for the Environmental and Health Outcome Tracking is $8,935,000 below the FY 2017 Annualized CR level. At this funding level, CDC 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. As a result, state contributions of new data sources to the national network will be limited and the availability of scientific and technical experts will be reduced. This will extend the timeline for completing analyses that explain the relationships between environmental conditions and health.

Funding State and Local Tracking Programs

CDC funds state and local tracking programs through competitive cooperative agreements to create, maintain, and add to their own local tracking networks, as well as to contribute to and receive data from the national system. According to the Council for State and Territorial Epidemiologists, less than half of all states report having adequate environmental epidemiology capacity. CDC supports the maintenance of vital environmental health surveillance and epidemiology capacity.

CDC supports over 200 state personnel and facilitates a mentoring program with current and potential grantees. The program also helps states save money. Minnesota estimates that it saves $3.6 million per year from its tracking program's public health data access website by making data publically available and reducing the number of public data inquiries the state has to process.[38]

Tracking Network Grants[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 PB
Number of Awards	26	26	TBD
- New Awards	0	0	TBD
- Continuing Awards	26	26	TBD
Average Award	$0.869	$0.869	TBD
Range of Awards	$0.513–$1.200	$0.513–$1.200	TBD
Total Awards	$22.605	$22.605	TBD

[1]These funds are not awarded by formula.

[38] http://www.health.state.mn.us/divs/hpcd/tracking/stories/index.html

Environmental Health Laboratory Budget Request

The Environmental Health Laboratory 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 exposure levels in the U.S. population and target population groups, and respond to public health emergencies. It also supports state public health laboratories in assessing harmful exposures in their communities and works directly with state laboratories to implement and ensure accurate newborn screening tests for early detection of diseases that cause severe disability or death when untreated. In addition, the lab harmonizes diagnostic tests for chronic diseases to ensure results are sufficiently accurate and precise for diagnosing disease, guiding treatment and prevention, and supporting high-quality health research.

Budget Request

CDC's FY 2018 request of **$55,894,000** for the Environmental Health Laboratory is level with the FY 2017 Annualized CR. level. In FY 2018, CDC will continue to maintain the world's most advanced, state-of-the-art environmental public health laboratory.

Better Disease Diagnosis and Treatment by Improving the Quality of Laboratory Tests

Accurate and precise laboratory measurements are essential for correct diagnosis and treatment of disease. CDC uses expert measurement science to improve the accuracy, precision, and cost effectiveness of laboratory tests for environmental chemicals, nutrition indicators, heart disease, chronic diseases, and newborn screening. The lab develops reference methods and materials and provides quality assurance programs and trainings to assure the quality of tests in state, clinical, research, and academic laboratories. CDC's efforts reach more than 2,000 domestic and international laboratories, helping reduce diagnosis and treatment errors, unneeded medical procedures, and repeat laboratory tests. In FY 2018, CDC will provide quality assurance programs and 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. CDC will continue partnering with private sector companies and laboratory test manufacturers to improve accuracy and precision of test results.

Earlier Identification of New Diseases in Newborns by Supporting State Screening

CDC works directly with laboratories in states to implement newborn screening for new diseases, providing training, technical assistance, and quality assurance materials that help ensure accurate test results. Since 2008, CDC has worked to increase the number of states and territories that conduct newborn screening for severe combined immunodeficiency (SCID), a deadly disease that is curable if treated soon after birth. To date, CDC-funded programs have screened more than two million babies for SCID and serve as models for other states implementing population-based screening.

CDC recognizes that states and territories need support implementing testing for other treatable newborn diseases. Since 2015, three additional conditions have been added to the list HHS recommends for screening, but no more than two states are testing for any condition. In FY 2018, CDC will begin a two-year cooperative agreement with up to three states to provide necessary laboratory equipment, staffing, and supplies to conduct population-based testing for new conditions. These awards will build on CDC's successful newborn screening program and utilize CDC's unique expertise in working with state newborn screening laboratories.

Using Biomonitoring to Assess Americans' Exposure to Harmful Chemicals and Nutrition Status

CDC uses biomonitoring—measurements in human blood and urine—to help identify harmful environmental exposures or nutrition deficiencies among the U.S. population. The Environmental Health Laboratory measures more than 300 chemicals and nutrition indicators in participants of the ongoing NHANES and publishes findings in the regularly updated National Report on Human Exposure to Environmental Chemicals and National Report on Biochemical Indicators of Diet and Nutrition in the U.S. Population.

These reports are the most comprehensive assessments of Americans' exposure to environmental chemicals and Americans' nutrition status, providing national reference data that help physicians, scientists, and public health officials assess harmful exposures and adequate nutrition levels. CDC also funds states to establish or expand their capacity to measure environmental chemicals in human samples and conduct targeted or state population-based biomonitoring to assess exposures of concern in their communities. In FY 2018, CDC expects to release new biomonitoring results, adding to previously published data for 308 chemicals and 58 nutrition indicators. CDC also expects to collaborate on 90 studies that assess environmental exposures in high risk 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.

Asthma Budget Request

Nearly 25 million Americans suffer from asthma today, including more than six million children. Asthma takes almost 4,000 lives and causes 1.6 million emergency department visits per year. The disease also costs the nation $56 billion annually. Asthma 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, by helping millions of Americans gain control over their condition and reducing asthma attacks from poorly controlled asthma. In FY 2017, CDC launched an effort to reduce the number of asthma hospitalizations and emergency department visits among children in funded states by 500,000.

Budget Request

CDC's FY 2018 request of $**25,000,000** for the National Asthma Control Program is $3,945,000 below the FY 2017 Annualized CR level. The healthcare system provides access to asthma healthcare providers and medication. In FY 2018 CDC will continue to offer education and expertise, quantify risks and vulnerabilities to asthma control, and fund state health departments to implement comprehensive asthma control programs. In FY 2018, CDC will prioritize proven prevention and control efforts that reduce the number of asthma hospitalization and emergency department visits among children.

Comprehensive Asthma Control Programs

No single intervention can, by itself, achieve asthma control on a population level. CDC implements a tiered approach to asthma control by using 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 and appropriate medication use. For people whose asthma remains poorly controlled, additional steps provide progressively more individualized services, such as self-management education and home- and school-based trigger reduction.

CDC funds 25 state health departments. These programs focus efforts on geographic areas or communities with a high or disproportionate burden of asthma. CDC funds have helped states achieve success. For example, the New Mexico asthma program showed that when one of their hospitals implemented a self-management education program with a certified asthma educator, asthma-related emergency department visits reduced by 90% and asthma-related hospitalizations went down by 93% among participants. Also, the 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 focuses its efforts on comprehensive asthma control programs at the state level. At this funding level, support to state health departments would be reduced. In FY 2018, CDC will prioritize proven prevention and control efforts that reduce the number of asthma hospitalization and emergency department visits among children. Collaborative efforts across states to develop best practices and to test, scale, and deploy innovative approaches that meet local needs will continue, but at a reduced scope and scale.

Asthma Surveillance

Asthma control efforts cannot succeed without effective asthma surveillance. State and local health departments rely on asthma surveillance to efficiently and effectively direct their efforts to reduce the burden of asthma. CDC provides state-specific adult and child asthma prevalence data and other important measures of asthma control through existing data systems in the agency, such as the Behavioral Risk Factor Surveillance

System (BRFSS), which also administers an in-depth Asthma Call-Back Survey (ACBS), and the National Health Interview Survey (NHIS). In FY 2018, CDC will continue to support the use of ACBS, and publish national estimates of asthma burden.

Asthma Grants to Health Departments[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 PB
Number of Awards	25	25	TBD
- New Awards	0	0	TBD
- Continuing Awards	25	25	TBD
Average Award	$0.604	$0.604	TBD
Range of Awards	$0.450–$0.800	$0.450–$0.800	TBD
Total Awards	$15.704	$15.704	TBD

[1]These funds are not awarded by formula.

Environmental Health Activities Budget Request

Americans are impacted by environmental health threats to the water we drink, the air we breathe, the food we eat, and the spaces where we live, work, and play. The World Health Organization (WHO) estimates that, overall, 13% of the disease burden in the United States is due to environmental factors. The WHO also estimates that 5.6 million disability-adjusted life years and 398,000 deaths annually can be attributed to environmental factors in the United States.[39] CDC programs funded under Environmental Health Activities monitor environmentally related diseases; respond to urgent public health threats; 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.

Environmental health threats include drinking water contamination; unsafe retail food practices; flooding and extreme heat; the expansion of disease vectors; radiation and chemical emergencies; and the decline of the state, local, and tribal environmental health workforce. To protect and secure the American people from these threats, CDC 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.

Budget Request

CDC's FY 2018 request of **$34,106,000** for Environmental Health Activities is $12,109,000 below the FY 2017 Annualized CR level. With this reduction in funding, CDC will eliminate funding for the Climate and Health Change program (-$9,981,000 below FY 2017 Annualized CR) and the Amyotrophic Lateral Sclerosis (ALS) Registry (-$9,981,000 below FY 2017 Annualized CR). In FY 2018, the Environmental Health Activities budget funds the safe water, food safety, and environmental health preparedness and emergency response activities.

Climate and Health

Elimination of the program would end direct funding to states regarding health effects of climate change. States will continue to have access to other funds that would allow them to prepare and respond to public health emergencies, including natural disasters and adverse weather events. The Budget would eliminate funding for 18 state and local health departments and six tribal and territorial organizations.

Amyotrophic Lateral Sclerosis Registry

The budget eliminates the ALS registry and the related research program. NIH-funded research on ALS will continue. External researchers may still use biospecimens previously obtained from the ALS biorepository. The Budget would eliminate funding for extramural researcher-initiated studies to explore the causes of ALS and potential risk factors and the registry.

Safe Water

It is estimated that 45 million Americans use drinking water sources that are not monitored for contaminants and those in rural or tribal communities are particularly at risk. CDC's Safe Water program helps protect public health by decreasing environmental threats and reducing exposures to waterborne contaminants in water systems. In FY 2016, CDC estimated contaminant levels in well water; assessed the disease and economic burden of exposure to arsenic in private wells; and evaluated the effectiveness of interventions to prevent harmful exposures related to unmonitored water sources.

[39] Pugh, KH and Zarus, GM. May 2012. "The Burden of Environmental Disease in the United States." Journal of Env. Health. Volume 74, Number 9.

Clean and safe drinking water is necessary to sustain human health. More than 319 million adults and children in the United States rely on our nation's water supply for drinking, recreation, sanitation and hygiene. Environmental contamination and waterborne illness occur naturally as well as through industrial processes and accidents; water system failure; and changing environmental conditions, including extreme weather events such as storms and floods.

CDC directly funds 19 (14 state and five county) health departments through a five-year Safe Water cooperative agreement. These cooperative agreements fund recipients to identify and address drinking water program performance gaps, improve program efficiency and effectiveness, and identify and reduce exposures to contaminated drinking water. These efforts include identifying at-risk water systems with elevated levels of chemical, radiological, and biological contaminants (e.g., arsenic, uranium, nitrates, and E. coli). In FY 2016, CDC awardees sampled almost 1,400 wells and found that 322 wells had contaminated water that was considered unsafe to drink.

Harmful algal blooms (HABs), the rapid growth of algae that produce toxins and can cause a variety of illnesses in people and animals, are becoming more frequent. CDC provides emergency response and scientific services to support state and local officials dealing with HABs. Overall, water-related illness, such as Legionnaire's disease, results in an estimated 40,000 hospitalizations and $970 million in healthcare costs each year.[40]

Over 65% of documented waterborne disease outbreaks are caused by Legionella bacteria. As a result, CDC has increased its focus on the prevention of Legionella outbreaks. CDC's Safe Water program has been integral to CDC's prevention and response activities. In FY 2016, CDC responded to outbreaks in New York City, Illinois, Ohio, and Texas. CDC also published guidance and tools for the environmental prevention of Legionella, including a Vital Signs report on "Legionnaires' Disease: Use of water management programs in buildings to help prevent outbreaks." In FY 2018, CDC will continue to support state, territorial, local, and tribal governments to protect their citizens from waterborne contamination and illness, including prevention and response to Legionellosis outbreaks. CDC will also continue to prioritize efforts to keep small drinking water systems free from contamination.

Safe Water Grants

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 PB
Number of Awards	19	19	TBD
- New Awards	19	0	TBD
- Continuing Awards	0	19	TBD
Average Award	$0.130	$0.130	
Range of Awards	$0.100–$0.134	$0.100–$0.134	TBD
Total Awards	$2.455	$2.455	TBD

Food Safety

Every year, 48 million Americans get sick from foodborne diseases, and 3,000 people die. The United States spends approximately $78 billion per year on costs (healthcare, workplace, and other) related to foodborne illnesses. Environmental factors are responsible for many of these foodborne illnesses, particularly in

[40] Collier, SA et al. 2012. "Direct healthcare costs of selected diseases primarily or partially transmitted by water," Epidemiol. Infect. 140: 2003-2013.

restaurants, where two-thirds of these outbreaks begin. To prevent foodborne illness outbreaks before they start, CDC collects data, develops a well-trained environmental health workforce, and provides guidance on safe food practices.

CDC collects and translates high-quality surveillance data through the National Environmental Assessment Reporting System (NEARS). NEARS represents the only national effort to systematically collect, analyze, interpret, and disseminate environmental data to prevent outbreaks by improving practices at the state and local level.

CDC supports state and local health departments to investigate and address the environmental causes of foodborne disease through the Environmental Health Specialists Network cooperative agreements.

State and local health departments participating in CDC's Environmental Health Specialists Network 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 2018, CDC will continue efforts to promote best practices and conduct trainings to ensure food safety in retail establishments at a reduced scope.

Environmental Health Emergency Preparedness and Response

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; and work to ensure that the nation has a strong and knowledgeable environmental health workforce now and in the future.

Environmental emergencies and disease outbreaks 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 provided leadership in environmental health emergency management during the response to the lead contamination of drinking water in Flint, Michigan. CDC activated the Emergency Operations Center, conducted epidemiologic studies, and participated in community outreach during the Flint emergency response.

Public health and emergency management officials rely on CDC's experts and its rapid needs assessment toolkit—Community Assessment for Public Health Emergency Response (CASPER) — to quickly prioritize resources in response to a disaster. In FY 2016, CDC conducted two CASPERs and provided technical assistance on 13 others. In total, over 450 public health staff were trained on the CASPER methodology. CDC's Environmental Health Training in Emergency Response courses teach state and local officials how to restore clean drinking water, dispose of sewage properly, ensure food is protected from unsafe environmental conditions, and prevent the spread of diseases after disasters.

CDC is the nation's public health authority on radiation. CDC's radiation guidelines 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. Since FY 2013, CDC has provided more than 4,300 emergency radiation preparedness toolkits to clinicians and state and local public health workers. In FY 2016, CDC launched online training modules for public health professionals on risk communication and use of federal assets during a radiation emergency. CDC's guidance and expertise informed the planning for and response to a national-level exercise that simulated detonation of an improvised nuclear device in lower Manhattan. In FY 2018, CDC will continue to respond to environmental health emergencies, strengthen safe drinking water programs, address environmental causes of foodborne illness outbreaks, provide training and guidance for the nation's environmental health workforce and provide expertise on radiation and health.

INJURY PREVENTION AND CONTROL

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Injury Prevention and Control Total Request	**$236.059**	**$235.610**	**$216.165**	**-$19.445**
FTEs	288	295	295	0
Intentional Injury	$97.730	$97.544	$97.730	+$0.186
NVDRS	$16.000	$15.970	$15.970	$0.000
Unintentional Injury	$8.800	$8.783	$6.737	-$2.046
-Elderly Falls (non-add)	$2.050	$2.046	$0.000	-$2.046
Injury Prevention Activities	$28.950	$28.895	$20.293	-$8.602
Opioid Abuse and Overdose Prevention1	$75.579	$75.435	$75.435	$0.000
Injury Control Research Centers	$9.000	$8.983	$0.000	-$8.983

[1] FY 2016 and FY 2017 Prescription Drug Overdose and Illicit Opioid Risk Use Factors are comparably adjusted to reflect combined single line, Opioid Abuse and Overdose Prevention.

Injury Prevention and Control Funding History[1]

Fiscal Year	Dollars (in millions)
2013	$138.943
2014	$150.447
2015	$170.447
2016	$236.059
2017	$235.610

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

CDC's National Center for Injury Prevention and Control (NCIPC) is the nation's leading authority on violence and injury prevention. NCIPC is committed to saving lives, protecting people, and lowering the social and economic costs of violence and injuries. NCIPC collects data to identify problems and monitor progress, uses research to understand what works, and promotes evidence-based strategies to inform real-world solutions. Our goal is to offer individuals, communities, and states timely, accurate information, funding, and useful resources to keep people safe where they live, work, play, and learn.

NCIPC prevents or reduces injuries in the United States and around the world by: supporting research to understand what works; monitoring injuries and violent deaths to inform prevention; and providing state and local partners with direct funding and scientific expertise. CDC's FY 2018 request of **$216,165,000** for Injury Prevention and Control is $19,445,000 below the FY 2017 Annualized CR level.

Intentional Injury Prevention Budget Request

Violence is a significant problem in the United States (U.S.). From infants to the elderly, it affects people in all stages of life. In 2015, 17,793 people were victims of homicide and 44,193 people took their own life. The number of violent deaths tells only part of the story. Many more survive violence and are left with permanent physical and emotional scars. Violence also erodes communities by reducing productivity, decreasing property values, and disrupting social services. CDC's Intentional Injury Prevention program focuses on primary prevention of child abuse and neglect, youth violence, domestic violence, sexual violence and suicide. Using a public health approach, CDC provides national leadership in preventing violence and its health consequences by collecting and disseminating data and implementing and evaluating prevention programs through state and local public health agencies, universities, and non-governmental organizations. CDC provides funding to support states and communities and also develops tools and resources to inform their practice. For example, CDC has developed a suite of resources, called technical packages, on its major violence prevention topics. These technical packages are collections of strategies that represent the best available evidence to prevent or reduce public health problems and are valuable tools for communities working to prevent violence.

Budget Request

CDC's FY 2018 request of **$97,730,000** for Intentional Injury Prevention is $186,000 above the FY 2017 Annualized CR level.

The Rape Prevention and Education (RPE) provides funding to state health departments in all 50 states, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and the Commonwealth of Northern Mariana Islands to support state and community efforts to prevent sexual violence using the best available evidence. Grantees use CDC funding to implement statewide sexual violence prevention plans, implement and evaluate prevention programs, and address local sexual violence prevention needs. In FY 2016, CDC also received funding to support the evaluation of sexual violence prevention programs, and is funding universities and state health departments to increase understanding and use of effective prevention strategies. These evaluation activities will directly support the work of RPE grantees to prevent intimate partner and sexual violence. The FY 2018 Budget includes $44,430,000 to support the RPE program.

Rape Prevention and Education Grants[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	55	55	TBD
- New Awards	0	0	TBD
- Continuing Award	55	55	TBD
Average Award	$0.621	$0.621	TBD
Range of Awards	$0.035-$3.236	$0.035-$3.236	TBD
Total Awards	$34.144	$34.144	TBD

[1]These funds are awarded by formula.

CDC's domestic violence and sexual violence activities also include data collection to understand the burden of intimate partner and sexual violence. CDC supports the National Intimate Partner and Sexual Violence Survey (NISVS), the first ongoing survey dedicated to describing, monitoring, and providing national and state level data on experiences of intimate partner violence, sexual violence, and stalking among adults in the U.S. NISVS data are collected and disseminated to assist state health departments and our other national and state partners in

their efforts to develop practices that will prevent sexual violence, intimate partner violence and stalking and related injuries and health consequences.

In addition, CDC funds state domestic violence coalitions to implement and evaluate intimate partner violence prevention strategies at the state and local levels. The Domestic Violence Prevention Enhancements and Leadership through Alliances, Focusing on Outcomes for Communities United with States (DELTA FOCUS) program emphasizes implementing and evaluating primary prevention strategies that result in community-level changes that prevent domestic violence and lead to healthy, nonviolent, respectful relationships. In 2018, this program will transform into Domestic Violence Prevention Enhancements and Leadership Through Alliances (DELTA IMPACT), a cooperative agreement that funds State Domestic Violence Coalitions to implement intimate violence prevention activities. Activities include coordinated community response teams, which will focus on demonstrating impact. The FY 2018 Budget includes $5.5 million to support DELTA IMPACT.

CDC works to create safe, stable, nurturing relationships and environments for families. Self-reported data indicates that at least 1 in 7 children has experienced child abuse and/or neglect in the last year. To address this, CDC's Essentials for Childhood state initiative funds five states to implement CDC's comprehensive child abuse and neglect prevention programs that improve child well-being. Additionally, over 30 unfunded states have elected to participate in Essentials for Childhood due to high interest in the initiative. CDC also supports surveillance and research efforts to strengthen child abuse and neglect prevention strategies. Both positive and negative childhood experiences have a tremendous impact on future violence victimization and perpetration in adulthood, and therefore, on lifelong health and opportunity. As such, early experiences are an important public health issue. Much of the foundational research in this area has been referred to as the Adverse Childhood Experiences (ACE) Study. The ACE Study is one of the largest investigations ever conducted to assess associations between adverse childhood experiences, such as witnessing domestic violence in the home or being the victim of child abuse, and lifelong health and well-being. Findings are used to improve CDC's ongoing violence prevention efforts.

CDC funds and supports five communities through their respective local health departments to prevent multiple forms of violence affecting adolescents, including peer-to-peer and teen dating violence. CDC also funds five universities to serve as local, regional, and national resources for developing and applying effective youth violence prevention strategies in communities. For example, the University of Michigan's National Center of Excellence in Youth Violence Prevention supported the publication of a second edition of the Youth Empowerment Solutions (YES) curriculum in January of 2017. The curriculum is designed to empower youth to be leaders and create positive change in their communities. Studies show that YES participants are less likely to become victims of crime in their neighborhoods, demonstrate more conflict avoidance and resolution skills, and spend less time watching TV or playing computer games.

In FY 2018, the Intentional Injury Prevention program will:

- Continue to support state domestic violence coalitions implementing intimate partner violence (IPV) prevention strategies with the best available evidence through the DELTA Impact program. State coalitions and community partners will address common factors that can result in, or protect against, IPV perpetration and victimization.
- 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, STRYVE On-Line and technical assistance to local health departments working on youth violence prevention
- Collaborate with all 50 states, District of Columbia and four territories to implement evidence-informed sexual violence prevention strategies through the Rape Prevention and Education Program.
- Fund and collaborate with states to implement evidence-based child maltreatment prevention strategies through the Essentials for Childhood initiative.

- 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) surveillance system.
- Work with local health departments to reduce teen dating violence and youth violence together, using protective factors for individuals across communities.
- Guide prevention efforts in states and communities using CDC's technical packages, which are a collection of strategies that represent the best available evidence to prevent or reduce public health problems such as violence.

National Violent Death Reporting System Budget Request

The National Violent Death Reporting System (NVDRS) is critical to the nation'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 in order to provide a complete picture of how someone died violently. NVDRS covers all types of violent deaths—including homicides, suicides, and child abuse and neglect fatalities—in all settings and for all age groups. NVDRS provides states and communities with a better understanding of violent deaths to guide local decisions about efforts to prevent violence and track progress over time. Several NVDRS states are using their data to guide suicide prevention efforts for veterans in their jurisdictions. For example, Alaska is using data to identify all veteran suicides and the circumstances involved and working with the Alaska Veterans Affairs (VA) suicide prevention program. The information will be used to develop prevention strategies. Additionally, Colorado is using its data to work with the Denver VA on the problem of veteran suicides to gain a better understanding of the problem.

Budget Request

CDC's FY 2018 request of **$15,970,000** for NVDRS is level with the FY 2017 Annualized CR level.

In FY 2018, CDC's NVDRS program will:

- Support 40 states, Washington, D.C. and Puerto Rico to collect data as part of the NVDRS system and provide technical assistance to help grantees monitor and report their state data, and use these data to inform prevention efforts.
- Link NVDRS data with other data sources, such as Department of Defense Suicide Event Reports and Veteran suicide data, child fatality review reports, and adult protective services reports.
- Continue 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 (Web-based Injury Statistics Query and Reporting System).

National Violent Death Reporting System (NVDRS) Grants[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	41	41	TBD
- New Awards	10	0	TBD
- Continuing Awards	31	41	TBD
Average Award	$0.251	$0.260	TBD
Range of Awards	$0.143-$0.452	$0.143-$0.531	TBD
Total Awards	$10.279	$10.644	TBD

[1]Funds are awarded by formula in FY 2017. Earlier awards are competitive.

Unintentional Injury Prevention Budget Request

Unintentional injuries are the leading cause of death for individuals 1-44 years of age in the U.S. and are projected to cost more than $129 billion annually in medical costs. CDC's Unintentional Injury Prevention program promotes safety by tracking unintentional injuries to identify opportunities for prevention and by developing and evaluating recommendations for effective interventions. Unintentional injuries include issues such as falls, motor vehicle crashes, and traumatic brain injury activities. Interventions in these areas are implemented at the state level through various mechanisms including CDC's Core State Violence and Injury Prevention Program (Core SVIPP).

Budget Request

CDC's FY 2018 request of **$6,737,000** for Unintentional Injury Prevention is $2,046,000 below the FY 2017 Annualized CR level, which eliminates the Elderly Falls Program.

Each year, traumatic brain injuries (TBI) contribute to a substantial number of deaths and cases of permanent disability. CDC's research and programs work to prevent TBI and help people better recognize, respond, and recover if a TBI occurs. CDC provides training to coaches, families, and athletes on identifying and preventing TBIs. CDC supports state surveillance, evaluates solutions, identifies best practices for prevention, and works with healthcare providers to improve treatment of TBIs. CDC also is working to develop mild TBI (mTBI) clinical guidelines on the diagnosis and management of mTBI within the pediatric population to address the lack of clinical guidelines for healthcare providers on this issue. Further, CDC is piloting a new National Concussion Surveillance System to accurately determine how many Americans (children and adults) get a concussion each year, and determine what caused the injury.

In FY 2018, CDC's TBI program will:

- Continue to support TBI prevention efforts related to surveillance and program implementation through the Core SVIPP program.
- Release a Report to Congress on brain injury management within children, which will convey findings from a review of scientific evidence related to brain injury management in children.
- Release, disseminate and encourage uptake of CDC's pediatric mild TBI (mTBI) guideline to assist in proper diagnosis and management of mTBIs.
- Continue to support HEADS UP via educational initiatives that all have a common goal: Protect kids and teens by raising awareness and informing action to improve prevention, recognition, and response to concussion and other serious brain injuries.

The FY 2018 budget request eliminates funding for the Elderly Falls program. Other agencies across the US government and other key stakeholders invest in research and prevention programs to address Elderly Falls, and the materials that CDC has developed to support clinicians who treat older patients at risk for falls will remain available

Injury Prevention Activities Budget Request

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. These activities are high priority and offer flexibility to address high burden injury and violence areas as needs arise.

Budget Request

CDC's FY 2018 request of **$20,293,000** for Injury Prevention Activities is $8,602,000 below the FY 2017 Annualized CR level. CDC will conduct prevention activities in areas of greatest need, including high burden topics such as suicide and motor vehicle-related injury prevention that do not have a dedicated budget line; the budget line also supports cross-cutting programs.

High Burden Topics

To prevent motor vehicle-related injuries and death, CDC works with state health departments to support effective interventions, data collection, evaluation, and provides guidance on effective programs such as alcohol ignition interlocks and graduated drivers licensing systems. CDC also focuses on targeted interventions to reduce deaths and injuries among certain populations, including children, teens, older adults, and American Indians and Alaska Natives. In 2016, CDC published a Tribal Motor Vehicle Injury Prevention Best Practices Guide that includes lessons learned from previous CDC activities with tribes. The Guide serves as a resource to tribes on what works to prevent motor vehicle injuries among American Indians and Alaska Natives.

CDC also provides national leadership in understanding who dies by suicide and why, along with how to promote protective factors. CDC data are used by agencies and organizations such as the Department of Defense and Veteran Affairs to plan suicide prevention activities. CDC studies what works to stop suicide before it occurs. This involves enhancing social connections between people, reducing the factors that put people at risk for experiencing violence, and developing prevention strategies for those who are at greatest risk. Current projects are trying to better understand how to prevent suicide among middle-aged males, a population with increasingly high rates of suicide.

Supporting Cross-Cutting Programs

CDC's Core State Violence and Injury Prevention Program (Core SVIPP) funds 23 states to strengthen injury surveillance programs and implement, evaluate, and disseminate effective violence and injury prevention programs and policies. All currently funded states receive base program funding to focus on four priority areas: motor vehicle injury prevention, youth sports concussion/traumatic brain injury, child abuse and neglect, and sexual violence/intimate partner violence. These topics have shared risk and protective factors across the different mechanisms of injury. Historically, Core grantees have been able to leverage their expertise to respond to high burden issues as they arise.

In FY 2018, the Injury Prevention Activities 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 their transition from driving to non-driving adults.
- Amplify data linkage for motor vehicle injury prevention. Linking of police crash reports with medical data to provide a more complete picture of a risk and protective factors before, during, and after a crash as well as medical outcomes and costs.

- Support efforts to prevent suicide by conducting surveillance, research, and developing evidence-based strategies. CDC will continue to support fatal and non-fatal surveillance systems for self-directed violence, including collection of data at the national, state, and local levels, which provides information for decision makers. This important data and research will help CDC determine the effectiveness of strategies to prevent suicidal behavior and expand the number of prevention activities.
- Continue to guide Core SVIPP states in year 3 of their funding by providing expert feedback on planned activities, implementation strategies, and evaluation.

Core State Violence and Injury Prevention Program Grants[1,2]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	23	23	TBD
- New Awards	23	23	TBD
- Continuing Award	0	0	TBD
Average Award	$0.292	$0.292	TBD
Range of Awards	$0.248–$0.475	$0.248–$0.475	TBD
Total Awards	$6.723	$6.723	TBD

[1]All 23 Core SVIPP grantees receive base funding. Select states are funded for expanded components above their base funding. See the state table for funding details.

[2]These funds are not awarded by formula.

Opioid Abuse and Overdose Prevention Budget Request

The United States remains in the midst of an epidemic of opioid overdose deaths involving both prescription opioids and illicit opioids like heroin and illicitly-manufactured fentanyl. The opioid overdose epidemic killed more than 33,000 people in 2015 alone. Ninety-one Americans die every day from an opioid overdose. Deaths are only part of the problem: for each death involving prescription opioids, hundreds of people abuse or misuse these drugs. Prescription opioid-related overdoses cost an estimated $78 billion in medical and work-loss costs each year. The last 15 years have seen stark increases in opioid overdose deaths, driven largely by deaths from the most commonly prescribed prescription opioids, though deaths related to illicit opioids are also contributing to the increase in opioid overdose deaths. CDC's role in opioid overdose prevention is focused on strengthening surveillance, improving prescribing practices, and working to identify and disseminate effective interventions.

CDC's work is focused on three pillars:

1. **Improve data quality, data timeliness, and tracking trends to monitor the epidemic.**
   Accurate, detailed, and timely data (e.g., data related to prescribing, non-fatal and fatal opioid-involved overdoses and associated risk factors, and the health effects of opioids) are critical to understanding burden, advancing prevention, and understanding the impact of interventions.

2. **Strengthen state efforts by scaling up promising and effective public health interventions.**
   Empowering and equipping states with the resources and information they need to combat opioid overdose is the heart of CDC's work on the epidemic.

3. **Supply healthcare providers with data, tools, and guidance for evidence-based decision making that improves population health.**
   Reversing the epidemic requires changing the way opioids are prescribed. CDC is committed to giving providers and health systems the tools and evidence they need to improve how opioids are used and prescribed.

Budget Request

CDC's FY 2018 request of **$75,435,000** for Opioid Abuse and Overdose Prevention is level with the FY 2017 Annualized CR level. This request combines the Prescription Drug Overdose and Illicit Opioids Use Risk Factors budget lines. Given the emerging threats, the combination of these lines affords CDC the flexibility to conduct surveillance and prevention activities in areas within states that have the greatest need. A consolidated budget line allows CDC to best direct resources to the rapidly changing epidemic related to both prescription and illicit opioids overdoses.

State Support

In FY 2015, CDC launched the Overdose Prevention in States (OPIS) effort which includes the Prescription Drug Overdose: Prevention for States (PfS) program, the Data-Driven Prevention Initiative (DDPI) program, and Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality (ESOOS). OPIS covers 44 states, plus D.C.

PfS funds 29 states to combat the ongoing prescription drug overdose epidemic. The purpose of PfS is to provide state health departments with resources and support needed to advance interventions for preventing prescription drug overdoses. Examples of state efforts include enhancing Prescription Drug Monitoring Programs (PDMP) and leveraging them as public health tools and improving health system and insurer practices to improve opioid prescribing.

DDPI is designed to support states as they build the infrastructure, collaboration, and data capacity necessary to address their opioid epidemics. Examples of state efforts include improving data collection and analysis around opioid misuse, abuse, and overdose and developing strategies that impact behaviors driving prescription opioid dependence and abuse.

ESOOS improves surveillance of opioid overdoses by funding 12 states to increase the timeliness of opioid-involved overdose reporting, to identify associated risk factors with fatal overdoses, and to disseminate surveillance findings. State activities include establishing an early warning system to detect sharp increases or decreases in nonfatal opioid overdoses, collecting information on the number and rate of opioid overdose deaths, and analyzing information from toxicology tests and death scene investigations.

In FY 2018, CDC will:

- Continue to support the evaluation of medication-assisted treatment and other types of treatment modalities.
- Continue the evaluation of SAMHSA's naloxone distribution program.
- Support the continued development and rollout of tools and materials to assist with implementation of the CDC Guideline for Prescribing Opioids for Chronic Pain (CDC Guideline), along with the evaluation of implementation activities.
- Increase uptake among providers of the CDC Guideline to improve the prescribing of opioids and treatment of outside of active cancer treatment, palliative care, and end-of-life care.
- Continue its widespread support to 44 states and the District of Columbia under the comprehensive umbrella of the OPIS effort, and work with unfunded states to help them prepare for potential future funding.
- Maximize the use of state-based Prescription Drug Monitoring Programs (PDMPs) as a clinical decision making and public health surveillance tool.
- 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 safe, effective treatment.
- Improve the reporting of morbidity and mortality data related to opioid overdoses within states.
- Continue to support efforts to assess readiness in tribes/tribal communities to support opioid overdose prevention activities.

Prescription Drug Overdose Prevention for States and Data Driven Prevention Initiative State Grants[1,2]

(dollars in millions)	FY 20163 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	43	43	TBD
- New Awards	27	0	TBD
- Continuing Award	16	43	TBD
Average Award	$1.122	$1.110	TBD
Range of Awards	$0.206-$1.940	$0.206-$1.940	TBD
Total Awards	$48.254	$48.254	TBD

[1]These funds are not awarded by formula.
[2]This combines the PfS and DDPI programs as they are mutually exclusive.
[3] In FY16, 16 states received supplements of up to $1 million, and 13 states received 18 months of funding to align periods of performance with other awardees. DDPI funding started at $200,000 while PfS base funding started around $771,000.

Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality Grants[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	12	12	TBD
- New Awards	12	0	TBD
- Continuing Award	0	12	TBD
Average Award	$0.357	$0.357	TBD
Range of Awards	$0.233-$0.626	$0.233-$0.626	TBD
Total Awards	$4.287	$4.287	TBD

[1]These funds are not awarded by formula.
[2]2017 figures are expected to be level for this three-year program.

Injury Control Research Centers Budget Request

CDC's Injury Control Research Centers (ICRCs) advance violence and injury prevention science through cutting-edge, multidisciplinary research on the causes, outcomes, and prevention of violence and injuries. ICRCs conduct research on priority injury topics, including opioid overdose, traumatic brain injury, motor vehicle injuries, sexual violence, child abuse and neglect, and youth sports concussion. To develop and share interventions, ICRCs collaborate with state and local health agencies, including CDC grantees, and community partners. Decision makers across the United States rely on ICRC research to inform federal, state, and local programs and policies. For example, the Johns Hopkins University ICRC is working to reduce injured patients' risk for opioid misuse by using mobile health technology to develop and pilot test an innovative patient education intervention.

Budget Request

The FY 2018 budget request eliminates funding for the Injury Control Research Centers. CDC supported 10 ICRCs to conduct research and evaluation activities related to the health and economic impact of injury and violence as well as the improvement of injury prevention practices. Elimination of this program prioritizes funding for CDC's broader injury prevention and control portfolio.

Injury Control Research Centers Program Grants[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Number of Awards	10	10	0
- New Awards	0	0	0
- Continuing Award	10	10	0
Average Award	$0.741	$0.741	$0.000
Range of Awards	$0.438–$0.781	$0.438–$0.781	$0.000
Total Awards	$7.414	$7.414	$0.000

[1]These funds are not awarded by formula.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Occupational Safety and Health Research/NIOSH Discretionary Total	$338.621	$338.476	$200.000	-$138.476
EEOICPA – Mandatory	$50.210	$50.320	$55.358	+$5.038
World Trade Center – Mandatory1,2	$312.900	$347.114	$365.562	+$18.448
Total	$701.731	$735.910	$620.920	- $114.990
FTEs	1,120	1,117	1,117	0

[1]The FY 2018 World Trade Center (WTC) Health Program amount is an estimate that may be revised during FY 2018 planning process.

[2]Reflects 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.

CDC's Occupational Safety and Health Research protects the nation's 160 million workers and provides the only dedicated federal investment for research needed to prevent injuries and illnesses that cost the United States $250 billion annually. The National Institute for Occupational Safety and Health (NIOSH) was established by the Occupational Safety and Health Act of 1970 to generate new knowledge in occupational safety and health and to transfer that knowledge to employers and employees. Different than the regulatory approach to safety and health, NIOSH works cooperatively with employers and employees to adapt research findings into workable solutions. Research efforts are aligned under the National Occupational Research Agenda (NORA), which is a public-private partnership that identifies critical needs and transfers scientific findings to keep people safe and healthy at work. CDC also receives mandatory funding for the Energy Employees Occupational Illness Compensation Program Act and the World Trade Center Health Program.

CDC's FY 2018 request of **$620,920,000** for NIOSH, including funding from all discretionary and mandatory sources, is $114,990,000 below the FY 2017 Annualized CR level. NIOSH will conduct research to reduce worker illness and injury, and to advance worker well-being. The research program will not fund state and academic partners for conducting, translating, or evaluating research. The FY 2018 request also reflects the elimination of the Education and Research Centers (ERCs). Originally created almost 50 years ago, the ERC program directed funding to academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The majority of schools of public health include coursework and many academic institutions have developed specializations in these areas. The Budget would no longer direct Federal funding to support academic salaries, stipends, and tuition and fee reimbursements for occupational health professionals at universities.

The FY 2018 request includes **$365,562,000** in mandatory Federal share 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. The FY 2018 request also includes **$55,358,000** in mandatory funding for the Energy Employees Occupational Illness Compensation Program Act.

National Institute For Occupational Safety and Health Funding History	
Fiscal Year	Dollars (in millions)
2014	$220.363
2014 (PHS Eval)	$112.000
2014 (EEOICPA)	$49.933
2014 (WTC)	$235.740
2015	$334.863
2015 (PHS Eval)	$0.000
2015 (EEOICPA)	$50.099
2015 (WTC)	$260.650
2016	$338.621
2016 (EEOICPA)	$50.210
2016 (WTC)	$301.975
2017	$338.476
2017 (EEOICPA)	$50.320
2017 (WTC)	$347.114

In FY 2018, employer and employer needs for solutions will drive CDC's Occupational Safety and Health Research. CDC will use FY 2018 funds to address high priority occupational hazards in various industry sectors to address the specific problems for which research solutions are needed. Examples of high-priority occupational hazards include respirable dust in mining, falls in construction, cancer among firefighters, preparedness for emergency responders, chemical exposures and infectious diseases in healthcare workers, noise in manufacturing, lung diseases in oil and gas extraction, and motor vehicle crashes across all industries.

In FY 2018, CDC will conduct research, make evidence-based prevention recommendations, and increase the use of interventions available to reduce hazardous exposures in the construction industry. Projects will cut across a number of important causes of construction worker injuries, disease, and deaths such as falls, electrical hazards, noise, and asphalt fumes. In mining, CDC will develop and make available new technologies and recommended practices that will reduce injuries and fatalities from machinery and rock falls, as well as exposures to harmful mine dusts, airborne pollutants, heat, and noise. CDC will work with mining partners to develop innovative control technologies and prevention practices.

CDC will also address emerging occupational safety and health issues that may require new approaches to prevention, such as nanotechnology. Employees within nanotechnology-related industries are potentially exposed to uniquely engineered materials with novel sizes, shapes, and physical and chemical properties. CDC will work with private sector partners to develop 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.

CDC field scientists will provide individualized assessments of potential workplace hazards through Health Hazard Evaluations to determine if workers are being exposed to hazardous materials or harmful conditions and if these exposures are affecting employee health. HHEs are available by request from employers, employees, and employee representatives. In FY 2018, CDC will provide funding for Personal Protective Technology (PPT) Program activities that support PPT research, standards, and, conformity assessment including, testing, quality, evaluation, and respirator approval activities.

Energy Employees Occupational Illness Compensation Program Act (EEOICPA) Budget Request[1]

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 +/- FY 2017
EEOICPA – Mandatory	**$50.210**	**$50.320**	**$55.358**	**+$5.038**

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 2016, CDC:

- Completed 2,400 dose reconstructions
- Received eight Special Exposure Cohort petitions
- Supported 32 meetings of the Advisory Board, its Subcommittees, and Work Groups
- Informed recommendations of the Advisory Board, which prompted the HHS Secretary to add 119 classes of employees to the Special Exposure Cohort as of September 30, 2016

CDC's FY 2018 estimate of **$55,358,000** in mandatory funding for EEOICPA is $5,038,000 above the FY 2017 Annualized CR level. As mandated by EEOICPA, CDC will use this funding to:

- Complete 2,400 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 2018, 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. The number of dose reconstructions completed each year has stabilized at approximately 2,400.

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 (SEC). 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]

(dollars in millions)	FY 2016 Final	FY 2017 Enacted	FY 2018 President's Budget	FY 2018 +/- FY 2017
World Trade Center – Mandatory	**$301.975**	**$347.114**	**$365.562**	**+$18.448**

[1] The FY 2018 WTCHP amount is an estimate that may be revised during FY18 planning process.

[2] Reflects 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.

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) created the World Trade Center (WTC) Health Program to provide healthcare benefits to eligible responders and survivors beginning on July 1, 2011. On December 18, 2015, the James Zadroga 9/11 Health and Compensation Reauthorization Act was enacted, extending 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. As of December 31, 2016, the WTC Health Program enrollment included 77,008 eligible responders and survivors. As of December 31, 2016, the WTC Health Program paid claims for eligible treatment, including medication, for more than 25,038 of these responders and survivors in the past year.

WTC Health Program Enrollment

	Dec. 31, 2015	March 31, 2016	June 30, 2016	Sept. 30, 2016	Dec. 31, 2016
New Members since July 20111	12,760	13,386	13,987	14,759	16,038
Total Members2	73,780	74,403	74,968	75,739	77,008

[1]New members enrolled under the Zadroga Act requirements (adjustments are made each quarter to account for member records changes), including Pentagon and Shanksville, PA.

[2]New members and members enrolled prior to 7/1/2011 (adjustments are made each quarter to account for member records changes).

WTC Health Program Paid Claims

Healthcare Services1	Dec. 31, 2015	March 31, 2016	June 30, 2016	Sept. 30, 2016	Dec. 31, 2016
Members who had monitoring or screening exams	26,790	30,332	33,385	35,101	36,032
Members who had diagnostic evaluations2	17,893	18,850	20,280	20,258	20,866
Members who had out-patient treatment	17,360	18,101	18,410	18,488	19,104
Members who had in-patient treatment	521	582	616	652	647
Members who received medications	19,619	20,100	20,705	21,183	21,560

[1]Based on claims for services that were paid during the previous 12-month period

[2]For determining if a member has a WTC-related health condition and for certifying that health condition.

CDC's FY 2018 estimate of **$365,562,000** in mandatory Federal share funding for the WTC Health Program is $18,448,000 above the FY 2017 Annualized CR level. Funds support the quality care, including treatment, of

WTC-covered health conditions for enrolled responders and survivors. Including New York City's required contribution of $40,618,000, a total of $406,180,000 in resources will support the WTC Health Program in FY 2018. Through FY 2016, the WTC Health Program has certified 6,790 cancer cases, which is an increase of approximately 1,750 cases over the past year. Of those members certified for at least one type of cancer, more than 3,500 members received cancer care compared to approximately 2,650 in FY 2015.

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 2018, CDC will continue contracts with CCEs and the NPN to provide administrative and member services that support the provision of health care benefits, and 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 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 2018 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 2018 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. Upon request from the Administrator of the WTC Health Program, 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.

GLOBAL HEALTH

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Total Request	$426.621	$426.309	$350.000	-$76.309
FTEs	1,335	1,353	1,353	0
Global HIV/AIDS	$128.276	$128.177	$69.547	-$58.630
Global Immunization	$218.724	$218.584	$206.000	-$12.584
-Polio Eradication (non-add)	$168.786	$168.679	$165.000	-$3.679
Parasitic Diseases and Malaria	$24.475	$24.453	$24.453	$0.000
Global Disease Detection and Other Programs	$55.146	$55.095	$50.000	-$5.095

CDC engages internationally 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.

Global Health Funding History[1,2]	
Fiscal Year	Dollars (in millions)
2013	$362.792
2014	$415.745
2015	$446.517
2016	$426.621
2017	$426.309

[1]FY 2014 amount is comparable to FY 2015 to account for the Center for Global Health reorganization.

[2]FY 2015 includes $30 million for CR Ebola Funding (PL 113-164). This total does not include any of the $1.77 billion in Ebola emergency funding (PL 113-235).

Global HIV/AIDS Budget Request

HIV, one of the deadliest infectious diseases worldwide, remains a leading cause of death in many countries and continues to be a leading cause of mortality among women of reproductive age. Globally, there are 37 million people living with HIV, with 2 million new infections each year. Investments in controlling the HIV epidemic now will reduce the number of new infections and total number of persons living with HIV, which will both save lives and also decrease future costs of the epidemic.

CDC plays an essential role in the fight against HIV by ensuring that science and practice rapidly evolve to accomplish the most efficient, high impact public health results. As an implementer[41] of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), CDC works to support strong, sustainable national HIV programs and public health systems that can effectively lead their countries' sustained response to the epidemic, as well as to other global health threats, ultimately protecting Americans at home. CDC uses its expertise in public health science, long-standing partnerships with ministries of health, community organizations and other global partners to establish country-driven programs and systems, with a focus on ensuring high-quality HIV monitoring and evaluation to drive evidence-based decisions. CDC provides HIV scientific and programmatic support and mentoring, serving over 50 countries 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. CDC, through its work with PEPFAR and in-country partners, has helped reduce AIDS-related deaths by 45% since 2004 by focusing on accountability, quality, and the use of data to improve decision-making and to enhance program focus. In 2016, as a key driver of U.S. progress through PEPFAR, CDC was responsible for:

- Life-saving antiretroviral treatment for 6.37 million men, women, and children, of the 11.5 million supported by PEPFAR
- Voluntary medical male circumcision procedures for more than 1.1 million men, of the 2.2 million supported by PEPFAR
- Antiretroviral medications for the 410,760 women who tested positive to prevent mother-to-child transmission, of the 759,725 supported by PEPFAR

Budget Request

CDC's FY 2018 request of **$69,547,000** for Global HIV/AIDS is $58,630,000 below the FY 2017 Annualized CR level. At this funding level, CDC will continue supporting scientific and technical experts at headquarters and in the field, but at a reduced scope. CDC will concentrate its efforts on countries, populations, and programs where resources will have the greatest public health impact. CDC will optimize staffing and technical resources to address the highest-priority global HIV needs, and ensure that ongoing activities are consistent with overall PEPFAR priorities and are lean, efficient, and effective. To achieve transformative epidemic impact, CDC will concentrate on controlling the epidemic in countries that are closest to reaching epidemic control. CDC will intensively focus on scaling up HIV treatment to decrease new infections and AIDS-related deaths, scaling up alternative service delivery models to reduce service delivery costs, preventing sexual violence that contributes to risk of HIV, and preventing, finding and treating TB among people living with HIV.

[41] http://www.cdc.gov/globalhivtb/

CDC will reduce technical support to countries to sustain current levels of treatment and voluntary medical male circumcision, a proven HIV prevention effort. CDC will decrease expert support to as many as 25 countries. This approach to rapidly achieve sustained epidemic control in a number of countries over the next three to four years will allow cost-savings that result from control to then be repurposed to other critical countries in future years, with a longer trajectory to epidemic control. CDC will also streamline expansion of annual viral load testing services, used to indicate how well HIV treatment is working, to individuals on PEPFAR-supported antiretroviral therapy. In FY 2018, CDC will focus current interventions and technical assistance to countries that have adopted Test-and-Start, a global initiative focused on starting patients on ART immediately after a HIV-positive diagnosis in order to save lives and prevent new infections. CDC will implement differentiated models of service delivery, a more effective and efficient HIV treatment model, in select countries.

Data-Driven Implementation to Ensure Quality Programs

Economics at Work

CDC collaborated with the Botswana Ministry of Health to analyze the impact of Test–and-Start. The results informed the Ministry's decision to implement Test-and-Start, demonstrating that it would help to avert more than 120,000 new HIV infections and 55,000 AIDS-related deaths over the next 15 years.

CDC uses data to promote evidence-based program planning, impact, sustainability, and accountability through innovative methods. For example, CDC's work on improving efficiency and effectiveness through expenditure analysis and economic evaluations has led to a 32 percent reduction of expenditures for people on treatment in 15 PEPFAR countries, allowing $260 million to be targeted to proven interventions and quality improvement activities. In FY 2018, CDC will strategically focus collaboration with partner countries to monitor and evaluate programs. CDC will streamline its activities in strengthening the collection and use of surveillance data that improves efficiency and targets program activities.

Essential Public Health Platforms

Two essential elements to any public health platform are laboratories and surveillance. Laboratories are vital to an effective response to HIV and other public health threats. CDC supports HIV research and innovation activities, including the detection and study of drug resistance and the development of new, superior HIV testing technologies that can be used both domestically and internationally. In FY 2018, CDC will strategically focus its support of country-driven efforts to provide quality diagnostic services for prevention, surveillance, and treatment programs across diseases. Surveillance helps determine what is happening on the ground and what interventions might work. These data provide information about behavior, incidence, prevalence, and mortality in populations prior to and post HIV diagnosis. CDC's surveillance activities are a primary driver of decisions for the program. In FY 2018, CDC will focus on priority surveillance and health information systems, at a reduced level.

Global Tuberculosis

Tuberculosis (TB) claims 1.8 million lives each year and 2 billion people – one-quarter of the world's population are infected with TB. TB and, in particular, multidrug-resistant TB (MDR-TB) must be met with a coordinated and focused global response, as global reduction in TB reduces rates here in the United States.

TB is the world's deadliest infectious disease. We now recognize that the epidemic is larger than previously estimated and the rate of decline in incidence has stagnated. In 2015, 10.4 million people fell ill from TB and 1.8 million people died, which is the equivalent of 4,900 people dying of TB every day. Even more threatening is multidrug-resistant TB (MDR-TB), or TB that has become resistant to treatment with at least two of the most powerful first-line anti-TB drugs. It is estimated that only one in five people eligible for MDR-TB treatment are on treatment, which allows for further spread of the disease. There are three key factors continuing to drive the epidemic: (1) undiagnosed TB, (2) low resourced TB control programs and associated breakdowns in health care infrastructure, and (3) the HIV epidemic.

CDC's Global TB activities to focus on the following priorities:

- Find: improving case-finding approaches, particularly for vulnerable and high-risk populations and improving diagnostic algorithms and optimizing use of new and existing diagnostics;
- Cure: optimizing TB and MDR-TB treatment regimens; improving linkage to care and treatment, especially among people living with HIV; improving treatment adherence and cure rates among patients with drug-resistant TB; and assessing costs to patients and barriers to care;
- Prevent: implementing effective TB infection control practices in health facilities and congregate settings; scaling-up preventive therapy for people living with HIV and children; and
- Sustainability: scaling-up laboratory external quality assurance systems and training; strengthening surveillance systems to improve TB and MDR-TB burden estimates and track program performance; training ministry of health and national TB program staff on critical technical and programmatic areas, including infection control, diagnostics and quality assurance, data management, and operational research.

CDC's Global TB activities are supported by funding from the HIV/AIDS, Viral Hepatitis, Sexually Transmitted Infections, and Tuberculosis budget.

Global Immunization Budget Request

Vaccines are one of the most cost effective and lifesaving public health interventions. Although strong immunization programs in the United States have reduced the domestic disease burden, the nation remains at risk from imported other vaccine-preventable diseases (VPDs), such as polio and measles. CDC's global immunization activities focus on people in developing countries who are at the highest risk for illness and death from VPDs to stop these diseases before they reach our borders and protect lives. CDC's global immunization program plays an essential role in identifying where VPDs emerge and teaches other nations the basic skills needed to control disease outbreaks at the source.

In 2015, the United States experienced a large, multi-state measles outbreak of 125 cases in eight states linked to an amusement park in California42. Analysis by CDC laboratories identified the measles virus type in this

[42] www.cdc.gov/mmwr/preview/mmwrhtml/mm6414a1.htm

outbreak as identical to the virus type that caused a large measles outbreak in the Philippines in 2014.[43] Most measles cases in the United States are caused by international importation of the measles virus as measles has been eliminated from the US since 2000[44.]

In addition to causing disease and death, VPD outbreaks are expensive to state and local health departments and the U.S. health care system. For example, a CDC analysis published in 2011 found that hospitals can incur high costs in responding to measles in their facilities, with two hospitals spending almost $800,000 responding to just seven patients with measles.[45] Another CDC study published in 2013 found that the economic burden on just local and state public health institutions that dealt with measles outbreaks during 2011 ranged from an estimated $2.7 million to $5.3 million in total and cost.[46] Overall, the cost to local health departments to investigate an outbreak of VPDs is approximately $50,000 to $100,000 per case.[47]

Budget Request

CDC's FY 2018 request of **$206,000,000** for Global Immunization is $12,584,000 below the FY 2017 Annualized CR level. CDC is committed to the global eradication of polio and robust control of VPDs. This request will continue to fund CDC's efforts as part of the Global Polio Eradication Initiative that have reduced polio cases to a record low of 36 in 2016--down from an estimated 350,000 in 1988. At this funding level, CDC will continue supporting scientific and technical experts at CDC headquarters and in the field who respond to VPD outbreaks, at a reduced level. In FY 2018, CDC will focus its polio eradication efforts on core public health activities that align with CDC's mission and use proven interventions to move towards global eradication to ensure Americans are not at risk from this deadly disease anymore. In FY 2018, CDC will also strategically target its core VPD activities, such as measles and rubella elimination to countries with the highest disease burden.

Polio Eradication

CDC is the U.S. lead for scientific and technical efforts in polio eradication. CDC's leadership and guidance in accountability, environmental surveillance, and scientific and programmatic implementation has contributed substantially to the more than 99.9 percent decline in global and U.S. polio cases. However, 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. In FY 2018, CDC will conduct surveillance of polio viruses designed to ensure prompt detection that would prevent potential outbreaks of paralytic polio disease, but will have limited capacity to verify interruption of virus circulation in high-risk countries. CDC will continue collaboration with public-private partners and ministries of health intended to provide epidemiologic, laboratory, and programmatic support in developing, monitoring, and evaluating programs and national level surveillance. CDC will continue its activities in quality assurance, diagnostic confirmation, and genomic sequencing of samples obtained worldwide; as well as to promote national ownership, oversight, and accountability. CDC will also continue polio legacy transition planning, which is devised to ensure that key polio functions, including immunization, surveillance, outbreak response and biocontainment, will be in place post-eradication.

[43] http://www.cdc.gov/measles/cases-outbreaks.html
[44] http://www.cdc.gov/measles/downloads/report-elimination-measles-rubella-crs.pdf
[45] https://academic.oup.com/jid/article/203/11/1517/862546/Health-Care-Associated-Measles-Outbreak-in-the
[46] https://www.ncbi.nlm.nih.gov/pubmed/24135574
[47] https://www.ncbi.nlm.nih.gov/pubmed/24135574

Measles and other vaccine-preventable diseases

CDC's leadership and global immunization expertise date back to 1966 when the agency established the CDC Smallpox Eradication Program. CDC's global immunization efforts to control, eliminate, and eradicate VPDs and strengthen worldwide immunization programs protect people living in the United States from VPDs that have been eliminated or no longer circulate in our country, including measles and rubella. Estimates place the cost of global control of measles and rubella at $98 billion annually in program and treatment costs and lost productivity[48.] The proven intervention—routine childhood immunization—has the highest return on investment in low-and middle-income countries, a ratio of $58 return per $1 invested.[49]

Tremendous progress has been made towards both measles and rubella elimination since 2001 with measles-related deaths down 79 percent from 2000 levels as of 2015, preventing 20.3 million measles-related deaths, and rubella/congenital rubella syndrome (CRS) having been eliminated from the Americas. Despite these advances, neither measles nor rubella elimination are on track for eradication worldwide, putting Americans at risk for these diseases. A focus on improving surveillance and ongoing immunization programs is required to ensure that gains in measles and rubella control can be sustained. In FY 2018, CDC will focus measles vaccine purchase and campaigns, including mass vaccination activities, to those countries with the highest disease burden. CDC will strengthen the collection and use of surveillance data to better guide program strategy and implementation for measles and rubella control, and continue to collaborate with countries with the highest burden of VPDs to assist these countries with building capacity to sustain their own immunization programs and surveillance systems. CDC will have limited capacity to rapidly deploy internationally to support vaccination and surveillance efforts at the country level in the event of an outbreak of measles or other VPDs, including Yellow Fever and cholera. At this funding level, CDC will strategically limit reference laboratory services and viral sequencing to priority areas, including CDC's polio, measles, and rubella reference laboratories' diagnostic services.

From Zika to Congenital Rubella Syndrome (CRS)

While Zika virus infection during pregnancy has recently been tragically linked to microcephaly and other congenital birth defects, rubella virus remains by far the most common infectious disease globally causing congenital birth defects and is the leading preventable cause--an estimated 100,000 infants are born with congenital rubella syndrome (CRS) each year. Research on congenital Zika and its prevention is informed by what is known from CRS and rubella vaccination.

[48] Thompson KM, Odahowski CL. Risk Analysis 2016;36(7):1357-1382

[49] Ozawa S, et al. Health Affairs 2016;35(2):199-207 *http://content.healthaffairs.org/content/35/2/199.abstract*

Parasitic Diseases and Malaria Budget Request

CDC's parasitic disease and malaria activities seek 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), and advance research to detect, prevent and eliminate parasitic diseases.

Budget Request

CDC's FY 2018 request of **$24,453,000** for Parasitic Diseases and Malaria is level with the FY 2017 Annualized CR level.

Parasitic Diseases in the United States

CDC detects, helps treat, and prevents sickness and death in the United States from parasitic infections. CDC maintains the national parasitic disease reference laboratories, including an online, interactive diagnostic resource,[50] and coordinates national surveillance for notifiable parasitic diseases. Because diagnostic capacity for parasitic diseases 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 and releases life-saving medications that are not available commercially.

Providing life-saving assistance

CDC collaborated with the Association of Organ Procurement Organizations (OPOs) to improve screening for *Strongyloides* by OPOs to prevent the morbidity and mortality associated with this infection in transplant recipients. *Strongyloidiasis* is a disease caused by roundworm and can be life threatening in people with underlying health conditions including Chronic Obstructive Pulmonary Disease and some blood cancers as well as organ transplant recipients. As a result of CDC's efforts, an additional eight OPOs serving 37.9 million Americans are currently considering initiating *Strongyloides* screening practices.

In 2015, CDC labs tested approximately 8,800 specimens from U.S. residents and government overseas staff for parasitic diseases and responded 3,416 requests for diagnostic assistance, with 309 telediagnosis inquiries. The agency also responded to over 4,873 malaria specific inquiries via its 24/7 hotline, many of them urgent requests related to life-saving consultations, diagnosis, and treatment. CDC expects the demand for its reference laboratory and consultation services to continue in FY 2018 due to increases in global travel and imports, awareness of domestically acquired parasitic infections, and declining state laboratory capacity.

Monitoring the spread of malaria drug resistance

Using advanced molecular detection (AMD) tools, CDC has developed a more sensitive, rapid, and less expensive method for surveillance of malaria drug resistance. This test will replace current methods used for malaria drug resistance surveillance in public health laboratories in the US, aid in global efforts to mitigate spread of malaria drug resistance, and will help inform prevention and treatment guidelines for the U.S. and international settings.

Global Malaria

CDC is a global leader in preventing and treating malaria, providing scientific expertise to endemic countries to improve surveillance, laboratory systems, and management of malaria cases. CDC also jointly implements the President's Malaria Initiative with USAID in 19 African focus countries and the six-country Greater Mekong sub-Region.

CDC works with ministry of health and other partners to strengthen laboratory diagnostics, surveillance and evaluation to prevent and control malaria. The most sustainable approach to address the malaria threat is to eliminate it. Current malaria surveillance approaches focus on periodic tracking of commodity purchase and coverage rates. However, to enable progress toward malaria elimination, countries will need to carry out on-going, real time disease

[50] http://www.cdc.gov/dpdx/

surveillance of laboratory-confirmed cases. CDC's work leading the Malaria Zero Consortium in Hispaniola demonstrates real progress towards malaria elimination and provides evidence-based guidance to inform other countries working towards malaria elimination.

Diagnostic test saves lives and money

CDC developed a blood test that can potentially determine the level of trachoma transmission in a community. This laboratory tool makes it possible to monitor the impact of trachoma elimination programs and provide early detection if trachoma returns. The test offers savings of hundreds of thousands of dollars in training costs alone, compared to clinical eye exams currently used.

Despite progress, malaria remains endemic in many regions and countries. The parasites that cause malaria continue to evolve, and are showing signs of resistance, making it more difficult to successfully treat the disease. In addition, with large-scale implementation of prevention strategies, there is a need to develop program efficiencies, improve interventions and tools, and ensure that new technologies developed in the lab are quickly adapted for use in the field. CDC conducts strategic and applied research to address these issues and accelerate malaria control and elimination.

A critical asset is CDC's global reference insectary, which allows scientists to better understand 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. These activities will continue in FY 2018. 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 continue to develop and evaluate new rapid and simple field methods to test the quality of antimalarial drugs. CDC will continue testing of long-lasting insecticide-treated mosquito nets for durability and retention of insecticidal effectiveness, monitor levels of insecticide resistance among mosquitoes in President's Malaria Initiative countries, and assess new vector control methods and insecticides.

Neglected Tropical Diseases

CDC works to reduce the substantial illnesses and disability caused by neglected tropical diseases (NTDs), with a focus on NTDs that can be controlled through mass drug administration or other low cost interventions. These diseases are lymphatic filariasis (elephantiasis), onchocerciasis (river blindness), blinding trachoma, schistosomiasis, three soil-transmitted helminths (intestinal worms), and the eradication of Guinea worm.

CDC works to improve NTD control programs, more accurately measure program impact, and improve diagnostic and epidemiological tools to support elimination. For example, in FY 2015, CDC implemented surveys to assess impact of mass drug administration across multiple NTDs and other diseases. A critical component of these integrated surveys was a CDC-developed and validated multiplex immunoassay that detects antibodies for more than 35 viral, bacterial, and parasitic diseases, and provides an assessment of vaccination coverage levels, using a single small blood sample. In FY 2016, CDC developed, validated and field-tested a hand-held trachoma antibody test that is easier to use and less costly for surveillance of trachoma. These activities will continue in FY 2018. CDC will continue to 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 Disease Detection and Other Health Programs Budget Request

From Avian flu to Zika, the world faces a host of dangerous pathogens and potential epidemics. The Ebola outbreak in West Africa, the spread of Zika, and large outbreaks of yellow fever and cholera remind us of our personal vulnerability and collective peril, as well as the risk to our national, economic and health security. CDC's global disease detection and country-based activities establish keep Americans safe at home and abroad through monitoring outbreaks 24/7; maintaining rapid response teams that are prepared to deploy anytime, anywhere in case of emergency; and supporting regional disease detection centers, staffed with world class scientists and possessing labs capable of identifying new/re-emerging pathogens.

Outbreaks disrupt global business continuity, decrease tourism and travel, and lower worker productivity. Pandemic threats can disrupt the market for U.S. exports and demand for U.S.-based jobs. Past outbreaks have demonstrated how vast the losses can be. In 2003, the SARS outbreak cost $40 billion in just four months, with airlines alone losing $7 billion in revenue. The first six months of the Zika outbreak in 2016 cost an estimated $3.5 billion while over $2.2 billion was lost in the GDP of the three affected countries in the 2014 Ebola outbreak. In the United States, the seasonal flu results in 17 million lost workdays and $87 billion in economic cost[51]. The expected annual loss from potential pandemics is estimated to be more than $60 billion or $6 trillion in the 21st century.[52] The most effective way to protect Americans from the next, inevitable emerging disease threat is to invest in global disease detection and prevention programs as a safeguard against future epidemics.

CDC is a global leader in building disease detection and response capabilities in other countries to identify emerging threats, prevent the spread of disease outbreaks, and prepare for and respond to public health emergencies. CDC works closely with ministries of health, academic partners and non-governmental organizations to develop core response capabilities such as disease surveillance, field epidemiology training, preparedness and response, and laboratory systems to stop diseases before they reach our borders. CDC's Global Disease Detection (GDD) program supports regional global disease detection centers in 10 countries (Bangladesh, China, Egypt, Georgia and the South Caucuses, Guatemala and Central America, India, Kazakhstan and Central Asia, Kenya, South Africa, and Thailand), and the Global Disease Detection Operations Center (GDDOC) based in Atlanta, conducts 24/7 monitoring for outbreaks and other threats. CDC's Field Epidemiology Training Program (FETP) trains a global workshop of field epidemiologists or "disease detectives," and the Global Rapid Response Team (GRRT) holds in reserve 350 well-trained public health experts ready to deploy on short notice to assist countries in emergency responses.

Budget Request

CDC's FY 2018 request of **$50,000,000** for Global Disease Detection and Other Programs is $5,095,000 below the FY 2017 Annualized CR level. The FY 2018 budget request maintains core global disease detection activities to protect Americans national, economic, and health security but funding and assistance to regional centers will be reduced. CDC will focus on the continued the identification of highly infectious, rapidly spreading pathogens and maintain a ready response force to respond to global disease outbreaks that threaten to spillover national borders and threaten regional and international health security.

Global Disease Detection and Other Programs

The Global Disease Detection Operations Center (GDDOC) located at CDC headquarters in Atlanta, monitors outbreaks across the globe 24/7. The GDDOC uses "event-based surveillance" to monitor reports, stories, rumors, media, community messaging systems, hotlines, and other information sources to detect unusual

[51] http://www.sciencedirect.com/science/article/pii/S0264410X07003854

[52] GHRF Commission (Commission on a Global Health Risk Framework for the Future). 2016. The neglected dimension of global security: A framework to counter infectious disease crises. http://nam.edu/GHRFreport. doi: 10.17226/21891.

activity that might signal an outbreak or other risk. For example, during the 2014-2016 Ebola outbreak in West Africa, the Global Disease Detection Operations Center tracked more than 269 other outbreaks in more than 145 countries and continues to monitor 30-40 health threats each day. CDC also has established and staffed 10 regional Global Disease Detection (GDD) Centers53 throughout the world to engage and train other nations in the 24/7 monitoring of outbreaks. These institutions are strategically located throughout the world rapidly detect and tackle outbreaks, building local response capabilities for disease detection and monitoring. 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 that conduct disease surveillance and share information about hospital-acquired infections, bacterial blood stream infections, diarrheal disease, influenza, tuberculosis, and a number of other infectious diseases. Over the past decade, these disease detection centers have discovered 12 new pathogens that scientists never knew existed, as well as provided scientific support for more than 1,700 outbreaks, including SARS, polio, MERS, cholera, Nipah virus, Ebola, and Zika.

In FY 2018, CDC will continue to monitor for global disease outbreaks that put Americans at risk, however, CDC will limit its training of frontline disease detectives, trained scientists, and public health professionals necessary to collect and analyze data which will limit our capacity to track potential global outbreaks affecting the United States.

Even with strong public health systems and institutes, disease threats can emerge at any time and CDC is ready to support other nations when help is needed. CDC's Global Rapid Response Team (GRRT) is able to deploy subject matter experts within 24-48 hours of a reported public health threat, and coordinate logistics, communications, and management operations in the field In addition, during the first year of operation, GRRT teams responded to over 90 events, including cholera, yellow fever, Ebola, measles and polio. In FY 2018, CDC will continue to deploy the GRRT for emergencies when needed, however, the time to deployment and size of deployment-ready workforce both will be reduced.

CDC's Field Epidemiology Training Program (FETP), a country-based program modeled after CDC's own domestic Epidemic Intelligence Service, trains a global workforce of field epidemiologists, or "disease detectives." FETP combines classroom training with extended periods of on-the-job experience and mentoring. The resulting trained epidemiologists are the "boots on the ground" in the effort to identify and contain infectious disease threats. CDC's FETP provides countries with a sustainable protection against global health threats, with approximately 80 percent of FETP graduates continuing to serve in public health programs in their home countries. CDC estimates that worldwide, one epidemiologist is needed for every 200,000 people in order to adequately identify and respond to emerging infectious diseases and has determined that up to 29,000 additional epidemiologists are needed worldwide in order to meet this goal. In FY 2018, CDC will continue FETP training, but will reduce the number of countries in which these trainings occur.

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$1,413.250	$1,402.329	$1,266.000	-$136.329
FTEs	664	630	630	0
- State and Local Preparedness and Response Capability	$623.950	$666.929	$551.000	-$115.929
- Public Health Emergency Preparedness Cooperative Agreement	$615.750	$658.745	$551.000	-$107.745
- Academic Centers for Public Health Preparedness	$8.200	$8.184	$0.000	-$8.184
- CDC Preparedness and Response Capability	$161.800	$161.492	$140.000	-$21.492
- Strategic National Stockpile	$569.250	$573.907	$575.000	+$1.093
- Immediate Zika Response	$58.250	N/A	N/A	N/A

Public Health Preparedness and Response Funding History	
Fiscal Year	Dollars (in millions)
2013	$1,278.870
2014	$1,367.551
2015	$1,352.551
2016	$1,413.250
2017	$1,402.329

Strategic National Stockpile 10-Year Funding History

Fiscal Year	Dollars (in millions)
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	$569.250
2017	$573.907

State and Local Preparedness and Response Capability Budget Request

CDC's State and Local Preparedness and Response Capability strengthens public health emergency management and response through its Public Health Emergency Preparedness (PHEP) cooperative agreement.[54] The PHEP program ensures states and localities have the resources and skills to respond to public health emergencies regardless of origin. Funded jurisdictions include all 50 states, 4 directly-funded localities, and 8 territories.

CDC has a wealth of knowledge and expertise in responding to a range of public health emergencies, whether infectious disease, environmental, or other disasters. CDC uses this expertise and its long standing relationships with state, local, federal, and private partners to build and sustain an integrated approach to public health emergency preparedness.

Budget Request

CDC's FY 2018 request of **$551,000,000** for State and Local Preparedness and Response Capability is $115,929,000 below the FY 2017 Annualized CR level. At this level, CDC will eliminate the Academic Centers for Public Health Preparedness and reduce the level of funding for the Public Health Emergency Preparedness Cooperative Agreements. In addition, this funding decrease could reduce awardees' capabilities in epidemiological, laboratory, and risk communication domains, but CDC will work with awardees to prioritize the most important preparedness activities. CDC will continue to support evaluation of grantee activities and assessments such as the Operational Readiness Review and will use these analyses to inform training and guidance to the public health preparedness field.

Prior to FY 2018, PHEP funds were awarded to 62 recipients in accordance with a funding formula authorized by Section 319C-1 of the Public Health Service (PHS) Act. This formula included a base amount for each awardee plus population-based funding.

The Budget restructures HHS preparedness grants to direct resources to States with the greatest need and provide more innovative approaches. In FY 2018, the PHEP cooperative agreement will gain efficiencies, address gaps, and incentivize innovation by incorporating a competitive and risk-based component, and link awards with performance. All awardees will receive a minimum award. For the competitive component of the award, past performance and quality of proposed plans will be used to determine awards. Some current grant recipients may not receive funds under the competitive section of the program.

CDC has developed the expertise and long term relationships with public health departments required to effectively manage the PHEP program. Since 9/11, CDC's PHEP program has partnered with 62 states, local, and territorial public health departments to prepare for, withstand, and recover from potentially devastating public health emergencies. CDC has provided more than $12 billion through the PHEP cooperative agreement to public health departments across the nation since 2002. Supporting state and local health departments through grants and cooperative agreements is core to CDC's support for these vital programs.

The PHEP program supports the development and maintenance of capable, flexible, and adaptable public health systems ready to respond rapidly to ensure Americans are protected.

- In response to the Zika outbreak, as of December 2016, CDC provided $50 million through the PHEP program to states, cities, and territories most at-risk for Zika to rapidly identify and investigate possible outbreaks of Zika virus and coordinate a comprehensive response across all levels of government and

[54] http://www.cdc.gov/phpr/coopagreement.htm

nongovernmental partners including the healthcare sector. CDC was able to do this efficiently by utilizing CDC's Emergency Operations Center's Incident Management Structure.

- During the 2014-2015 Ebola outbreak, in addition to providing funding to the PHEP awardees to address local preparedness and response capacity for Ebola, CDC sent Rapid Ebola Preparedness teams across the U.S. to train and prepare hospitals for the possibility of treating Ebola patients. CDC's expertise in Ebola was crucial to preparing hospitals for Ebola and other infectious diseases.

- Since October 2014, PHEP awardees have monitored more than 21,500 travelers from countries in West Africa with widespread Ebola cases. This includes daily monitoring for 21 days for every traveler. PHEP resources and guidance enabled the rapid establishment of 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 quickly 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.

Other highlights of CDC's experience managing grant programs during a public health emergency:

- In response to the 2009 H1N1 influenza pandemic, CDC administered funding through the Public Health Emergency Response grant to increase state and local preparedness and response capacity during the pandemic. CDC, through established PHEP relationships, was also able to quickly coordinate the delivery of 25% of the Strategic National Stockpile's pandemic influenza countermeasures.

- CDC, working closely with the Louisiana preparedness program, delivered a 250-bed Federal Medical Station (FMS) with a complete pharmaceutical module to Louisiana during a flooding event in August 2016. A CDC FMS strike team, technical specialists with in-depth knowledge of the Strategic National Stockpile (SNS) operations and FMS material, arrived within 15 hours of being requested to manage the arrival of the FMS.

- In 2016, CDC conducted 39 external SNS training courses tailored to state and local requirements. CDC also trained 1,893 federal and state, local, tribal, and territorial (SLTT) emergency responders representing 15 different project areas using in-person trainings at SLTT locations and the FEMA Center for Domestic Preparedness facilities in Alabama and virtual training via web meetings.

The PHEP program also allows CDC to provide expertise and support to state and local health departments' efforts to prepare for and respond to more localized emergencies, including those requiring coordinated health care and public health responses.

For example, when an EF-5 tornado damaged or destroyed 2,000 buildings and a major hospital in Missouri, the Missouri health department led the emergency response, coordinating both the public health and healthcare sectors. The state tracked 713 injured individuals and evacuated them to 42 hospitals. They also provided care for dialysis and ventilator-dependent patients and reduced lead exposure and fungal and mosquito-borne disease.

In Alabama, 62 tornadoes killed almost 250 people, injured hundreds more, and left thousands homeless. The Alabama Department of Public Health (ADPH) PHEP program leads the public health and healthcare system response within Alabama. The ADPH provided much-needed medical resources and support to help alleviate the huge surge in patients with acute and chronic health conditions. ADPH supported and led the opening of medical needs shelters, deployed public health nurses to triage patients and provide outpatient care where

needed, established a mobile pharmacy, and collaborated mass fatality response functions with coroners, hospitals, and other partners.

In FY 2018, CDC's project officers and PHEP program experts will work closely with funded state, local, and territorial health departments to:

- Represent state and local needs within CDC's Incident Management System; this system is activated during public health emergencies to bring together subject matter experts from across the agency to facilitate efficient response activities and communication.
- Collaborate with state and local health departments during public health emergencies to ensure effective, efficient, and coordinated response activities.
- Identify opportunities for continued program improvement during public health emergencies, including using lessons learned during public health responses, such as Ebola and Zika, to strengthen communication between CDC and key stakeholders.
- Sustain the day-to-day public health impact of the PHEP program by providing guidance and technical expertise to state and local health departments and ensuring infrastructure such as emergency operations centers, laboratories, and communication systems is maintained.
- Evaluate awardee progress in addressing gaps identified through the medical countermeasure (MCM) operational readiness review process and ensure awardees continue to improve their MCM distribution and dispensing capacity.
- Oversee CDC's PHEP awardee programs to ensure accountability and effective use of funds and performance monitoring and reporting.
- Provide planning resources to enable awardees to better integrate the access and functional needs of at-risk individuals in public health, healthcare, and behavioral health response strategies.

CDC Preparedness and Response Capability Budget Request

CDC's Preparedness and Response Capability supports critical infrastructure and research to facilitate prevention of and rapid response to public health emergencies by:

- Regulating and monitoring ownership, use, and transfer of dangerous biological agents and toxins
- Activating CDC's Emergency Operations Center to ensure effective and efficient response operations
- Developing standard Laboratory Response Network (LRN) protocols; and providing training and quality assurance for testing biological and chemical threat agents
- Advancing the development of a surveillance system for the timely exchange of syndromic data (NSSP)

Budget Request

CDC's FY 2018 request of **$140,000,000** for CDC Preparedness and Response Capability is $21,492,000 below the FY 2017 Annualized CR level. At this level, CDC will focus on the Select Agent Program and mission critical activities. In order to maintain the critical preparedness and response infrastructure, CDC will prioritize activities which address the largest needs. To do this, CDC may reduce the level of effort for some of the following activities:

- CDC response service contracts
    - 24/7 Watch Desk
    - Epi-X (a secure communication channel for public health officials to report and discuss disease outbreaks and other acute health events such as terrorism)
- Response Web support
- Preparedness activities such as planning and exercises
- Preparedness for nuclear or radiological incidents
- Smallpox vaccine research
- Chemical terrorism response
- Applied research to protect first responders
- Training to regulated facilities on how to improve compliance with select agent regulations and increase biosafety and security measures
- Inspections of facilities that import infectious biological agents

Regulation of Biological Agents and Toxins

CDC jointly manages the Federal Select Agent Program (FSAP) with the U.S. Department of Agriculture to regulate the possession, use, and transfer of biological pathogens and toxins that have the potential to pose a severe threat to human, animal, and plant health, as well as animal and plant products. CDC is responsible for regulation of these infectious agents which affect human health in the United States. Common examples of select agents include anthrax, bubonic plague, smallpox, and ricin. Scientific research on these agents leads to discoveries that saves lives and protects the health, safety, and security of the American people.

To ensure research with select agents and toxins is conducted as safely and securely as possible, CDC is responsible for two programs: the CDC Select Agent Program and the Import Permit Program.[55,56]

CDC Select Agent Program

Laboratory inspections are an important aspect of the Federal Select Agent Program. CDC inspects registered facilities to ensure compliance with select agent regulations. These inspections allow CDC to confirm appropriate biosafety and security measures are in place, including that laboratorians are adequately trained to implement plans and procedures for containment of select agents at each facility. CDC will maintain continuous quality improvement activities to include identifying variation and vulnerabilities in our inspection processes and determining best practices, and strive to maintain the number of inspections performed.

Import Permit Program

The CDC Import Permit Program (IPP) regulates importation of infectious biological agents into the United States to ensure they are handled appropriately. Prior to issuing import permits, IPP reviews all applications to ensure facilities have appropriate safety measures in place for working with these imported materials and, as needed, inspects applicants to ensure that the facilities implemented appropriate biosafety measures for the infectious biological agent, infectious substance, or vector (e.g., mosquitoes, rodents, etc.) to be imported.

Through these two programs, CDC:

- Develops, implements, and enforces the select agent regulations to ensure research and other activities with select agents are conducted as safely and securely as possible.
- Conducts inspections and registration for the nearly 300 facilities that work with select agents to make certain they have appropriate measures in place to prevent the unauthorized access, theft, loss, or release of select agents.
- Approves individual access to select agents following security risk assessments performed by the FBI (this helps prevent the misuse of these agents from individuals planning to do harm with them).
- Receives reports of theft, loss, or release from facilities.
    - These may include laboratory-acquired infection, exposure (e.g., a needle-stick, spill, or animal bite), or the loss of select agent inventory.
    - FSAP investigates each report, ranging from follow up to ensure proper actions are taken, to notifying appropriate authorities and identifying ways to prevent incidents from happening again.
- Maintains a national database that enables the U.S. government to maintain awareness of facilities that possess these potentially dangerous materials.

In FY 2018, CDC will provide leadership to promote the safe and secure handling of biological agents and toxins, conduct oversight of research activities, monitor imports of select agents and toxins critical to national security and public health, and sustain oversight of laboratories working with select agents and toxins.

[55] 42 CFR 73
[56] 42 CFR 71.54

Emergency Management Program

CDC's Emergency Management Program (EMP) is responsible for the overall coordination of CDC's preparedness, assessment, response, recovery, and evaluation prior to and during public health emergencies. The EMP operates CDC's Emergency Operations Center (EOC), where highly trained experts track information that could indicate a pending public health threat, prepare for known and unknown events, and provide real-time, coordinated response capability to public health emergencies. All of these actions improve the nation's ability to detect and respond to threats. Even when there is no specific threat, the EOC has dedicated staff monitoring health reports and fielding calls from the public, physicians, and state and local authorities 24/7.

Since the EOC's establishment in 2003, CDC has responded to 85 public health emergencies, including hurricanes, foodborne disease outbreaks, the 2009 H1N1 influenza pandemic, the Haiti cholera outbreak, and the outbreaks of Ebola and Zika. The EOC has been activated continuously since December 2011 and was activated for four concurrent public health emergencies in February and March 2016. In addition to emergencies, the EOC may also be activated for planned events (e.g., presidential inaugurations and Olympics taking place in the U.S.) to monitor for incidents that may affect the public's health. In FY 2018, CDC will protect America by:

- Deploying scientific experts in response to public health emergencies
- Coordinating delivery of medical supplies and equipment
- Monitoring response activities
- Providing resources to state and local public health departments
- Coordinating risk communications for physicians, states, cities, and the general public that are timely, accurate, consistent, and actionable

Laboratory Response Network Assay Development and Proficiency Testing

The Laboratory Response Network (LRN) protects the country against infectious disease threats through early and definitive detection, enabling response efforts to contain small emergencies before they become big emergencies. CDC supports the LRN by providing standard assays and protocols, training, proficiency testing exercises, and quality assurance for testing biological and chemical threat agents. Over the last four years, CDC:

- Increased the number of assays to detect and characterize threat agents. New assays are developed in response to threat analyses or emerging infectious diseases.
- Evaluated assays for effectiveness. Assays may be developed by CDC or by partners outside of CDC (e.g., DHS and DOD). CDC evaluates these assays to determine if they are applicable for use in the LRN.
- Deployed assays, such as Zika tests, into the LRN for use by participating laboratories. Deployment includes providing reagents, procedures, training, and technical support as well as proficiency testing.

National Syndromic Surveillance Program

CDC's National Syndromic Surveillance Program (NSSP)[57] develops and deploys a syndromic surveillance system that enables the timely exchange of health data in near real time. Through NSSP, CDC funds state and local health departments to conduct syndromic surveillance. Syndromic surveillance includes collection and analysis of several data sources: patient information from emergency departments, urgent care, hospitals; as well as pharmacy and laboratory data to detect and characterize aberrations meriting further public health investigation or response. This surveillance system protects the nation by providing timely and accurate

[57] http://www.cdc.gov/nssp/index.html

information to leaders at the local, state, and national levels so that timely decisions on effective interventions are possible.

NSSP includes two key components that advance syndromic surveillance:

- The BioSense Platform: a suite of analytic tools that includes ESSENCE, SAS, and R Studio Professional (a programming language for statistical computing and graphics) and is based in the GovCloud environment, providing broader, more efficient access. The platform provides users with state-of-the-art tools to analyze, visualize, and use the data jurisdictions contribute to the platform.

- The National Syndromic Surveillance Program Community of Practice: members include NSSP-funded grantees, unfunded states and jurisdictions, public health practitioners, CDC programs, other federal agencies, partner organizations, hospitals, healthcare professionals, and academic institutions that collaborate to advance the science and practice of syndromic surveillance. NSSP's Community of Practice provides a collaborative environment in which states can bring new case definitions on line and coordinate algorithms needed for detecting suspect cases for diseases such as Middle East Respiratory Syndrome coronavirus (MERS-CoV), enterovirus (EV-D68), Chikungunya, Ebola, and Zika.

CDC exceeded its FY 2016 goal of receiving data from 55 percent of emergency department visits across the United States. The increase in data will provide a more complete picture of the nation's health indicators and equips NSSP participants with the capability to better detect and analyze adverse health events such as cases of heroin and opioid overdose.

Continued investments in the use of syndromic surveillance will strengthen the ability of all states to detect, respond to, and manage outbreaks and other public health emergencies while also contributing to situational awareness at regional and national levels. In FY 2018, CDC will continue its partnership with the Department of Defense, a member of NSSP, to identify possible opportunities associated with shared systems and potentially costs, and to begin exploring and assessing new data sources. CDC will also continue collaborating with state and local partners, CDC programs, and other federal partners on incorporating syndromic data into their overall surveillance efforts, thereby reducing duplication and increasing efficiency. NSSP is laying the foundation of seamless data exchange between the electronic health record and public health.

Strategic National Stockpile Budget Request

CDC's Strategic National Stockpile (SNS)[58] manages and delivers life-saving medical countermeasures (MCMs)[59] during a public health emergency. It is the largest federally owned repository of pharmaceuticals, critical medical supplies, Federal Medical Stations (FMS),[60] 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 U.S. soil today, the SNS is the only federal resource readily available to respond once state and local MCM supplies are depleted.

Budget Request

CDC's FY 2018 request of **$575,000,000** for the Strategic National Stockpile is $1,093,000 above the FY 2017 Annualized CR level. At this level, CDC will replace most, but not all, expiring SNS countermeasures in FY 2018. 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 2015 SNS Annual Review Report. Additional reductions to antiviral drugs will be required at this level, reducing capabilities to respond to an influenza pandemic as some product expires without replacement. CDC will coordinate with the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE)[61] to develop strategies to meet the national priorities in the 2015 SNS Annual Review with available funding.

Strategic procurement and stockpiling of MCMs are necessary to protect Americans' health and save lives. Medical countermeasures are FDA regulated products (biologics, drugs, and devices) that can be used to diagnose, prevent, protect from, or treat conditions associated with chemical, biological, radiological, or nuclear threats or emerging infectious diseases. Some MCMs are not commercially available because of 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.

PHEMCE establishes requirements for products that go into the SNS. They are responsible for defining and prioritizing requirements for public health emergency MCMs, as well as establishing deployment and use strategies for SNS products. Through interagency collaboration and participation in PHEMCE, CDC aligns SNS holdings and procurement plans with the recommended PHEMCE strategy. When PHEMCE requirements change (including the addition of new MCMs) or the commercial pricing for required MCMs increases sufficiently to impact SNS capability, CDC coordinates with PHEMCE to prioritize and adjust the contents of the SNS based on current threats and funding.

[58] http://www.cdc.gov/phpr/stockpile/stockpile.htm
[59] http://www.fda.gov/EmergencyPreparedness/Counterterrorism/MedicalCountermeasures/AboutMCMi/ucm431268.htm
[60] http://blogs.cdc.gov/cdcworksforyou24-7/2012/11/up-and-running-in-48-hours-how-federal-medical-stations-help-people-after-natural-disasters-like-hurricane-sandy/
[61] http://www.phe.gov/Preparedness/mcm/phemce/Pages/default.aspx

Projections for FY 2018 indicate CDC will not be able to maintain current preparedness levels with available funding. Through the 2015 SNS Annual Review, PHEMCE recommended CDC reduce planned procurement of anthrax vaccine and suspend procurement of certain formulations of antibiotics to address the difference.

CDC ensures SNS assets are available and ready for use by:

- Procuring, storing, maintaining, and replacing MCM assets, valued at nearly $7 billion.
- Supporting PHEMCE with subject matter expertise and data to inform strategic MCM requirements and procurement decisions.
- Providing guidance, training, exercise support, and assistance to state and local partners who will receive and distribute 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.
- Providing timely, accurate, and relevant information to clinicians to respond to emerging threats and public health emergencies.

CDC will provide training and exercise support in FY 2018 to sustain state and local capabilities critical to the effective distribution and dispensing of stockpiled MCMs to ensure access for individuals exposed to public health threats.

SNS Projected Allocations

	FY 2017 (Annualized CR Level)		FY 2018 President's Budget	
	Projected Level	Percentage of Total Appropriation	Requested	Percentage of Total Appropriation
Total	$573.9M	100%	$575.0M	100%
Product				
Product Procurement Costs	$360.1M	87.1%1	$354.8M	86.7%1
Product Sustainment Costs	$139.5M		$143.7M	
Operations				
SNS Operational Costs	$18.1M	12.9%2	$18.6M	13.3%2
CDC MCM Operational Costs	$56.3M		$58.0M	

1 Supports procurement, management, and maintenance costs to sustain $7 billion inventory of SNS assets, including storage, transportation, and disposal.
2 Supports CDC work to develop and provide guidance, training, security, and other resources required for effective use of SNS held MCMs at the federal, state, and local level during an emergency.

CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$250.977	$113.354	$105.000	-$8.354
PPHF	$160.000	$160.000	$0.000	-$160.000
Total Request	$410.977	$273.354	$105.000	-$168.354
FTEs	2,070	2,327	2,327	0
- Public Health Leadership and Support	$113.570	$113.354	$105.000	-$8.354
- Preventative Health Block Grant Program (PPHF)	$160.000	$160.000	$0.000	-$160.000
- Immediate Zika Response	$137.407	N/A	N/A	N/A

CDC's FY 2018 request of **$105,000,000** for CDC-wide Activities and Program Support is $168,354,000 below the FY 2017 Annualized CR 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 and reduced communications materials.

CDC-Wide Funding History[1]	
Fiscal Year	Dollars (in millions)
2013	$204.386
2013 (PPHF)	$22.585
2014	$114.649
2014 (PPHF)	$160.000
2015	$113.570
2015 (PPHF)	$160.000
2016	$250.977
2016 (PPHF)	$160.000
2017	$113.354
2017 (PPHF)	$160.000

[1]The FY 2014 Cross-cutting Activities and Program Support is comparably adjusted to reflect the transfer of Buildings and Facilities line to a separate account.

Public Health Leadership and Support Budget Request

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 2018 request of **$105,000,000** for Public Health Leadership and Support is $8,354,000 below the FY 2017 Annualized CR level. At this funding level, CDC will support fewer state, tribal, local and territorial (STLT) health departments in improving delivery of public health services.

Office of the Director

Funds requested in FY 2018 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.

Office for State, Tribal, Local and Territorial Support (OSTLTS)

CDC's OSTLTS improves the capacity of state, tribal, local, and territorial public health departments to manage and improve performance and deliver high-quality programs and services to protect the public's health by:

- Building capacity to use public health law to protect and improve public health
- Building the public health workforce through the Public Health Associate Program and other initiatives
- Helping health departments improve their performance and accountability based on national standards and advance toward national accreditation
- Providing consultation and technical support to assist health officers with addressing specific high-priority needs in their jurisdictions
- Collaborating with national public health partners on system-wide improvements for more efficient, effective, and sustainable delivery of public health services
- Managing the CDC/ATSDR government-to-government Tribal Advisory Committee and coordinating tribal consultations to improve the health of American Indians and Alaska Natives
- Providing ready-to-use tools and surge capacity for supporting health departments in protecting the public's health during emergencies

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. The office reviews, analyzes, and clears policy documents and CDC director correspondence. The office works with 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. This 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. 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.

Policy Office

The Policy Office provides agency-wide support to:

- Lead CDC's public health and healthcare collaboration activities
- 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
- Promotes and strengthens a common scientific culture for enhanced information exchange internally and externally including activities such as:
    - Public Health Grand Rounds
    - Vital Signs
    - CDC Science Clips

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 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:

- 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 noncommunicable diseases, injuries, disabilities, and environmental health across CDC and within the 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.

Office of the Chief Operating Officer

Business services offices support CDC by administering the agency's budget, grants, facilities, physical security, workforce health and wellness, human resources, and information technology programs. The Office of the Chief Operating Officer (OCOO) oversees many functions supported by the Working Capital Fund. The Public Health Leadership and Support budget funds the Office of Appropriations and the OCOO Office of the Director.

BUILDINGS AND FACILITIES BUDGET REQUEST

(dollars in millions)	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 PB +/- FY 2017 CR
Budget Authority	$10.000	$9.981	$20.000	+$10.019

Safe, secure, and fully operational buildings, facilities, and laboratories allow CDC to protect Americans from new disease threats and address evolving public health needs. Buildings and facilities funds replace, maintain, and improve existing facilities as well as construct new facilities to meet CDC's mission. CDC's facilities support approximately 16,000 personnel who are protecting Americans from health threats.

CDC's building repair and improvement needs are nationwide—covering CDC-owned facilities in seven states and San Juan, Puerto Rico. Investments in facility repair and improvement remain relatively consistent while the gross square footage of CDC's assets has nearly doubled since 2000. The current backlog of maintenance and repair exceeds $100 million and continues to grow. Failing equipment in laboratories, frequent water leaks, and other urgent and costly emergency repairs are a result of aging facilities. Unexpected emergencies such as these add to CDC's inability to address the growing backlog of routine maintenance and repair and often result in downtime for high-containment biosafety laboratories and other critical CDC mission support projects.

Buildings and Facilities Funding History	
Fiscal Year	Dollars (in millions)
2013	$23.648
2014	$23.772
2015	$10.000
2016	$10.000
2017	$9.981

Budget Request

CDC's FY 2018 request of **$20,000,000** for Buildings and Facilities is $10,019,000 above the FY 2017 Annualized CR level. Buildings and Facilities funding supports capital projects, such as new construction and major renovations to existing buildings, as well as repair and improvements necessary to maintain, sustain, improve, and restore CDC's assets (i.e., lab ventilation upgrades, structural repairs, roof replacements, and electrical and mechanical repairs). Capital leases, utilities, and operations and maintenance contracts for CDC owned buildings and facilities are funded through the Working Capital Fund.

As of FY 2017, CDC has 192 owned assets—165 buildings and 27 support structures — with a functional replacement value of $3.8 billion. Many of the facilities are aging; 71 are over 40 years old. As facilities age, operations and maintenance become more costly. Significant investments in a rigorous, preventive maintenance program are needed to reduce the $100 million maintenance backlog and keep CDC facilities fully-functional and prepared to respond to the next disease threat to our nation.

Repair and improvement projects are prioritized by need and available funding. Fire, life safety, and emergency projects are high-priority. Aging infrastructure in laboratory buildings at all locations requires major mechanical,

electrical, and plumbing system replacements. Key equipment in these systems may be replaced with the FY 2018 request including: built-in laboratory equipment, roofs, chillers, and boilers. Building support systems and components need to be replaced or repaired including elevators, foundations, fire alarm systems, and heating, ventilation, and air conditioning systems.

CDC's ability to respond to infectious disease threats depends upon operational readiness of laboratories. Laboratory operations are demanding on building systems, causing more rapid deterioration than for a comparable office building. The cost to maintain laboratory space is approximately forty percent higher per square foot than office space.

With the request of $20,000,000 in FY 2018, CDC will:

- Execute fire, life safety, and mission support projects
- Reduce current backlog of maintenance and repair
- Replace technologically-antiquated mechanical and electrical infrastructure
- Improve campus energy and water efficiency in alignment with federal requirements
-

The Budget request will support the following critical program support projects and maintenance such as:

Modifications for NCEZID's bio-safety laboratory, level 2 - will install a "clean steam" duct mounted humidifier that is located completely outside of the lab in the mechanical room. This lab works with finely powdered samples that are difficult to handle in low humidity conditions due to static electricity. Extra humidification is needed to reduce the chances of static buildup in the lab. These funds are necessary to assure continuity of operations of CDC's high containment lab.

Modifications for NCEH's newborn screening laboratory - will allow expansion of blood spotting and cell culture procedures to create new newborn screening quality assurance materials. The CDC Newborn Screening Quality Assurance Program is the only comprehensive quality assurance program for newborn screening laboratories around the world.

Replacement of the Power Distribution System on the Lawrenceville campus - existing service to CDC's Lawrenceville Campus appears to have been constructed in the early 1970's. According to a 2010 evaluation report, 8 of the existing 10 overhead conductors show visual defects or need to be replaced due to age. These components are at the end of their useful life and the system is at risk of failure.

Building maintenance ensures CDC research is conducted in a safe, dry, climate-controlled environment that will not disrupt or harm critical research developments.

Underground Mining Research Facility

As directed in the FY 2016 Consolidated Appropriations Act, CDC is proceeding with acquiring a replacement underground mining research facility to support mining research capabilities no longer available at the former NIOSH Lake Lynn facility. CDC is working with GSA to determine the suitability of potential sites and will assess environmental impacts for the candidate site. CDC will utilize prior year Buildings and Facilities funds as directed to purchase the potential new land site in FY 2019. These resources do not include funding for the design and construction.

Nonrecurring Expenses Fund

Cincinnati

CDC and GSA issued a site solicitation in July 2016 for a new facility to consolidate NIOSH Cincinnati Research Facilities into one central location. A potential site has been identified. After completing the environmental impact study, CDC intends to purchase the site. This project is supported through HHS's Nonrecurring Expenses Fund; notification to Congress of the use of these funds for this project was provided in February 2015. Design and construction will begin in FY 2018.

WORKING CAPITAL FUND

CDC FY 2018 WORKING CAPITAL FUND TABLE [1]

(dollars in thousands)

CDC Programs	FY 2017 Estimate	FY 2018 Estimate
Immunization and Respiratory Diseases	$46,215	$46,215
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	$49,873	$49,873
Emerging and Zoonotic Infectious Diseases	$62,097	$62,097
Chronic Disease Prevention and Health Promotion	$39,698	$39,698
Birth Defects, Developmental Disabilities, Disability and Health	$8,878	$8,878
Environmental Health	$22,738	$22,738
Injury Prevention and Control	$10,093	$10,093
Public Health Scientific Services	$48,590	$48,590
Occupational Safety and Health	$35,930	$35,930
Global Health	$36,464	$36,464
Public Health Preparedness and Response	$46,366	$46,366
CDC Wide Activities	$35,480	$35,480
CDC Program Total	**$442,422**	**$442,422**
Other CDC Funding Sources		
Agency for Toxic Substances and Disease Registry	$8,220	$8,220
Energy Employees Occupational Illness Compensation Program Act (EEOICPA)	$3,025	$3,025
Vaccines for Children	$23,432	$23,432
World Trade Center	$7,276	$7,276
PEPFAR	$32,625	$32,625
Other Reimbursable Income	$15,304	$15,304
Other CDC Programs Contributions Total	$89,882	$89,882
Total CDC Programs Contributions	**$532,304**	**$532,304**

[1]Estimates are based on the WCF Governance Board approved operating budget of $532,304,320 for FY 2017. 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.

The Working Capital Fund (WCF) is a revolving fund with extended availability and serves as the funding mechanism for centralized business services support across CDC. Business service offices provide services to CDC programs and the WCF bills programs for the services consumed based on pre-established rates.

FY 2018 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 2017, the WCF board will approve the final operating budget for FY 2018.

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 2016, the WCF held $46 million in unrestricted reserves. Of this amount, $8.6 million is for approved Board activities that were carried forward into FY 2017; and $2.6 million has been approved by the Board in FY 2017 for one-time support for mandated system upgrades. The available balance of unrestricted reserves is $35 million.

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.

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 include funding for IT capital investments and accrued annual leave for WCF employees.
- Unrestricted retained earnings include funding used to finance unforeseen, one-time costs. 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 unrestricted 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 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
Reimbursements and Trust Funds	$319.765	$412.109	$412.109
Total	**$319.765**	**$412.109**	**$412.109**

Authorizing Legislation: PHSA §§ 214, 301, 306(b)(4), 311, 353; Consolidated Appropriations Act, 2016 (P.L. 114-113)

(dollars in millions)	FY 2016 Estimate	FY 2017 Estimate	FY 2018 Estimate
Reimbursements and Trust Funds	**$319.765**	**$412.109**	**$412.109**

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.

PERFORMANCE

IMMUNIZATION AND RESPIRATORY DISEASES

Immunization Program and Program Implementation and Accountability[62]

Performance Measure for Long Term Objective: Ensure that children and adolescents are appropriately vaccinated

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 92% Target: 90% (Target Exceeded)	90%1	90%	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 2015: 84% Target: 90% (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 2015: 73% Target: 73% (Target Met)	75%	76%	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 2015: 87% Target: 87% (Target Met)	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 2015: 81% Target: 81% (Target Met)	87%	87%	Maintain
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 2015: 46 Target: 50 (Target Not Met)	50	50	Maintain

[62]Targets may include budget authority and/or PPHF funding.

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
1.D: Number of states (including the District of Columbia) achieving 30% coverage for influenza vaccine (6–23 months of age) (Output)	FY 2015: 47 Target: 45 (Target Exceeded)	49	49	Maintain
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 2015: 49 Target: 51 (Target Not Met but Improved)	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 2015: 51 Target: 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 2015: 51 Target: 51 (Target Met)	51	51	Maintain

1Targets are maintained at 90% to align with HP 2020 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
1.3.1b: Increase the percentage of adults aged 65 and older who are vaccinated against pneumococcal disease (Intermediate Outcome)	FY 2014: 61% Target: 73% (Target Not Met but Improved)	82%	85%	+3
1.3.2b: Increase the percentage of pneumococcal vaccination among non-institutionalized high-risk adults ages 18 to 64 (Intermediate Outcome)	FY 2014: 29% Target: 36% (Target Not Met)	45%	48%	+3
1.3.3a: Increase the percentage of adults aged 18 years and older who are vaccinated annually against seasonal influenza (Intermediate Outcome)	FY 2015: 42% Target: 53% (Target Not Met)	59%	62%	+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 children, adolescents, and adults.

CDC achieved levels near or above national (Healthy People 2020) targets for most of the routinely recommended childhood vaccinations. Since FY 2010, measles, mumps, and rubella (MMR) vaccinations

exceeded 90% coverage rates. Rotavirus vaccine coverage increased by 14 percentage points from 59% in FY 2010 to 73% in FY 2015. Coverage of pneumococcal conjugate vaccine (PCV) was 84% in FY 2015 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.

CDC exceeded targets for both adolescent performance measures in FY 2015. Tetanus, diphtheria and pertussis (Tdap) vaccine coverage increased from 74% in FY 2010 to 87% in FY 2015, (Measure 1.2.2a). Meningococcal conjugate vaccine (MCV4) coverage increased from 65% in FY 2010 to 81% in FY 2015, meeting its FY 2015 target (Measure 1.2.2b). Most states achieved target coverage rates for select child and adolescent vaccinations (Measures 1.C-1.G) in FY 2015, with little to no change from states' FY 2014 vaccination coverage rates.

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. Vaccinations for adults 65 and older have fluctuated within the range of 60% to 62% over the past four years (Measure 1.3.1b). CDC did not meet the FY 2014 target for pneumococcal vaccination coverage among noninstitutionalized high-risk adults, decreasing by two percentage points from FY 2013 (31%) to 29% in FY 2014 (Measure 1.3.2b). Measure 1.3.3a reflects the universal influenza vaccination recommendation and aligns with CDC's Advisory Committee on Immunization Practices (ACIP) updated recommendation (as of 2010) for the seasonal influenza vaccine. Seasonal influenza vaccinations increased slightly by two percentage points from FY 2013 (42%) to FY 2014 (44%), then dropped back to 42% in FY 2015.

Performance Measures for Long Term Objective: Improve vaccination safety and effectiveness

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 558 pairs Target: 431 (Target Exceeded)	512 pairs	803 pairs	+291
1.H: Percentage of Vaccine Events Reporting System (VAERS) reports received electronically (Output)	FY 2016: 30% Target: 37% (Target Not Met)	40%	43%	+3

Performance Trends: CDC conducts vaccine safety studies to assess whether any adverse health events are caused by vaccines. In FY 2015, the total vaccine-adverse event pair studies conducted was 558, which exceeds the FY 2015 target and is a 16% increase over FY 2014 (Measure 1.5.2). 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 FY 2016, VAERS received approximately 50,600 reports, almost 5,700 more than received in FY 2015. Of these, 30% were submitted electronically (Measure 1.H), which is a five percent increase compared to FY 2015.

INFLUENZA PLANNING AND RESPONSE

Performance Measures for Long Term Objective: Protect Americans from infectious diseases – Influenza

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
1.6.1: Increase the number of public health laboratories monitoring influenza virus resistance to antiviral drugs (Output)	FY 2016: 21 Target: 21 (Target Met)	21	21	Maintain
1.K: Number of jurisdictions with at least 1.5 state/local health department laboratorians or influenza coordinators trained and funded through Epidemiology and Laboratory Capacity (ELC) grant. (output)	FY 2016: 57 Target: 54 (Target Exceeded)	54	54	Maintain
1.L: Number of influenza diagnostic kits and virus reference panels distributed domestically and internationally (Output)	FY 2015: 1,591 Target: 2,100 (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 annually1 (Output)	FY 2016: 6,207 Target: 2,000 (Target Exceeded)	4,000	6,000	+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 2015: 75% Target: 50% (Target Exceeded)	70%	80%	+10
1.P: Percentage of influenza partner countries reporting data routinely into WHO FluNet. (Output)	FY 2015: 69% Target: 70% (Target Not Met)	80%	80%	Maintain

Performance Trends: As a World Health Organization (WHO) Collaborating Center for Influenza, CDC enhances global capacity to monitor influenza viruses and inform vaccine policy and treatment recommendations. CDC met the FY 2016 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).

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. In FY 2016, 57 jurisdictions had at least 1.5 state/local health department jurisdiction or influenza coordinators trained and funded through the Epidemiology and Laboratory Capacity (ELC) grant, exceeding the target by three (Measure 1.K).

Through CDC's Influenza Reagent Resource[63] (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 2015, CDC provided 1,591 diagnostic kits and virus reference panels but did not meet its target due to changes to the distribution process (from a "push to a pull" approach) which resulted in fewer WHO kits being distributed (Measure 1.L). The decrease in the number of kits shipped is an indicator of increased efficiency in the IRR system, where kits are distributed based upon need, and is not an indicator of a problem with the IRR. During the FY 2016 influenza season, CDC received and fully characterized 6,206 virus specimens using deep sequencing from the global National Influenza Centers for use in vaccine strain selection, representing a significant increase from the 2014/2015 season (Measure 1.M). 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.

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. In FY 2015, 75% 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), representing a significant increase over baseline. 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, a decrease from FY 2014 but nearly meeting the FY 2015 target (Measure 1.P).

[63] https://www.influenzareagentresource.org/

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

Domestic HIV/AIDS Prevention and Research

National Level Performance Measures and CDC Contextual Indicators for Long Term Objective: Reduce new HIV infections1

Contextual Indicators	Most Recent Result and Target	FY 2020 Target
2.1.1: Reduce the number of new HIV diagnoses by at least 25 percent (Outcome)	FY2015: 39,513	TBD
2.1.3: Increase the percentage of people living with HIV who know their serostatus (Outcome)	FY 2013: 87%	TBD

[1]CDC's HIV contextual indicators have been updated and now reflect national level strategies, planning, and measurement.

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.1.8 Reduce the proportion of persons with an HIV diagnosis at later stages of disease within three months of diagnosis (Outcome)	FY 2014: 23.1% Target: 23.5% (Target Exceeded)	21.6 %	TBD	TBD
2.1.7 Increase the proportion of adolescents (grades 9-12) who abstain from sexual intercourse or use condoms if currently sexually active (Outcome)	FY 2015: 87.3% Target: 86.9% (Target Exceeded)	86.9%	TBD	TBD

National Level 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 and Target	FY 2020 Target
2.2.1: Increase the percentage of persons with newly diagnosed infections linked to HIV medical care within one month of their HIV diagnosis to at least 85 percent[1] (Contextual Indicator)	FY 2014: 74.5%	TBD

[1]This contextual indicator has been changed from linkage within three months of HIV diagnosis to linkage within one month of HIV diagnosis.

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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 2014: 90.7% Target: 78% (Target Exceeded)	85%	TBD	TBD
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 2014: 78.9% Target: 67% (Target Exceeded)	80%	TBD	TBD
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: 40[2] (Target Exceeded)	43[3]	TBD	TBD
2.2.6 Reduce the number of new AIDS cases among adults and adolescents per 100,000 population (Outcome)	FY 2015: 6.8 Target: 9.9 (Target Exceeded)	9.3	TBD	TBD

[1] 42 + DC
[2] 40 + DC
[3] 43 + DC

Performance Trends: As the number of persons living with HIV increases due to better, life-prolonging treatments, so does the demand for CDC prevention activities. CDC monitors HIV through the National HIV Surveillance System[64] using the data to direct prevention efforts and provide researchers, policymakers, and the public with a timely understanding of HIV trends in the U.S.

The majority of Americans with HIV are now aware of their infection due, in part, to expanded HIV testing efforts. CDC estimates that 87% of people living with HIV were aware, up from 80.9% in 2006 (Contextual Indicator (CI) 2.1.3). This means seven out of eight people living with HIV in 2013 knew their status. CDC's

[64] With more than 80 percent of diagnosed cases reported, HIV and AIDS case surveillance data meet high standards for completeness of reporting.

Expanded Testing Initiative prevented an estimated 3,380 HIV infections in its first three years and saved an estimated $1.2 billion in direct medical costs.[65] Data for FY 2014 indicate that CDC-funded health department HIV testing programs performed 3.2 million HIV tests and further increased routine HIV testing in health care and community settings while identifying about 13,500 previously undiagnosed cases of HIV infection.[66]

Reducing HIV infections is a shared national and CDC priority. From 2005 to 2014, there was a 19% decrease in annual HIV diagnoses in the United States (~40,000 new diagnoses each year) due to numerous federal, state, local government and community response efforts (Contextual Indicator (CI) 2.1.1).[67] Also, in FY 2014, only 23.1% of persons received a HIV diagnosis late in the course of infection. Though not meeting the FY 2014 target, this is an improvement over 2012 and 2013 results (Measure 2.1.8).

Diagnosis of HIV is only the first step in reducing infection. Patients must be linked to, and retained in, medical care in order to achieve viral suppression (having very low levels of HIV (viral load) present in the body). Evidence shows that viral suppression is not only critical for people living with HIV to maintain their health, it also prevents transmission of HIV to others. Recognizing the benefits of early treatment, and linkage to HIV medical care for all persons with newly diagnosed HIV infection, CDC's linkage to care goal changed from within three months of diagnosis to within one month of diagnosis. CDC is working to meet the national HIV prevention goal of ensuring 85% of all persons with diagnosed HIV are linked to medical care within one month of diagnosis (Measure 2.2.1). Linkage was 70.2% in 2010 (baseline year) and improved to 74.5% in 2014, exceeding the FY 2014 target and an increase over FY 2013 results. CDC is 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. Test results are vital indicators of which patients are in care and virally suppressed, and those patients who have fallen out of care.

In FY 2015, 42 states and D.C., required reporting of all CD4 and viral load values, exceeding the FY 2015 target, and an increase of one state from FY 2014, continuing a steady increase in states meeting reporting requirements (Measure 2.2.4). The AIDS rate decreased from 10.8 per 100,000 population in 2010 to 6.8 per 100,000 in 2015, decreasing 37% and nearly a 10% reduction from FY 2014 (Measure 2.2.6).

Referrals to Partner Services increased for people with diagnosed HIV in publically-funded HIV testing sites from 85% in 2013 to 90.7% in 2014, exceeding the 2014 target (Measure 2.2.2). Additionally, while referrals for these individuals to other HIV prevention services held steady at 78.8% in 2013 and 78.9% in 2014, the 2014 target (67%) was exceeded (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.

Scientific reviews demonstrate that school health programs can positively impact health-risk behaviors, health outcomes, and educational outcomes. CDC-led studies show that school health programs can be cost effective. For example, every dollar invested in school-based HIV, sexually transmitted infections (STI), and pregnancy prevention efforts saves $2.65 in medical costs and social costs (including earnings-related outcomes, public assistance, and other outcomes).[68] The percentage of students who have ever had sexual intercourse decreased significantly from 54.1% in 1991 to 41.2% in 2015. The percentage of adolescents in grades 9 to 12 abstaining

[65] Farnham 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.
[66] http://www.cdc.gov/hiv/pdf/library/reports/cdc-hiv-funded-testing-us-puerto-rico-2014.pdf
[67] http://www.nejm.org/doi/full/10.1056/NEJMms1513641
[68] Wang, L. Y., Davis, M., Robin, L., Collins, J., Coyle, K., & Baumler, E. (2000). Economic evaluation of Safer Choices: a school-based human immunodeficiency virus, other sexually transmitted diseases, and pregnancy prevention program. Archives of pediatrics & adolescent medicine, 154(10), 1017-1024.

from sexual intercourse, or using condoms if currently sexually active, increased from 86.3% in FY 2013 to 87.3% in FY 2015, exceeding CDC's FY 2015 target (Measure 2.1.7). Yet, condom use among currently sexually active students decreased from 63.0% in 2003 to 56.9% in 2015. CDC is 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.

Hepatitis

Performance Measures for Long Term Objective: Reduce the rates of viral hepatitis in the United States

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.6.1 Reduce the rate of new cases of hepatitis A (per 100,000 population) (Outcome)	FY 2014: 0.4/100,000 Target: 0.4/100,000 (Target Met)	0.4/100,000	TBD	TBD
2.6.2 Reduce the rate of new cases of hepatitis B (per 100,000 population) (Outcome)	FY 2014: 0.9/100,000 Target: 0.9/100,000 (Target Met)	0.9/100,000	TBD	TBD
2.6.4 Increase the number of state and local health departments reporting acute and chronic viral hepatitis data of sufficient quality to be included in national surveillance reports (Output)	FY 2015: 7 Target: 10 (Target Not Met)	10	TBD	TBD

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 4 million people are living with HBV or HCV infection, and at risk for cirrhosis, liver cancer, and other causes of morbidity and pre-mature mortality. CDC provides technical assistance to states for improving viral hepatitis surveillance. Limited funding is provided to strengthen core surveillance activities and obtain complete demographic information on individuals with acute and chronic viral hepatitis infection. 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. CDC did not meet the FY 2014 target of ten states reporting quality viral hepatitis data but did remain level with the FY 2013 results of seven states providing quality hepatitis data to be included in national reports (Measure 2.6.4).

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. Surveillance data from 2014 demonstrate that new cases of hepatitis C infection have more than doubled since 2010. Injection drug use is the primary risk factor for HCV transmission and the leading cause of new HCV infections in the U.S.

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 54% of Americans living with HCV do not know they are infected and even fewer are receiving appropriate care.

The number of persons with chronic HBV infection in the U.S. remains high— based on data from recent national health surveys conducted by CDC, approximately 850,000 HBV-infected persons are living in the U.S., although other studies have estimated that as many as 2.2 million persons are living with HBV infection. Persons 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 these infants are at very high risk of infection, liver cancer, and premature mortality in later life.

As a result of implementation of hepatitis B vaccination strategies, from 2009 to 2014 declines in hepatitis B incidence have occurred among all age groups, with the lowest rate occurring among children and adolescents under 20 years of age; persons in these age groups have the highest hepatitis B vaccination coverage. The 2014 hepatitis B incidence rate is 0.9 cases per 100,000 (Measure 2.6.2), which matches the expected target of 0.9 cases per 100,000 and is a slight decrease from the FY 2013 rate of one case per 100,000. However, the results of the declines have not been equal across all populations, for example, relatively high rates remain for persons aged 30-39 years (2.23 cases per 100,000 population), and males (1.20 cases per 100,000 population). Some states have detected increases in HBV incidence among unvaccinated adults; these increases are temporally associated with increases in injection drug use behaviors and transmission of other blood-borne viruses including HCV and HIV.

CDC continues to pursue opportunities for reducing new HBV infections in populations other than children. For example, CDC provided technical analyses to ACIP to expand recommendations for adult hepatitis B vaccination to include persons with diabetes aged 19–59 years, given the increased risk of HBV infection in this population. Additionally, in 2016, CDC released a report on the increases in new cases of hepatitis B in the Appalachian region.[69] The report describes a 114% increase in acute hepatitis B from 2006-2013 in three states — Kentucky, Tennessee, and West Virginia; increases primarily occurred after 2009 — highlighting an emerging hepatitis B epidemic among young adults living in non-urban areas and provides valuable insight into a growing epidemic in the United States.

Prior to the 1996 implementation of 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 97% since 1995.

From 2011-2013, an increase in the number of reported cases of hepatitis A was observed, particularly during a large hepatitis A outbreak from imported produce consumed by persons in several southwestern states and Hawaii in 2013. In 2014, there were 1,239 reported cases of hepatitis A. After adjusting for under-ascertainment and under-reporting, an estimated 2,500 hepatitis A cases occurred in 2014. CDC continues to assist state/local health authorities to respond to outbreaks of hepatitis A.

CDC expects that the expansion of routine hepatitis A vaccination, as recommended in 2006, which now include children in the U.S. 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 57.5% in 2014. CDC met its FY 2014 target of 0.4 cases of hepatitis A per 100,000 population. This was more than a 33% reduction in the rate of cases from FY 2013 (0.6 cases/100,000) and approaches the Healthy People 2020 target of 0.3 cases per 100,000 (Measure 2.6.1). Greater effort is

[69] Harris AM, et al. Increases in Acute Hepatitis B Virus Infections — Kentucky, Tennessee, and West Virginia, 2006–2013. MMWR 2016;65:47-50.

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. 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. Improvements in surveillance and monitoring efforts are needed to strengthen preventive services if the U.S. is to reverse the current trend of increasing annual hepatitis C-related deaths – which exceed the total combined number of deaths from 60 other infectious diseases reported to CDC, including HIV, pneumococcal disease, and tuberculosis.[70]

Sexually Transmitted Infections

Performance Measures for Long Term Objective: Reduce pelvic inflammatory disease in the United States

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.7.1 Reduce pelvic inflammatory disease in the U.S. as measured by initial visits to physicians in women aged 15-44 years (NDTI) (Outcome)	FY 2015: 68,000 Target: 97,933 (Target Exceeded)	86,423	TBD	TBD
2.7.2a Reduce the percentage of high-risk women aged 16-20 infected with chlamydia (Outcome)	FY 2015: 13.4% Target: 11.93% (Target Not Met but Improved)	11.75%	TBD	TBD
2.7.2b Reduce the percentage of high-risk women aged 21-24 infected with chlamydia (Outcome)	FY 2015: 8.5% Target: 8.46% (Target Not Met)	8.32%	TBD	TBD
2.7.4a Reduce the rate of gonorrhea per 100,000 population in women aged 16-20 (Outcome)	FY 2015: 537.0 Target: 572.9 (Target Exceeded)	523.9	TBD	TBD
2.7.4b Reduce the rate of gonorrhea per 100,000 population in women aged 21-24 (Outcome)	FY 2015: 523.9 Target: 519.61 (Target Exceeded)	511.8	TBD	TBD
2.7.4c Reduce the racial disparity of gonorrhea in women aged 16-24 (black: white ratio) (Outcome)	FY 2015: 9.5:1 ratio Target: 10.6:1 ratio (Target Exceeded)	10.1:1 ratio	TBD	TBD

[70] Ly KN, Hughes EM, Jiles RB, Holmberg SD. Rising Mortality Associated With Hepatitis C Virus in the United States, 2003–2013. , Clin Infect Dis 2016, 62(10):1287-1288.

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.7.5 Increase the proportion of gonorrhea patients who are treated with a CDC-recommended antibiotic regimen for gonorrhea (Outcome)	FY 2015: 87.9% Target: 85% (Target Exceeded)	87.5%	TBD	TBD
2.7.6a Increase the proportion of sexually active women aged 16–20 enrolled in Medicaid health plans who are screened for Chlamydia infections (Outcome)	FY 2015: 51.2% Target: 61.1% (Target Not Met)	62.5%	TBD	TBD
2.7.6b Increase the proportion of sexually active women aged 16–20 enrolled in commercial health plans who are screened for Chlamydia infections (Outcome)	FY 2015: 42.4% Target: 48.8% (Target Not Met but Improved)	43.5%	TBD	TBD
2.7.6c Increase the proportion of sexually active women aged 21–24 enrolled in Medicaid health plans who are screened for Chlamydia infections (Outcome)	FY 2015: 60.1% Target: 73.2% (Target Not Met)	66%	TBD	TBD
2.7.6d Increase the proportion of sexually active women aged 21-24 enrolled in commercial health plans who are screened for Chlamydia infections (Outcome)	FY 2015: 52.4% Target: 59.2% (Target Not Met but Improved)	52.7%	TBD	TBD
2.9.1 Reduce the incidence of primary & secondary syphilis in women aged 15-44 (per 100,000 population) (Outcome)	FY 2015: 3.2 /100,000 Target: 1.7 /100,000 (Target Not Met)	0.8 /100,000	TBD	TBD
2.9.2 Reduce the incidence of congenital syphilis (per 100,000 live births) (Outcome)	FY 2015: 12.4 /100,000 Target: 6.7 /100,000 (Target Not Met)	6.2 /100,000	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.9.3 Increase percentage of pregnant women screened for syphilis at least one month before delivery (Outcome)	FY 2014: 85.9% Target: 81.9% (Target Exceeded)	84%	TBD	TBD

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.

Screening improvements and investments in other STI prevention strategies will avert infections and improve national health outcomes, and will prove cost-effective due to the high, and increasing, economic burden associated with STIs and their related health consequences[71.] Published estimates demonstrate that chlamydia screening among sexually active young women is cost-effective, resulting in a cost savings between $2,500 and $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 gonorrhea 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 68,000 in 2015, a slight increase over FY 2014 but still exceeding the target by 30% (Measure 2.7.1).

Reported chlamydial infection rates among women have increased annually since the late 1980s. 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. The increase may also reflect a true increase in morbidity (Measures 2.7.1-2.7.2, 2.7.6).

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 2014 to FY 2015 chlamydia screening rates among women aged 16-20 and 21-24 enrolled in Medicaid health plans and women aged 16-20 enrolled in commercial health plans decreased, while screening rates among women aged 21-24 enrolled in commercial plans increased slightly.

- Among sexually-active women aged 16–20 years enrolled in Medicaid health plans, chlamydia screening rates decreased from 52.3% in 2014 to 51.2% in 2015 (Measure 2.7.6a).
- Among sexually-active women aged 21–24 years enrolled in Medicaid health plans, chlamydia screening rates decreased from 62.0% in 2014 to 60.1% in 2015 (Measure 2.7.6c).

[71]Chesson 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.

- Among sexually-active women aged 16–20 years in commercial plans, chlamydia screening rates decreased slightly from 42.7% in 2014 to 42.4% in 2015 (Measure 2.7.6b).
- Among sexually-active women aged 21–24 years in commercial plans, chlamydia screening rates increased slightly from 52.1% in 2014 to 52.4% in 2015 (Measure 2.7.6d).

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 2015, a total of 395,216 gonorrhea cases were reported, and the national gonorrhea rate increased to 123.9 cases per 100,000 population, an increase of 12.8% from 2014. This is the highest number of cases reported in more than 20 years. The increase in the gonorrhea rate during 2014-2015 was observed among both males and females; however, the increase was larger among males. In 2015, among women aged 16-20, the rate of gonorrhea per 100,000 population was 537.0, an increase from the FY 2014 rate of 523.9, and among women aged 21-24, the rate of gonorrhea per 100,000 population was 523.9, also an increase over the FY 2014 rate of 508.1. The black: white ratio among gonorrhea in women aged 16-24 has steadily declined since 2011, with a ratio of 9.5:1 in 2015, exceeding the FY 2015 target. (Measures 2.7.4a-c). A strong public health infrastructure is essential to sustain STD prevention programs and respond to increases in disease. Beyond individual health impacts, STIs are also an economic drain on the U.S. healthcare system. Data suggest the direct cost of treating STIs in the U.S. is nearly $16 billion annually. Antimicrobial resistance remains an important consideration in the treatment of gonorrhea. In FY 2015, 87.9% of patients received treatment with a CDC-recommended antibiotic regimen for gonorrhea (Measure 2.7.5), up from the FY 2013 baseline rate of 80.1%.

The primary and secondary syphilis (P&S) rate among women aged 15-44 increased from 2.6 cases per 100,000 in 2014 to 3.2 cases per 100,000 in 2015 (Measure 2.9.1). To prevent further increases of syphilis among women, disease intervention specialists (DIS) play a critical role in identifying and responding to syphilis cases among women and their male partners through case interviews and contact tracing.

Congenital syphilis (CS) is a preventable disease which could be eliminated through consistent and effective screening and treatment before and during pregnancy of infected women The percentage of pregnant women screened for syphilis at least one month before delivery decreased from 85.1% in 2013 to 85.9% in 2014 (Measure 2.9.3). 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. However, from 2012–2015, congenital syphilis rates increased from 8.4 to 12.4 cases per 100,000 live births (Measure 2.9.2); also resulting in 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[72].

Tuberculosis

Performance Measures for Long Term Objective: Decrease the rate of cases of tuberculosis (TB) among U.S. born persons in the United States

[72] 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
2.8.1 Decrease the rate of cases of tuberculosis among U.S.-born persons (per 100,000 population). (Outcome)	FY 2015: 1.2/100,000 Target: 1.2/100,000 (Target Met)	1.2 /100,000	TBD	TBD
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 2013: 89.6% Target: 88% (Target Exceeded)	92%	TBD	TBD
2.8.3 Increase the percentage of culture-positive TB cases with initial drug susceptibility results reported. (Outcome)	FY 2015: 97.3% Target: 95% (Target Exceeded)	98.5%	TBD	TBD
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 2013: 71.1% Target: 70% (Target Exceeded)	70%	TBD	TBD
2.T Number of state public health laboratories participating in the TB Genotyping Network (Output)	FY 2016: 50 Target: 50 (Target Met)	50	TBD	TBD

Performance Trends: In 2016, data indicate there were 9,287 tuberculosis (TB) cases (2.90 per 100,000 population). Despite a recent decline in reported cases and case rate, progress towards eliminating TB has stalled, with TB rates remaining at levels 29 times higher than our goal of eliminating this disease in the foreseeable future. CDC and its state and local partners have focused on rapidly diagnosing and treating TB disease, which has been credited with decreasing numbers of cases. Working to eliminate TB remains essential, however the leveling of TB incidence may signal the limits of what is achievable at present.

Preventing TB disease saves lives and money. A recent analysis found that from 1995-2014, TB control efforts have prevented as many as 300,000 TB cases across the U.S. Societal benefits of averted TB cases ranged from $3.1 to $6.7 billion, excluding deaths, and from $6.7 to $14.5 billion, including deaths.

In the United States, multidrug-resistant (MDR) TB is currently rare (only 1% of U.S. cases); however, the direct treatment cost (which does not include hospitalization) for a single case of MDR TB can reach $150,000—often more than the entire annual budget of a state or local TB program—and drug-resistant TB is increasing globally.

Data suggest that TB cannot be eliminated in the U.S. without increased efforts to test and treat latent TB infection (LTBI) among high-risk groups. Treatment for latent TB infection can prevent a person from developing active TB disease, protect their close contacts from being infected, and ultimately, protect a community from TB. About 86% 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. Treating LTBI costs $500 and is 90% effective in preventing TB disease. TB disease costs $17,000 to treat, and can cause months of debilitating illness (including coughing up blood, fever, night sweats, and severe weight loss).

CDC, state, and local TB programs use indicators to measure improvement on key programmatic activities to ensure we are moving toward the U.S. goal of TB elimination (defined as less than one case per million population). In addition to preventing drug resistance, completion of treatment for TB is the most effective way to reduce the spread of TB and prevent its complications. Increasing the proportion of patients who complete treatment is the highest priority for CDC's TB Elimination program. CDC continues to see increases among TB patients who complete treatment within 12 months. In 2013, 89.6% of patients completed a curative course of treatment for TB (Measure 2.8.2) within 12 months, which exceeded the target of 88%. Ninety-six percent completed TB therapy overall, a considerable increase over the 1993 baseline of 63.4%.

CDC supports public health laboratory testing for drug resistance and use of Advanced Molecular Detection (AMD)[73] tools to genetically map TB specimens to develop a database to better understand and halt the spread of the disease. For example, AMD methods have enabled CDC to identify extensive ongoing TB transmission within the U.S., particularly among high-risk populations. In FY 2015, 97.3% 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).

The most recent data indicate that seventy-three and a half percent of contacts to infectious TB cases who started treatment for newly diagnosed latent TB infection completed preventive treatment in 2014 (Measure 2.8.4), exceeding the target of 70%.

[73] http://www.cdc.gov/amd/project-summaries/tuberculosis-surveillance.html

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

Emerging 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
3.5.2: Increase the percentage of laboratory reports on reportable conditions that are received through electronic means nationally (Outcome)[1]	FY 2016: 75% Target: 75% (Target Met)	80%	82%	+2

[1]Targets reflect PPHF funding.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
3.3.3: Reduce the central line-associated bloodstream infection (CLABSI) standardized infection ratio (SIR) (Outcome)1	FY 2015: 0.60 Target: 0.35 (Target Not Met)2	0.31	0.29	-.02
3.3.2b: Reduce invasive healthcare-associated Methicillin-resistant Staphylococcus aureus (MRSA) infections3 (Outcome)	FY 2015: 53,000 (Baseline)4	42,400	40,000	-2,400

[1] The 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).
[2]Future targets will be adjusted accordingly to align with the 2016 HHS HAI Action Plan.
[3] All invasive infections manifesting as bacteremia. The targets align with Healthy People 2020 and HHS HAI Action Plan targets.
Estimated.
[4]Estimated baseline is provided and subject to change per forthcoming data.

Emerging Infectious Performance Trends: Advancing national implementation of Electronic Laboratory Reporting (ELR) is a priority in CDC's efforts to protect the public's health. As of FY 2016, electronic laboratory reports accounted for 75% of laboratory reports for reportable conditions received, which exceeds FY 2015 results and continues the upward trend since FY 2012 (FY 2012 (54%)-FY 2015 (69%)) (Measure 3.5.2).

CDC provides national leadership in healthcare-associated infection (HAI) prevention and provides the scientific foundation to preserving quality care and advancing healthcare practices in the U.S. HAIs, such as central line-associated bloodstream infection (CLABSI), catheter-associated urinary tract infection (CAUTI), surgical site infection (SSI), and invasive methicillin-resistant Staphylococcus aureus (MRSA) infections, are largely preventable with adherence to CDC guidelines, which are the standard of care for HAI prevention.

Between CY 2008 and CY 2015, CLABSIs decreased 40% nationally in U.S. hospitals (Measure 3.3.3). A combination of increased National Healthcare Safety Network (NHSN) facility enrollment (e.g., critical access hospitals and rural hospitals) reporting CLABSI and updates to NHSN's HAI surveillance definitions (e.g., now

including fungal infections) led to increases in the overall 2015 CLABSI Standardized Infection Ratio (SIR) from 2014. While the overall SIR of 0.60 falls short of the 2015 target, CDC continues to move forward to meet the goals[74] in the National HAI Action Plan.

CDC replaced Measure 3.3.2a with a more nationally representative MRSA measure to estimate 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. As of March 2017, CDC provided a 2015 baseline of 53,000 infections for this measure and will continue to work with public health and healthcare partners to reduce these infections across healthcare settings by 10% annually.

Vector-borne Diseases

Performance measure for Long Term Objective: Protect Americans from Infectious Diseases—Vector-borne

Measure	Most Recent and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 1,231,206 (Historical Actual) [1]	2,658,075	3,158,075	+500,000

[1]The FY 2015 result of 1,658,075 represents final data for Measure 3.G.

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. State and international laboratories use these vitally important reagents to perform rapid, accurate testing necessary for the early detection and suppression of epidemics. In 2015, CDC facilitated 1,231,206 tests worldwide to diagnose bacterial, viral, and rickettsial infections (Measure 3.G), which was unusually high due to CDC's response to the Zika outbreak.

[74]https://health.gov/hcq/prevent-hai-measures.asp

Antibiotic Resistance

Performance measure for Long Term Objective: Reduce the spread of antimicrobial resistance

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
3.2.3: Decrease the proportion of hospitals with carbapenem-resistant Klebsiella spp. or Escherichia coli (E.coli) healthcare-associated infections (Outcome)	FY 2015: 10.2% Target: 6.5% (Target Not Met)	5.3%	8.5%	+3.2
3.2.4a: Reduction in community-onset Clostridium difficile infections standardized infection ratio (SIR. (Outcome)	FY 2014: 1.00 (Baseline)	0.76	0.72	-0.04
3.2.4b: Reduction in hospital-onset Clostridium difficile infections standardized infection ratio (SIR) (Outcome)	FY 2014: 1.00 (Baseline)	0.76	0.72	-0.04
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)[1]	FY 2014: 40.9% (Baseline)	61.3%	68.8%	+7.5

[1]This is the FY16-17 Agency Priority Goal measure. CDC is using a new criteria to calculate data as part of the 2016 version of the NHSN survey. The 2014 baseline was adjusted to reflect this criteria.

Antibiotic Resistance Performance Trends: CDC is a leader in the fight to combat antibiotic resistance to protect American lives, interests, and the homeland. Antibiotic resistance (AR) is a growing crisis internationally, and some AR infections are already untreatable. In 2014, about 41% 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 (Measure 3.2.5). Carbapenem-resistant Enterobacteriaceae (CRE), "the nightmare bacteria," are a group of bacteria resistant to almost all drugs. Because of limited treatment options, CRE bloodstream infections can be fatal in nearly half of all cases. Klebsiella pneumoniae spp and Escherichia coli (E.coli) are the most common carbapenem-resistant pathogens found in CLABSI, CAUTI, and SSI. Measure 3.2.3 includes all hospitals (acute care and long-term acute care facilities) reporting at least one HAI (CLABSI, CAUTI, or SSI) with emerging carbapenem-resistance in Klebsiella spp or E.coli to NHSN.

In CY 2015, 10.2% of hospitals reporting into CDC's NHSN reported carbapenem-resistant Klebsiella spp or E. coli infections, an increase of almost two percentage points from CY 2014 (Measure 3.2.3). Recent FY 2016 CDC interventions to decrease CRE infections include improving CRE infection reporting, enhancing public health labs in all states to test for CRE, assisting health departments and healthcare facilities to respond to outbreaks, and developing and promoting innovative prevention techniques.

Clostridium difficile infection (CDI)[75] is a preventable, life-threatening bacterial infection that can occur in both inpatient or outpatient healthcare settings. To better identify and make improvements to prevention efforts for CDI nationwide, CDC created a new CDI metric that consists of two sub-measures: community-onset CDI and hospital-onset CDI (Measures 3.2.4a and 3.2.4b). Starting at an initial baseline of 1.00 for both, progress in each

[75]http://www.nejm.org/doi/full/10.1056/NEJMoa1408913

of the CDI sub-measures will assist CDC in targeting resources to where there is the greatest need to make the most impact.

Food Safety

Performance measures for Long Term Objective: Protect Americans from infectious diseases – foodborne illnesses1

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
3.1.1b: Reduce the incidence of infection with three key foodborne pathogens: Escherichia coli O157:H7 (Outcome)	FY 2015: 0.95 Target: 0.85 (Target Not Met)	0.75	0.70	-0.05
3.1.1c: Reduce the incidence of infection with three key foodborne pathogens: Listeria monocytogenes (Outcome)	FY 2015: 0.24 Target: 0.23 (Target Not Met)	0.22	0.21	-0.01
3.1.1d: Reduce the incidence of infection with three key foodborne pathogens: Salmonella species (Outcome)	FY 2015: 15.74 Target: 12.98 (Target Not Met)	12.35	12.03	-0.32
3.F: Cumulative number of states providing reports of confirmed norovirus outbreaks to Calicinet (Output)	FY 2016: 28 Target2: 30 (Target Not Met)	283	28	Maintain

[1]CDC 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.

[2] Laboratories in 28 states and DC participate in CaliciNet. Beginning in 2013, 22 additional states have been supported through five CaliciNet Regional Outbreak Support Centers to provide coverage in all 50 states.

[3]FY 2017 Target was adjusted to 28 states to reflect the total number of states reporting directly to CaliciNet from their state public health labs rather than through one of the five CaliciNet Regional Outbreak Support Centers.

Performance Trends: Significant progress in reducing the incidence of major foodborne infections over the last 15 years is a result of concerted prevention efforts by CDC, federal partners, and private industry. Between 1996-1998 baseline and FY 2015, the incidence of Escherichia coli (E. coli) O157:H7 and Listeria decreased. The FY 2015 E. coli O157:H7 rate of 0.95 cases per 100,000 people represents a slight increase from the previous year's result, but still falls below the Healthy People 2020 baseline of 1.2 (Measure 3.1.1b). While CDC did not meet its 2015 target of 0.23 cases per 100,000 people for the reduction of Listeria infections (Measure 3.1.1c), the rate of infections has remained constant since 2014. This reflects an overall decrease in infections since 2011 of 0.04 cases per 100,000 people. CDC did not meet its FY 2015 target of 12.98 cases per 100,000 people for Salmonella infections (Measure 3.1.1d). Although this represents a slight increase for the second year in a row, Salmonella infection rates are 13% lower than their FY 2010 rates.

CDC uses the CaliciNet[76] national surveillance system to detect and characterize norovirus outbreaks by supporting state and territorial public health laboratories. While the FY 2016 measure of 30 states was not met, the combined testing efforts of state public health labs and the Calicinet Regional Outbreak Centers covered all 50 states. Thirty-two labs from 28 states and DC reported norovirus outbreaks to CaliciNet in FY 2016 (Measure 3.F).

[76]http://www.cdc.gov/norovirus/reporting/calicinet/

National Healthcare Safety Network

Performance measure for National Healthcare Safety Network

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2016: 20,000 Target: 19,000 (Target Exceeded)	20,000	22,000	+2,000

Performance Trends: CDC's National Healthcare Safety Network (NHSN) is the nation's most comprehensive and widely used medical care surveillance and quality improvement system that detects HAIs.

CDC continues to enroll healthcare facilities in NHSN to report HAIs including those caused by resistant bacteria. As of April 2017, 21,000 facilities are reporting data in NHSN, exceeding its FY 2016 target by 1,000 facilities (Measure 3.3.4). Since FY 2011, CDC has more than quadrupled the number of healthcare facilities reporting data for HAI prevention and is positioned to meet FY 2017 and FY 2018 targets.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 78% Target: 85% (Target Not Met)	80%	80%	Maintain
3.4.8: Increase the proportion of U.S.-bound refugees with at least one dose of age-appropriate routine vaccinations (Outcome)	FY 2015: 64% Target: 65% (Target Not Met)	75%	70%	-5

[1]Measure 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 enhances the public health security of U.S. communities and addresses infectious disease risks associated with international travel and globally mobile populations by executing regulatory responsibilities and implementing cost-effective public health programs, in collaboration with local, state, and federal partners, to prevent the importation and spread of disease into and within the United States.

Annually, CDC provides around 100,000 notifications to state and local health departments concerning public health follow-up exams for individuals coming to live and work in the United States. In 2015, several factors, including the definition of "medical follow-up," the composition of refugees, and their distribution after resettlement, decreased the percentage of immigrants and refugees with a TB notification receiving medical follow-up after arrival in the U.S. to 78% from 82% in FY 2013 (Measure 3.4.4).

Improving refugee vaccination prior to resettlement is a key public health priority for CDC as it is cost-effective, prevents the importation of infectious diseases, and improves the public health security of U.S. communities. In

FY 2015, 64% of U.S.-bound refugees received at least one dose of age-appropriate routine vaccination (Measure 3.4.8).

In some instances, Chronic Disease Prevention and Health Promotion measures have not yet been adjusted to reflect proposed budget changes. The measures will be revised through a consultative process will all partners.

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.

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 2014: 98.8	103.4
Stroke: Reduce the annual age-adjusted rate of stroke deaths (per 100,000 population)	FY 2014: 36.5	34.8
Diabetes: Reduce the annual age-adjusted rate of diabetes-related deaths (per 100,000 population)	FY 2014: 67.1	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 2014, the annual age-adjusted death rate for coronary heart disease steadily declined from 186.9 to 98.8 per 100,000. During the same time frame, the annual age-adjusted rate of stroke deaths declined from 60.8 to 36.5 per 100,000. From 2013-2014 there was a negligible increase but the trend is still significantly down from baseline. From 2005 to 2014, the age-adjusted rate of diabetes-related deaths also declined from 77.0 to 67.1 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 due to tobacco use[1]

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
4.6.2a Reduce the annual adult per-capita combustible tobacco consumption in the United States (Intermediate Outcome)	FY 2015: 1,211 (Historical Actual)	1,128	TBD	TBD
4.6.3 Reduce the proportion of adults (aged 18 and over) who are current cigarette smokers (Intermediate Outcome)	FY 2015: 15.1% Target: 17% (Target Exceeded)	15%	TBD	TBD
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 2015: 49.6 % Target: 58.5 % (Target Not Met but Improved)	58.9%	TBD	TBD
4.6.5 Reduce the proportion of adolescents (grade 9 through 12) who are current cigarette smokers (Intermediate Outcome)	FY 2015: 10.8% Target: 15.7% (Target Exceeded)	9.4%	TBD	TBD
4.6.6 Reduce the annual increase in the proportion of high school students who currently use e-cigarettes (past 30 days) (Intermediate Outcome)	FY 2015: 2.6% (Historical Actual)	0%	TBD	TBD
4.6.7 Reduce the annual increase in the proportion of middle school students who currently use e-cigarettes (past 30	FY 2015: 1.4% (Historical Actual)	0%	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
days) (Intermediate Outcome)				
4.C Number of calls received by Tobacco Cessation Quitlines (1-800-QUITNOW) (Output)	FY 2015: 1,189,112 Target: 1,500,000 (Target Not Met)	1,500,000	TBD	TBD
4.D Number of persons provided cessation counseling and/or medications by Tobacco Cessation Quitlines (Output)	FY 2015: 342,179 Target: 499,500 (Target Not Met)	499,500	TBD	TBD

[1] Targets may include budget authority and/or PPHF funding

Performance Trends: 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. Per capita combustible tobacco product consumption declined from 1,342 cigarette equivalents in FY 2012 to 1,211 cigarette equivalents in FY 2015 (Measure 4.6.2a). Additionally, the percentage of current adult smokers decreased from 20.6% in 2009 to 15.1% in FY 2015, exceeding the FY 2015 target and a 10% improvement over FY 2014 results (Measure 4.6.3). By achieving a smoking rate of 10.8% in 2015, which is the lowest teen smoking rate recorded since data collection began in 1991, the U.S. has met its national Healthy People 2020 objective of reducing adolescent cigarette use to 16% or less (Measure 4.6.5).

Each year, from 2012 to 2015, substantial increases were observed in current e-cigarette use among middle and high school students, resulting in an estimated total of 3 million e-cigarette youth users in 2015 (Measures 4.6.6 and 4.6.7). The increases in current use of e-cigarettes offset the decreases in current use of other tobacco products, resulting in no change in overall current tobacco use among middle and high school students. The prevalence of e-cigarette use is now higher among high school students than adults in the U.S.

Between FY 2005 and FY 2015, the population covered by smoke-free policies more than tripled so that 49.6% are now covered (Measure 4.6.4). While progress has been made, 50.4% of the population is still exposed to secondhand smoke and only 28 states have comprehensive smoke-free indoor air laws as of June 30, 2016.

CDC also provides direct assistance to tobacco users through National Tobacco Quitlines. In 2012, CDC launched the first national tobacco prevention media campaign, Tips from Former Smokers (Tips campaign). The 2016 Tips campaign (January 25—June 12) generated over 250,000 calls to 1-800-QUIT-NOW. This is an increase of over 100,000 calls compared to the 2015 campaign and is the largest campaign-associated call volume increase since the 2012 campaign. It is likely due to the 2016 campaign year being the first year where ads were aired on broadcast TV. In addition, CDC launched the first ever nationwide Tips from Former Smokers radio promotion offering free nicotine replacement therapy (NRT) to eligible 1-800-QUIT-NOW callers. The 2016 radio promotion consisted of two ads tagged with an offer of free NRT and aired for two weeks from June 20—July 1, one week after the 2016 Tips TV ads ended. Although not meeting the FY 2016 target, Quitlines continue to show significant increases in call volume each year during the weeks that Tips campaign ads air (4.C and 4.D).

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
4.11.7 Increase the proportion of infants that are breastfed at 6 months (Intermediate Outcome)	FY 2013: 51.8 % Target: 54.1% (Target Not Met but Improved)	62.2%	TBD	TBD
4.11.8a Increase the contribution of vegetables to the diets of the population aged 2-18 years (cup equivalents per 1,000 calories)1 (Intermediate Outcome)	FY 2012: 0.51 (baseline)	N/A	TBD	TBD
4.11.8b Increase the variety of vegetables to the diets of the population aged 19 years and older (cup equivalents per 1,000 calories)1 (Intermediate Outcome)	FY 2012: 0.83 (Baseline)	N/A	TBD	TBD
4.11.9 Increase the proportion of adults (age 18 and older) that engage in leisure-time physical activity (Intermediate Outcome)	FY 2015: 70% Target: 72.5% (Target Not Met)	73.9 %	TBD	TBD
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: 34.4% (Target Not Met)	TBD	TBD	TBD
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)	TBD	TBD	TBD
4.12.1 Increase in the number of states with nutrition standards for foods and beverages provided in early care	FY 2015: 26 Target: 36 (Target Not Met)	42	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
and education centers (Output)				
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 2015: 10 Target: 16 (Target Not Met but Improved)	18	TBD	TBD

[1] Targets 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 51.8% in FY 2013. 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 helping 93 hospitals work towards Baby-Friendly designation. As of July 2016, CDC's promotion of Baby-Friendly hospitals contributed to 18% of all U.S. births (~715,000 babies per year) occurring at Baby-Friendly hospitals (359 hospitals across 49 states and Washington, DC), more than double the Healthy People 2020 target (8.1%) and the percent of 2014 births at Baby-Friendly hospitals (7.8%).

Early Care and Education (ECE): Annually, 41% of children (birth through 5 years) participate in either center-based or family-home based child care and early education programs. There are national standards for physical education and nutrition in ECE settings. In FY 2011, six states adopted policies that require ECE programs to meet at least one of three national physical education standards (Measure 4.12.4) and eight states adopted policies that require ECE programs to meet at least two of eight national nutrition standards (Measure 4.12.1). By FY 2015, with investments and assistance from CDC, four additional states adopted physical education standards and 18 additional states adopted nutrition standards.

Significant improvement continues in adoption of nutrition and physical activity standards that is not captured by Measure 4.12.1 or 4.12.4. In 2015, six states made a total of 170 improvements to their licensing regulations related to nutrition and physical activity and 25 states have improved their licensing regulations with respect to obesity prevention standards since 2011. As of 2014, 29 states encourage ECE providers who participate in USDA's CACFP to follow enhanced nutrition standards that exceed federal standards. CDC also supports professional development opportunities on these standards for ECE providers nationwide, such as providing opportunities to improve ECE providers' professional growth opportunities to improve ECE providers' through was the development of six new on-demand online training modules, in partnership with Penn State University's Better Kid Care (BKC) program.

Healthy Eating: CDC retired measure 4.11.8 and replaced it with measures 4.11.8a and 4.11.8b because the dietary profiles of children and adults are drastically different. Total vegetable intake remains low for all populations. In 2011-2012 children age 2-18 years consumed 0.51 cup equivalents of whole fruit, fruit juice, and vegetables per 1,000 calories (Measure 4.11.8a). Adults consumed 0.83 cup equivalents per 1,000 calories (Measure 4.11.8b).

Active Living: The proportion of adults who engage in leisure-time physical activity increased from 63.8% in FY 2008 to 70% in FY 2015 (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 helps implement Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities through a national partnership to support high-impact strategies for walking and walkable communities like Complete Streets and Safe Routes to Schools. Over 850 agencies at the local, regional, and state levels have adopted Complete Streets policies and one in five elementary schools now have a Safe Routes to Schools program.

Obesity: The percentage of all children and adolescents (ages two to 19 years) that were obese increased slightly from 16.8% in FY 2008 to 17.2% in FY 2014 (Measure 4.11.10b). The prevalence of obesity among children (aged 2 to 5 years) decreased significantly from 13.9% in 2003-2004 to 8.9% in 2011-2014. Between 2003–2004 and 2013–2014, no change in prevalence was seen among youth age 6-19. For adults, 2013-2014 NHANES data show 37.7% were obese, missing the FY 2014 target and greater than the proportion of obese adults in FY 2012 (34.9%). This continues 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. CDC provided funding to three grantees in 2011 for the Childhood Obesity Research Demonstration (CORD) Project. Preliminary results suggest that there was a slight decline in obesity prevalence among children receiving services.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2014: 10 Target: 8 (Target Exceeded)	N/A[1]	16	TBD
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% Target: 65% (Target Not Met)	N/A[1]	69%	TBD

[1] Targets and results are set and reported biennially.

Performance Trends: CDC promotes effective strategies for improving dietary quality, physical activity, and reducing obesity in youth including increasing the quality of physical education provided in K-12 schools and improving the nutritional quality of food available to children on school campuses.

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 and the recommendations of the American Heart Association and SHAPE America. In FY 2014, 10 states established the requisite number and composition of multi-component policies, exceeding CDC's target of eight states, and a 100% increase over baseline.

Nutrition Environment: Measure 4.12.6 is based on Institute of Medicine (IOM) standards that exceed the U.S. Department of Agriculture (USDA) Smart Snacks standards, and tracks the percentage of schools limiting student

purchases from vending machines, school stores, canteens, or snack bars to healthier snack foods and beverages. 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.

Heart Disease and Stroke

Performance Measures for Long Term Objective: Reduce risk factors associated with heart disease and stroke[2]

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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%1 Target: 50% (Target Not Met)	N/A	TBD	TBD
4.11.6 Reduce consumption of sodium in the population aged 2 years and older (milligrams per day) (Intermediate Outcome)	FY 2014: 3,409 Target: 2,940 (Target Not Met)	N/A	TBD	TBD
4.N1 Increase the percentage of at risk women who received at least one evidence-based healthy behavior support service (Output)	FY 2014: 60.0% (Baseline)	60%3	TBD	TBD
4.N2 Increase the number of evidence-based behavioral support services provided to WISEWOMAN participants (Output)	FY 2014: 30,060 (Baseline)	30,0603	TBD	TBD
4.O Increase the total number of evidence-based tools disseminated to promote sodium and hypertension reduction and awareness (Output)	FY 2016: 142 Target: 137 (Target Exceeded)	157	TBD	TBD

[1] Targets and results are set and reported biennially.

[2] Targets may include budget authority and/or PPHF funding.

[3] Target has been set level with 2014 data point until at least one additional data point is collected to establish a trend. The target may change once two data points are available.

Performance Trends: Hypertension contributes to one out of every seven deaths in the U.S., including just over a quarter 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 continuing the trend of improving during each reporting period since FY 2008 (Measure 4.11.5).

CDC continued the cooperative agreement with the National Association of Community Health Centers (NACHC) in FY 2015 to implement interventions informed by the Million Hearts® Hypertension Control Change Package to help hypertensive patients bring their blood pressure under control.

CDC grantees have had notable successes in reducing sodium intake (Measure 4.11.6). For example, in New York State, Albany County Department of Health and Steuben County Public Health reduced sodium in the meals served in senior meal settings by 27%, with menu cycles at participating senior meal sites going from a baseline of 1,167 mg sodium to 856 mg. Within participating hospitals, sodium has been reduced by 42% in targeted soups (from 695 mg to 403 mg), 26% in targeted entrees and meals (from 652 mg to 480 mg) and 51% in targeted side dishes and condiments (from 489 mg to 238 mg).

In FY 2013, WISEWOMAN launched a new four-year cooperative agreement, which has placed more focus on providing women identified as being at high risk for cardiovascular disease (CVD) with appropriate healthy behavior support services. Results for FY 2014 indicate that grantees were able to provide 30,060 support services to WISEWOMAN participants (Measure 4.N2). Results also indicate that 60% of at-risk women (program participants) received at least one support service during 2014 (Measure 4.N1).

In FY 2016, CDC disseminated 142 evidence-based tools to promote sodium and hypertension reduction, continuing a trend of disseminating more tools annually since 2009 (Measure 4.O).

Diabetes

Performance Measures for Long Term Objective: Improve prevention, detection, and management of diabetes[1]

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
4.11.3a Increase the age-adjusted prevalence of US diabetic adults meeting all four of the recommended ABCS (per 1,000 per year) (Outcome)	FY 2010: 14.3 (Historical Actual)	24	TBD	TBD
4.11.1[2] Reduce the age-adjusted incidence of diagnosed diabetes among US adults 20 years and older (Outcome)	FY 2014: 6.6 (Historical Actual)	7.22	TBD	TBD

[1] Targets may include budget authority and/or PPHF funding.

[2] Targets may change once additional trend data is analyzed.

Performance Trends: CDC established the National Diabetes Prevention Program (National DPP) to address the growing epidemic of type 2 diabetes. About 90,500 people at high risk for developing type 2 diabetes have participated in lifestyle change programs to prevent or delay type 2 diabetes across the United States through virtual and in-person delivery. More than 9,700 lifestyle coaches have been trained. Participants have lost an average of 3% of their body weight and reported more than 2 hours of weekly physical activity. DDT's partners have secured health insurance coverage for the National DPP for over 3 million state employees in 11 states. About 60 commercial insurance companies provide some form of coverage for the program.

The Diabetes Prevention Recognition Program maintains quality assurance and provides recognition for organizations that deliver the lifestyle change intervention. Currently, 900 organizations are undergoing review for CDC recognition; this includes 21 virtual programs, 51 combination virtual and in-person programs, and over 800 in-person programs.

Additionally, the National DPP continues to fund six national organizations to sustain the lifestyle change program. Through these organizations, the program has expanded to 48 states and the District of Columbia. In March 2016, the Centers for Medicare and Medicaid Services (CMS) certified the expansion of the National DPP into the Medicare program. At least 22 million American adults with prediabetes are 65 years or older and could directly benefit.

CDC also strives to prevent diabetes complications through diabetes self-management that results in improved A1c, blood pressure, cholesterol, and smoking cessation (ABCS). Since 2002, CDC has seen four-fold improvements in the percentage of people with diabetes meeting all four recommended diabetes ABCS (Measure 4.11.3a). As of April 2016, there were 3,151 nationally accredited or otherwise recognized diabetes self-management education (DSME) programs in 1,330 U.S. counties. More than two million Medicaid beneficiaries now have DSME as a covered benefit.

Cancer Prevention and Control

Performance Measures for Long Term Objective: Improve health outcomes related to cancer

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2013: 100.7 Target: 101.5 (Target Exceeded)	99	98.5	- 0.5
4.9.2 Increase the percent of adults age 50 to 75 receiving colorectal cancer screenings (Intermediate Outcome)	FY 2014: 65.7% Target: 70% (Target Not Met)	N/A1,2	70%	TBD
4.9.4 Increase the percentage of CDC-funded state cancer registries that electronically receive physician cancer reports from Electronic Health Record	FY 2016: 54% Target: 38% (Target Exceeded)	60%3	65%	+5

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
(EHR)/Electronic Medical Record (EMR) systems. (Output)				
4.Q Number of breast or cervical cancers and pre-malignant lesions detected among women served (Short-term)	FY 2015: 6,414 (Baseline)	6,628	6,735	+107
4.R Number of women served through the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) (Short-term)	FY 2015: 364,840 (Baseline)	377, 001	383,082	+6,081

1 Targets and results are set and reported biennially.
2 Targets may reflect budget authority and/or PPHF funding.
3 Increased FY 2017 target from 38% to 60% based on FY 2016 result.

Performance Trends: Through the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) and Colorectal Cancer Control Program (CRCCP), CDC is actively focused on increasing screening rates for adults with an emphasis on age-appropriate screenings and at-risk populations. NBCCEDP supports breast and cervical cancer screening services for uninsured and underserved women and implements strategies to improve cancer screenings within communities and health systems. CRCCP works to increase colorectal cancer screening rates within partner systems through implementation of proven strategies such as patient provider reminder systems and reducing structural barriers.

Women ages 50 and older are at highest risk for breast cancer and benefit the most from screening. In FY 2012, the incidence rate of late-stage diagnosis among women ages 50–74 decreased slightly to a five-year low of 100.5, but increased slightly to 100.7 in FY 2013 (Measure 4.9.1). When compared to those not screened among women ages 50-74, mammography screening reduces breast cancer deaths by 17%.

From FY 2010-FY 2013, breast cancer screening and cases detected steadily increased to a high of about 350,000 (Measure 4.K) and 6,000 (Measure 4.L), respectively. In FY 2015, CDC's grantees performed fewer direct screenings for breast and cervical cancer due to a planned program shift to expand activities such as patient navigation, outreach and education, and other strategies that can help increase broader population-level screening. Two new measures, more accurately reflect the depth of the NBCCEDP's reach and will replace the existing breast cancer screening and cases detected measures: 1) number of women served (4.R) and 2) number of breast or cervical cancers and pre-malignant lesions detected among women served (4.Q). Baseline data for the new measures indicate that 364,840 women were served and 6,414 breast and cervical cancers and pre-malignant lesions were detected among women served.

Colorectal cancer (CRC) is the second most commonly diagnosed cancer and the second leading cause of cancer deaths among cancers affecting both men and women in the U.S. CRC screening can detect cancer early, when treatment is more effective, and a 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 (Measure 4.9.2). CDC is working with key partners to reach a shared goal of 80% of adults aged 50 years and older screened for colorectal cancer by 2018 ("80 by 2018" initiative).

Cancer reporting from providers to State Cancer Registries is included in CMS Stage 2 meaningful use criteria. Implementation of meaningful use criteria is significantly increasing the number of reports received for each case by the central registry. In FY 2016, 25 registries (54% of all registries) electronically received physician cancer reports from EHRs, up from 16 registries (35%) in FY 2015, exceeding the target for the third straight year (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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
4.7.1 Increase the proportion of the people served by community water systems who receive optimally fluoridated water (Intermediate Outcome)	FY 2014: 74.4% Target: 76.5% (Target not Met)	N/A1	76.5%	N/A1

[1] Targets and results are set and reported biennially.

Performance Trends: 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. 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).

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2016: 40 Target: 41 (Target Not Met but Improved)	44	TBD	TBD
4.8.5 Reduce birth rates among adolescent females aged 15 to 19 years (per 1,000 births) (Contextual Indicator) (Output)	FY 2015: 22.31 Target: 25.2 (Target Exceeded)	19.4	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
4.8.6 Increase the percentage of women at risk for unintended pregnancy who report using long-acting reversible contraception (Outcome)	FY 2015: 11.9%2,3 Target: 11.0% (Target Exceeded)	15%	TBD	TBD

[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: 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 24.2 per 1,000 in 2014 to 22.3 per 1,000 in 2015, reaching yet another record low for the U.S. (Measure 4.8.5).

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, 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. CDC realigned the core set of questions, used in PRAMS, to include measures of safe sleep practices in order to evaluate community-based infant death prevention recommendations for reducing sudden unexpected infant deaths. In FY 2016 40 sites collected data to assess safe sleep practices using the PRAMS safe sleep module, nearly three times the number of sites in FY 2015 (Measure 4.8.4).

CDC uses the National Survey of Family Growth (NSFG) to track sexual behaviors and contraceptive use among women and men ages 15 to 44. The proportion of all women ages 15-44 years at risk of unintended pregnancy who report using long-acting reversible contraceptives (LARC) increased from 2.0% in FY 2002 to 11.9% in FY 2015, a 23% increase over FY 2013 and exceeding the FY 2015 target.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 29.6 % Target: 27.8% (Target Not Met)	27.3 %	TBD	TBD

Performance Trends: Moderate physical activity is a proven and safe self-management strategy for people with arthritis, however, adults with arthritis have significantly higher rates of physical inactivity than adults without

arthritis. FY 2015 data for physical activity levels show about 29.6% of adults diagnosed with arthritis in states funded by CDC were physically inactive (Measure 4.11.1), a slight increase from FY 2014 (29.4%).

Behavioral Risk Factor Surveillance System (BRFSS)

Performance Measures for Long Term Objective: Improve validity, coverage, and dissemination of BRFSS

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 41% Target: 27% (Target Exceeded)	43%	45%	+2

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. CDC moved to a dual, but separate, landline and cellular telephone sampling frame in 2011 and 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 41% in FY 2015, exceeding the target and an increase over FY 2014 (Measure 4.P).

BIRTH DEFECTS AND DEVELOPMENTAL DISABILITIES

Child Health and Development

CDC Contextual Indicators for Long Term Objective: Prevent birth defects and developmental disabilities

Contextual Indicators	Most Recent Result	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 2012: 42.8%1	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 2012: 39.8%	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 (FY) represents the year the study began, typically referred to as the data surveillance year (SY). Targets are set and reported every four years. FY 2012 results for 5.1.5b and 5.1.5d will be available June 30, 2017.

Performance Measures for Long-Term Objective: Prevent birth defects and developmental disabilities

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
5.1.8a Increase the percentage of primary care providers who screen women of reproductive age for risky alcohol use (Outcome)	FY 2016: 42.5% Target: 46% (Target Not Met but Improved)	46%	45.2%	-1.2
5.1.8b Increase the percentage of primary care providers who provide appropriate,	FY 2016: 36.9% Target: 42% (Target Not Met)	42%	40%	-2

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
evidence-based interventions to reduce alcohol-exposed pregnancy for those at risk (Outcome)				
5.1.10 Increase the proportion of Hispanic women of reproductive age who have an optimal blood folate concentration for neural tube defect prevention (Outcome)1	FY 2011: 75.5% (Baseline)	76.5%	TBD	TBD
5.1.11a Reduce use of opioid-containing medications among pregnant women (Outcome)	FY 2013: 10.5% Target: 10% (Target Not Met but Improved)	8.2%	7.8%	-0.4
5.1.11b Reduce use of opioid-containing medications among women of reproductive age (Outcome)	FY 2013: 25% Target: 23.8% (Target Not Met but Improved)	19.4%	18.4%	-1
5.E Increase the proportion of population-based birth defects surveillance programs that meet essential national data quality standards (Output)	FY 2016: 61.9% Target: 54% (Target Exceeded)	62%	63%	+1

[1]Targets and results are set and reported biennially.

Performance Trends: CDC 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 5.1.8a-b). Overall rates of provider-based alcohol screening (42.5%) increased and provider-based intervention (36.9%) remained stable compared to 2015.

To prevent neural tube defects (NTDs), CDC works to help women of reproductive age attain optimal concentrations of folate, a B vitamin, in their blood. Because Hispanic mothers have higher rates of NTD-affected pregnancies than others, CDC tracks red blood cell folate concentrations among Hispanic women of reproductive age to inform interventions. FY 2011 data for Measure 5.1.10, indicating 75.75% of Hispanic women of reproductive age (12-49 years) have an optimal blood folate concentration for neural tube defect prevention, are from the most recent National Health and Nutrition Examination Survey (NHANES) data available on red blood cell folate concentrations among Hispanic women of reproductive age. In April 2016, the Food and Drug Administration (FDA) approved folic acid fortification of corn masa flour, a major food staple for many Hispanic women. Corn masa flour products with folic acid reached the first store shelves at the end of the summer 2016.

CDC aims to reduce unnecessary use of opioid-containing medications among pregnant women and women of reproductive age as part of its Treating for Two initiative. The most recent results show a decrease in the percent of women using an opioid-containing medication during pregnancy from 11.1% at baseline to 10.5% in 2013 (Measure 5.1.11a). Data from 2013 also show a decrease in the percent of women of reproductive age using an opioid-containing medication from 26.4% to 25% (Measure 5.1.11b).

CDC works to increase the proportion of population-based birth defects surveillance programs that meet essential national data quality standards. CDC provides technical assistance to each program in their efforts to improve data quality. The percentage of birth defects surveillance programs that met national data quality standards increased from 50% in FY 2014 to 61.9% in FY 2016, an increase over FY 2015 results and surpassing the FY 2016 target of 54% (Measure 5.E).

CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network monitors the prevalence of Autism Spectrum Disorder (ASD) and other developmental disabilities in 12 communities across the United States. The most recent ADDM data estimated that 1 in 68 children living in ADDM Network communities have ASD. In addition to providing a prevalence estimate, ADDM data are used to track the age at which children with ASD receive developmental evaluations and ASD diagnoses. Results from the 2012 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). Data for subgroups show the proportion of children with ASD who receive a first evaluation by 36 months of age slightly increased (0.3 percentage points) for children of minority race/ethnicity (CI 5.1.5c). Subanalyses of data looking at age of evaluation for children of low socioeconomic status (CI 5.1.5b) and minority race/ethnicity with low socioeconomic status (CI 5.1.5d) from the 2012 study year are underway. In an effort to increase the proportion of children with ASD who receive a first evaluation by 36 months of age, CDC has expanded the reach of its Learn the Signs. Act Early. program.

Health and Development for People with Disabilities

Performance Measures for Long-Term Objective: Improve the health and quality of life of Americans with disabilities

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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	FY 2014: 63% Target: 63% (Target Met)	75%	78%	+3

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
lost to follow-up (Outcome)				
5.2.6 Decrease the incidence of skin breakdown in patients with spina bifida (SB) who attend SB clinics1 (Outcome)	FY 2015: 8.8%1 (Baseline)	7.5%	7%	-0.5
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 2015: 41% Target: 40% (Target Exceeded)	45%	47%	+2
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 2016: 16.6% Target: 11% (Target Exceeded)	22%	35%	+13

[1]Refined definition for skin breakdown to improve consistency in data. Targets adjusted to reflect revised baseline.

Performance Trends: CDC is helping children live to the fullest through cost-effective early identification and intervention programs that improve outcomes for newborns with hearing loss. CDC's support for state and territory-based Early Hearing Detection and Intervention (EHDI) Information Systems has made significant progress in the identification of newborns with hearing loss and their enrollment in intervention programs. The percentage of jurisdictions able to collect and use EHDI data to increase the number of children who receive timely and essential follow up testing and services rose to 63% in 2014, nearly a 10% increase since FY 2013 and a 49% increase since FY 2010 (Measure 5.2.5).

CDC is also improving the health of people living with disabilities. While previous estimates of the incidence of skin breakdown in patients with spina bifida (SB) who attend SB clinics were around 16%, CDC has been able to address one of the material inadequacies previously reported in the data—the lack of clear definition of the skin breakdown variable which caused inconsistency in measurement across sites. CDC began implementing the Skin Breakdown Prevention Bundle in summer 2016 in collaboration with SB clinics. CDC expects to see a reduction in skin breakdown reports using data from the National Spina Bifida Patient Registry (Measure 5.2.6).

Another way CDC helps children is by increasing the percentage aged 2-5 years with a diagnosis of attention-deficit/hyperactivity disorder (ADHD) who receive behavioral therapy for treatment. CDC is working to raise awareness of behavior therapy among parents and health professionals, increase available behavior therapy options, and inform state and local decision-makers about best practices. In FY 2015, 41% of U.S. children aged 2-5 years with ADHD received behavioral therapy for treatment, a slight increase over the FY 2014 baseline (Measure 5.2.7).

CDC is also improving the health of people living with intellectual/developmental disabilities (I/DD) by working to increase use of Medicaid administrative data to help public health interventions better serve people in this population. In FY 2016, 16.6% of CDC-funded Disability and Health State Programs used Medicaid administrative data to inform the development of public health programs for people living with I/DD, a three-fold increase over the FY 2015 baseline (Measure 5.F).

Public Health Approach to Blood Disorders

Performance Measures for Long-Term Objective: Improve the health and quality of life for Americans with blood disorders

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
5.3.2 Decrease the prevalence of hemophilia treatment inhibitors among Public Health Surveillance Project for Bleeding Disorders patients (Outcome)	FY 2016: 5.1%1 2016 Target: 4.3% (Target Not Met but Improved)	4.2%	4.1%	-0.1

[1] This result is preliminary. Not all of the test results from 2016 have been confirmed with a second sample. Final data will be available later in 2017.

Performance Trends: CDC is preventing complications of blood disorders. One way to achieve this is by reducing the prevalence of hemophilia inhibitors. Approximately 15-20% of people with hemophilia develop an inhibitor. Inhibitors can cause a patient's 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. FY 2015 data show that 6.4% of people with hemophilia had an active inhibitor (Measure 5.3.2).

ENVIRONMENTAL HEALTH

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 2011-2014: Result: 0.33 Target: 0.45 (Target Exceeded)	0.30
6.2.5b: Reduce health disparities associated with blood lead levels in children aged 1-5 in the U.S. such that: b. 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 2011-2014: Result: 0.29 Target: 0.47 (Target Exceeded)	0.25

[1]Targets are set and reported every four years.

Performance Measure for Program: Childhood Lead Poisoning Prevention

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
6.2.3 Percent of children (with blood lead levels at or above 5 micrograms per deciliter) who are referred for case management1 (Outcome)	FY 2015: 20%2 (Baseline)	30%	TBD	TBD

[1] CDC awaiting OMB approval to collect additional data needed to calculate this measure. CDC anticipates having the data collected and analyzed in 2018.
[2]2017 target adjusted based on 2015 result.

Performance Trends: CDC measures the reduction in health disparities associated with blood lead levels in children, which are valuable indicators of the success of lead interventions nationwide (Measures 6.2.5a and 6.2.5b). 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). Even low levels of lead in a child's blood can affect IQ, the ability to pay attention, and academic achievement.

While overall child lead levels in the U.S. have fallen significantly in the last decade, reducing disparities is critical to decreasing the average blood lead levels among all young children. An estimated 12.3 million children ages 1-5 years have blood lead levels (BLLs) over the national average of 1 microgram per deciliter. Over half a million children under the age of 5 years have BLLs at or above the current reference level (5 micrograms per deciliter), which triggers state and local intervention, such as exposure mitigation and health monitoring. Based on 2011—

2014 National Health and Nutrition Examination Survey (NHANES)[77] data, CDC exceeded the performance target for reducing the gap in blood lead levels between black children and children of other races.

CDC referred 20% of children with elevated BLLs for case management in FY 2015 (Measure 6.2.3). CDC is gathering additional data from grantees for this measure and will have updated results for FY 2016 and FY 2017 in 2018.

Environmental and Health Outcome Tracking Network

Performance Measures for Program: Environmental Public Health Tracking

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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)	FY 2016: 74 Target: 30 (Target Exceeded)	21	TBD	TBD

Performance Trends: The Environmental and Health Outcome Tracking Network covers over 190 million people, which made up about 59% of the population in the U.S. in 2016. The Tracking Network also serves as a source of information on environmental hazards and exposures, population data, and health outcomes. Since FY 2013, CDC has consistently exceeded expectations for the number of data-driven actions to improve public health using the Tracking Network (Measure 6.C). From FYs 2005 to 2016, state and local public health officials have used the Tracking Network to implement over 400 data-driven public health actions to save lives and prevent adverse health effects that are due to environmental exposures.

Environmental Health Laboratory

Performance Measures for Program: Environmental Health Laboratory

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
6.1.1 Number of environmental chemicals and nutritional indicators that are measured in surveys and studies of the U.S. population. (Output)	FY 2016: 347 Target: 345 (Target Exceeded)	345	345	Maintain
6.1.3 Number of laboratories	FY 2016: 2,096 Target: 1,900	1,950	2,000	+50

[77] https://www.cdc.gov/nchs/nhanes/index.htm

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
participating in DLS Quality Assurance and Standardization Programs to improve the quality of their laboratory measurements (Output)	(Target Exceeded)			
6.1.4 Number of chronic disease biomarkers included in standardization programs that improve the quality of laboratory measurements. (Output)	FY 2016: 15 Target: 14 (Target Exceeded)	15	17	+2
6.A Number of environmental chemicals for which methods were developed or improved (Output)	FY 2016: 37 Target: 50 (Target Not Met)	60	60	Maintain
6.B Number of laboratory studies conducted to measure levels of environmental chemicals in exposed populations (Output)	FY 2016: 77 Target: 75 (Target Exceeded)	90	90	Maintain
6.F Number of states assisted with screening newborns for preventable diseases (Output)	FY 2016: 50 Target: 50 (Target Met)	50	50	Maintain

Performance Trends: CDC's biomonitoring measurements track the level of environmental chemicals and nutrition indicators among the U.S. population and provide national reference information for scientists, physicians, and health officials. In FY 2016, CDC measured 347 environmental chemicals and nutrition indicators, and anticipates reporting similar results for upcoming cycles of the NHANES and other studies of the U.S. population (Measure 6.1.1).

In FYs 2012 to 2015, CDC exerted exceptional effort to develop or improve several laboratory methods that measure multiple environmental chemicals in a single test, greatly exceeding its targets (Measure 6.A). In FY 2016, CDC did not meet its target because it completed method development plans in previous years and did not develop or improve as many tests that detect multiple chemicals.

Since FY 2011, CDC has exceeded its target for collaborating in studies of environmental chemicals (Measure 6.B). These studies help identify populations with harmful exposures. For example, CDC's measurements of arsenic species helped distinguish between toxic exposures from air and non-toxic exposures from seafood among community participants near a smelter site. In FY 2016, CDC collaborated on 77 studies that aligned with CDC's Environmental Health Laboratory mission and budgetary goals.

CDC also provides voluntary quality assurance and standardization programs to that help ensure the quality and comparability of important laboratory measurements for chronic diseases, newborn screening disorders, nutrition status, and environmental exposures. Because of new programs for chronic disease biomarkers, laboratory participation in CDC programs increased by 10% over FY 2015, exceeding the FY 2016 target (Measure 6.1.3).

In addition, CDC surpassed its target by adding five chronic disease biomarkers to standardization programs that improve the diagnosis and treatment of cardiovascular disease and cancer (Measure 6.1.4). CDC also ensures the quality of newborn screening for preventable diseases (e.g., severe combined immunodeficiency, amino acid disorders, endocrinopathies), and since FY 2013, has consistently met the target to provide quality assurance materials and technical expertise to all 50 states (Measure 6.F).

Asthma

Performance Measure for Program: Asthma

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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:49% (Target Not Met)	50%	TBD	TBD

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). The FY 2014 measure result will be available from the Behavioral Risk Factor Surveillance System Survey (BRFSS) Asthma Call-Back Survey in April 2017.

In the U.S., nearly 25 million people have asthma, including seven million children. While there is no cure for asthma, self-management training can teach people to manage their disease with medical care and to prevent asthma attacks by avoiding triggers. Implementing comprehensive asthma control strategies (based on the

National Institutes of Health's Guidelines for the Diagnosis and Management of Asthma) are vital to helping people to stay out of the hospital, avoid the emergency department, and manage their asthma.

Environmental Health Activities

Performance Measures for Program: Environmental Health Activities

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
6.1.2 Number of completed studies to determine the harmful health effects from environmental hazards. (Output)	FY 2016: 30 Target: 27 (Target Exceeded)	27	TBD	TBD
6.1.5 Number of states using National Environmental Assessment Reporting System (NEARS) to prevent foodborne illness outbreaks (Output)1	FY 2015: 13 Target: 9 (Target Exceeded)	11	TBD	TBD

[1]Data and targets for measure 6.1.5 were incorrectly reported in the FY 2016 President's Budget. Revisions to both the data point for FY 2014 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 contaminated water and air pollutants, radiation, and hazards related to natural and other disasters (Measure 6.1.2). As a result of response capacity needed for the increasing number of environmental health emergencies, CDC has prioritized studies related to natural disasters and severe health hazards. In FY 2016, CDC worked with federal and state partners to investigate synthetic marijuana. The investigation and resulting media coverage led to broader public awareness of the ongoing issues with synthetic cannabinoids, the dangers of using these products, and new approaches to prevention and control.

CDC's National Environmental Assessment Reporting System (NEARS) provides a standardized reporting tool that local, state, territorial, and tribal food safety programs use to identify environmental factors that they can routinely monitor to prevent or mitigate foodborne illness outbreaks associated with food service establishments (e.g., worker health policies and food handling practices). CDC exceeded its expectations in FY 2015 for the number of states using the NEARS system with five more states participating than in FY 2014. (Measure 6.1.5).

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
7.1.5 Increase the percent of Rape Prevention and Education (RPE) funded states that assess outcomes and impact of sexual violence prevention activities (Intermediate Outcome)	FY 2016: 0% (Baseline)	12%	24%	+12
7.2.5 Increase the percent of Core SVIPP funded states that assess outcomes and impact of injury and violence prevention strategies using surveillance data. (Intermediate Outcome)[1]	FY 2015: 100% Target:100% (Target Met)	95%	100%	+5

[1] The Core VIPP program is cross-cutting and is supported by both the Intentional and Unintentional Injury Prevention budget lines.

Performance Trends: CDC is leading efforts to prevent violence before it begins and reaching out to audiences with new prevention strategies. CDC is assessing the impact of these strategies and approaches through a new performance measure. Measure 7.1.5 tracks the percentage of Rape Prevention Education (RPE) funded states that assess the outcomes and impact of sexual violence prevention activities.

CDC also supports both intentional and unintentional injury prevention activities through the Core State Violence and Injury Prevention Program (Core SVIPP) (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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
7.2.4 Reduce motor vehicle deaths per 100 million vehicle miles traveled (Outcome)	FY 2015: 1.12 Target:0.97 (Target Not Met)	0.97	0.97	Maintain
7.2.5 Increase the percent of Core SVIPP funded states that assess outcomes and impact of injury and violence prevention strategies using surveillance data. (Intermediate Outcome)[1]	FY 2015: 100% Target:100% (Target Met)	95%	100%	+5
7.2.6 Reduce the age-adjusted annual rate of overdose deaths involving opioids per 100,000 population among states funded through Prescription Drug Overdose Prevention for States Program[2] (Outcome)	FY 2014: 13.3 per 100,000 residents (Target Not In Place)[3]	11.3 per 100,000	10.6 per 100,000	-0.7

[1]The Core SVIPP program is cross-cutting and is supported by both the Intentional and Unintentional Injury Prevention budget lines.

2In 2015 CDC began a new program--Prescription Drug Overdose: Prevention for States (PfS) program. Targets and results will be adjusted in 2018 using data from the 29 funded states through PfS.

[3]The FY 2014 results are based on CY 2014 mortality data related to five states (Kentucky, Oklahoma, Tennessee, Utah, and West Virginia) that were originally funded in FY 2014 under the previous Prescription Drug Overdose: Prevention Boost program. They reflect age adjusted rates of overdose deaths involving all opioid analgesics per 100,000 population.

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).78 CDC works in multiple areas across unintentional injury, and supports

[78] http://www.cdc.gov/media/dpk/2015/dpk-injury-costs.html

states through programs like Core State Violence and Injury Prevention Program (Core SVIPP) and the Prevention for States (PfS) Program.

Motor vehicle injury: Estimates show that 35,092 people died in motor vehicle crashes in 2015, a 7.02% increase from the number of motor vehicle crash deaths in 2014 when 32,744 died.[79] The fatality rate per 100 million vehicle miles traveled (VMT) increased to 1.12 in 2015, up from 1.08 in 2014. Job growth and low fuel prices may be contributing to the increased driving, which in turn may contribute to higher fatality rates.

In order to address this increase, CDC will continue to promote proven prevention strategies that increase seat belt and child safety seat usage, reduce impaired driving, increase coverage of graduated driver licensing systems, and improve driver behaviors.

- CDC's State Specific Fact Sheets on Cost of Motor Vehicle Crash Deaths, Restraint Use, and Drunk Driving provide a useful tool to highlight current data and proven strategies for reducing injury and saving lives. Between January and November 2016, these documents were downloaded nearly 55,500 times from CDC's website.

- In response to higher than average rates of motor vehicle injuries on tribal lands, in November 2016, CDC released the Tribal Motor Vehicle Injury Prevention Program (TMVIPP) Best Practices Guide 2016. The Guide outlines components needed for successful implementation of public health strategies to prevent motor vehicle injuries among American Indians/Alaska Natives.

Opioid overdose prevention: CDC has been tracking the rise of opioid overdose deaths, using the data to pivot to prevention activities to curb this alarming epidemic. The number of overdose deaths involving opioid analgesics quadrupled from 1999 to 2013. In response to this growing public health crisis, CDC has launched its Overdose Prevention in States (OPIS) effort as means to equip states with resources and expertise needed to reverse this epidemic. CDC's Prescription Drug Overdose Prevention for States (PfS) program funds 29 state health departments to advance and evaluate comprehensive state-level interventions for preventing opioid-related overdose, misuse, and abuse. CDC will measure progress in reducing overdose deaths involving opioids among the 29 states funded specifically for PfS.

In addition to CDC's state-based opioid prevention programs, the agency will continue implementation of the CDC Guideline for Prescribing Opioids for Chronic Pain which was released in March 2016. Improving the way opioids are prescribed through clinical practice guidelines can ensure patients have access to safer, more effective chronic pain treatment while reducing the number of people who misuse, abuse, or overdose from these drugs.

CDC's Core SVIPP 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 SVIPP grantees use surveillance data to inform injury and violence prevention activities. In 2016, grantees engaged in their final year of program implementation with 100% of grantees reported using data to assess outcomes and impact of injury and violence prevention strategies, fulfilling CDC's target of 100% by 2015. A new Core SVIPP funding opportunity announcement (FOA) was awarded to 23 states 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).

[79] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318

In some instances, Public Health Scientific Services measures have not yet been adjusted to reflect proposed budget changes. If approved and appropriated by Congress, CDC and HHS will work with OMB to update performance metrics.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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: 11.5 (Target Exceeded)	9	11	-2
8.A.1.1a: Achieve and sustain the percentage of NCHS website users that are satisfied with data quality and relevance (Outcome)	FY 2016: 77.6% Target: 77.4% (Target Exceeded)	77.5%	77.5%	Maintain
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 2016: 92% Good or Excellent Target: 100% Good or Excellent (Target Not 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 2016: 12.4 Million Target: 13 Million (Target Not Met)	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: 15 (Target Met)	15	TBD	TBD
8.G: Number of households interviewed in the National Health Interview Survey 1 (Output)	FY 2015: 41,493 Target: 39,000 (Target Exceeded)	35,000	TBD	TBD
8.H.1: Number of physicians surveyed in the National Ambulatory Medical Care Survey (Output)	FY 2015: 8,080 Target: 8,000 (Target Exceeded)	3,300	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
8.H.2: Number of unweighted patient visits surveyed in the National Ambulatory Medical Care Survey 2 (Output)	FY 2015: 70,530 Target: 80,000 (Target Not Met)	30,500	TBD	TBD

[1] 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.

Performance Trends: CDC uses several indicators to measure its ability to provide timely, useful, and high quality data. In FY 2014, CDC exceeded the target by releasing the mortality and natality data one month earlier at 10 months (Measure 8.A.E.2). Since 2011, timeliness of the release of mortality and natality data reported by the National Vital Statistics System has improved with each data year.

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 slightly in FY 2016 at 77.6%, up from last year where it was just above 75% (Measure 8.A.1.1a). 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. While CDC did not meet its target in 2016, 92% of federal power users gave CDC a Good or Excellent rating (Measure 8.A.1.1b).

CDC tracks the number of web visits as a proxy for the frequency with which NCHS data are used. While we did not meet our target for web visits in 2016, we exceeded last year slightly with 12.4 million web visits to NCHS webpages in fiscal year 2016 (Measure 8.A.1.3). CDC continues to sustain annual NCHS web visits of 12 million since FY 2013.

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 2016 (Measure 8.F) to achieve the geographic diversity needed for nationally representative estimates. The National Health Interview Survey (NHIS) interviewed 41,493 households in 2015, exceeding the targeted 39,000 households, and nearly matched the 2014 result (44, 552 households). This was due to additional funding to support an expanded sample to produce state level estimates of health insurance coverage. The target number of physicians surveyed by the National Ambulatory Medical Care Survey (NAMCS) has also declined since FY 2013 (Measure 8.H.1) due to the lack of additional funding. In FY 2015, NAMCS slightly exceeded the target as the survey reached 8,080 physicians. Although the number of patient records surveyed by NAMCS dropped from 111,037 in 2013 to 70,530 in 2015 (Measure 8.H.2), the 2015 results still represent an increase from the 2011 baseline of 33,193. The data from these surveys are critical for monitoring insurance coverage, access and utilization, and other key indicators at the state and national level to inform the public and decision makers.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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 hospitals1,2 (Output)	FY 2015 86 % Target: 54 % (Target Exceeded)	80 %	TBD	TBD
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) technology1-3 (Output)	FY 2016: 88 % Target: 90 % (Target Not Met but Improved)	90 %	TBD	TBD
8.B.1.4 Increase the percentage of notifiable disease messages transmitted in HL7 format to improve the quality and streamline the transmission of established surveillance data4 (Output)	FY 2016: 3 % Target: 10% (Target Not Met but Improved)	40 %	TBD	TBD

[1]ELR: 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.

[2]CDC 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.

[3]Stage 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.

[4]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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
8.B.2.1a Increase the electronic media reach of the Morbidity and Mortality Weekly Report (MMWR) through use of mechanisms such as the MMWR website and social media outlets, as measured by page views, social media followers, and email subscribers (Output)	FY 2016: 23,150,077 Target: 24,157,723 (Target Not Met but Improved)	25,365,609	25,365,609	Maintain
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 subscribers1 (Output)	FY 2016: 4,567,567 Target: 6,875,000 (Target Not Met)	5,024,324	5,526,756	+959,189
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 use2 (Outcome)	FY 2016: 1,250,585 Target: 1,420,000 (Target Not Met)	1,420,000	1,250,585	-169,415

[1] An inflation in Vital Signs electronic reach metrics occurred between April 2014 and November 2015. Results for FY 14- FY 16 and the FY 17 target were revised to correct for inflated numbers.

[2] Targets may include budget authority and/or PPHF funding.

Performance Measures for Long Term Objective: Improve the efficiency and accuracy of public health and clinical laboratory testing.

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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 2016: 63 % Target: 60 % (Target Exceeded)	65 %	TBD	TBD

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.[80] CDC did not meet its FY 2016 Immunization Information Systems target of 90%, and has ceased collecting this data (Measure 8.B.1.3b). In FY 2014, CDC demonstrated significant capability gains for Electronic Laboratory Reporting (ELR) increasing from 70% in FY 2014 to 86% in FY 2015 (Measure 8.B.1.3a), exceeding the 2015 target. This is a 23% increase over 2014 and a five fold increase from the 2012 baseline. Syndromic Surveillance capability

[80] http://www.cdc.gov/ehrmeaningfuluse/introduction.html

encountered a change in reporting criteria, falling short of the FY 2016 target of 90% but achieving a slight 12% improvement over FY 2015 results of 76% (Measure 8.B.1.3c).

Surveillance Performance Trends: The National Notifiable Diseases Surveillance System (NNDSS)[81] 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. NNDSS infrastructure is being modernized to more efficiently 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. After developing and testing new Message Mapping Guides (MMG) for select conditions in 2014 and 2015, which transitioned data reporting to the HL7 message standards, CDC began receiving data for Arboviral diseases, including Zika infections, in October 2016. The new MMG enabled the process of submitting data to be fully automated.

In early December 2016, the newly developed Message Validation, Processing and Provisioning System began to receive production data sent from the states using the new HL7-based messages. This system streamlines data processing, which will create a more efficient means for providing the data to CDC programs for analysis and action. The new system will allow the retirement of the older, less efficient legacy systems, and will increase the number of HL7 messages received at CDC. Three percent of notifiable disease messages were transmitted in HL7 format in FY 2016, a slight increase over the FY 2015 baseline, though not meeting the FY 2016 target (Measure 8.B.1.4). In support of the 2016 Zika virus response, resources for this project were diverted towards receiving, processing, and disseminating Arboviral disease data (i.e., Zika-related case notifications). Work on the originally scheduled HL7 messages has resumed and CDC anticipates meeting the FY 2017 target.

Epidemiology Performance Trends: In FY 2016, CDC provided critical epidemiological data and recommendations for solving public health problems to over 278,000 clinicians, epidemiologists, laboratorians, and other public health professionals through an extensive network of electronic communication channels for the Morbidity and Mortality Weekly Report (MMWR). During FY 2016, MMWR published 43 Zika reports, 42 as early releases. MMWR's electronic media reach, which includes web page views (www.cdc.gov/mmwr), subscriptions to MMWR content, and social media outlets has increased by three percent, from 22.4 million in FY 2014 to 23.1 million in FY 2016, a slight increase over FY 2015 and nearly meeting the target of 24.1 million (Measure 8.B.2.1a).

CDC Vital Signs is a monthly science and communication program that targets the public, state and local health departments, health care professionals, and policymakers through a MMWR report, fact sheet, and print, broadcast, social, and electronic media (http://www.cdc.gov/vitalsigns). CDC recently found an artificial inflation in Vital Signs' electronic reach metrics occurring between April 2014 – Nov 2015, resulting in an over count of 11% in FY 2014, 62% in FY 2015, and 7 percent in FY 2016. The revised metrics show that Vital Signs continues to exceed the goal of a 10% increase year-to-year, with a 27% increase from FY 2014 – FY 2015, and 13% the following year (Measure 8.B.2.2).

The Community Preventive Services Task Force (Task Force)[82] is an independent, nonpartisan, nonfederal, unpaid panel of population health and prevention experts that generates evidence-based recommendations on programs and services that work to improve health and save money. In FY 2016, The Community Guide website, the primary dissemination tool for more than 220 Task Force recommendations, received 1,250,585 page views (Measure 8.B.2.5)—a four percent decrease from FY 2015, but an increase of about 35% over the 2011 baseline of 927,357 page views. In FY 2017, CDC aims to increase page views through the use of social media and other topical CDC web sites, such as the new Rural Health site, which highlights Community Guide in Action success

[81] http://wwwn.cdc.gov/nndss/
[82] http://www.thecommunityguide.org/about/aboutTF.html

stories. The Task Force the is also collaborating with its U.S. Armed Forces Liaisons, the Department of Defense, and the Department of Veterans Affairs to enhance the readiness and resilience of military populations and their families by addressing their major health challenges such as obesity, tobacco use, limited sleep, and suicide.

Laboratory Standards and Services Performance Trends: Taking advantage of advances in communication technology, CDC has focused on expanding its portfolio of distance learning laboratory training courses to reach a larger global audience. The adoption of web based training techniques has expanded the number of scientists successfully completing CDC laboratory training courses from 3,000 in 2010 to more than 20,000 in 2015. More importantly, 63% of participants made a positive change in laboratory policies and practices as a result of CDC trainings in FY 2016, an 8% increase over FY 2015 baseline, exceeding the established target (Measure 8.B.3.2a). In 2016, 12 newly released training courses covering a variety of safety topics, were completed by 2,551 CDC scientists. An 88% satisfaction rating was achieved across all with 83% of the scientists indicating the training met the laboratory safety training needs.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
8.B.4.2 Increase the number of CDC trainees in state, tribal, local, and territorial public health agencies1 (Output)	FY 2016: 396 Target: 487 (Target Not Met)	3883	TBD	TBD
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 agencies2 (Output)	FY 2016: 297 Target: 359 (Target Not Met but Improved)	2853	TBD	TBD

[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]Two-year fellowship programs require funding across three fiscal years. FY 2017 targets have been reduced to reflect decreases in funding.

Performance Trends: The United States is experiencing a long-term, continued decline in the numbers of public health professionals. This decline is attributed to factors such as reduced budgets, hiring freezes, retirements, and staff turnover. CDC trainees provide much-needed staff augmentation at a reduced cost—or even no cost—to the underserved health departments. Current funding levels limit the number of trainees that CDC programs can accommodate; with additional funding, CDC could add additional trainees to address unmet demand across the country. FY 2016 results for the number of new CDC trainees who joined public health fellowship programs include two PHAP classes; therefore, performance levels nearly doubled from FY 2015.

By FY 2016, CDC increased the number of trainees in STLT public health agencies from 119 trainees in 2009 to 396 by targeting funding to fellowship programs that place fellows in STLT public health agencies rather than at

CDC headquarters (Measure 8.B.4.2). As of September 30, 2016, CDC supported 594 fellows, 396 (66%) of whom were placed in STLT field assignments in 47 states, Washington D.C., Guam, Puerto Rico, and eight 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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[1] (Outcome)	FY 2015: 0% (Baseline)[2]	100%	TBD	TBD

1 The 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: CDC remains committed to evaluating its relevance, impact, and contributions to occupational safety and health through peer review. Starting in FY 2017, CDC began a new set of external peer reviews that focus on the current priorities and activities of its National Institute for Occupational Safety and Health (NIOSH) (Measure 9.1.1a).

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
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 2016: 94% Target: 90% (Target Exceeded)	93%	TBD	TBD
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 2016: 86% Target: 60% (Target Exceeded)	70%	TBD	TBD
9.2.3c Increase the number of product and manufacturing	FY 2016: 264 Target: 200 (Target Exceeded)	250	TBD	TBD

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
site audits completed to ensure the quality of NIOSH certified respirators (Outcome)				
9.2.3d Reduce the percentage of respirable coal mine dust overexposures for the tailgate shearer operator (Outcome)	FY 2016: 15.6% Target: 14.7% (Target Not Met)	13.9%	TBD	TBD
9.2.4 Achieve and sustain the percentage of respondents indicating that NIOSH HHEs helped improve workplace conditions (Outcome)1	FY 2015: 85% (Baseline)	90%	TBD	TBD
9.B Number of certification decisions issued for personal protective equipment (Output)	FY 2016: 418 Target: 350 (Target Exceeded)	400	TBD	TBD
9.E Number of research articles published in peer-review publications (Output)	FY 2016: 318 Target: 338 (Target Not Met But Improved)	315	TBD	TBD
9.K Annual NIOSH website visits (Output)	FY 2016: 7,592,479 Target:7,093,337 (Target Exceeded)	8,198,086	TBD	TBD
9.L Number of NIOSH Science Blog Subscribers (Output)	FY 2016: 45,121 Target: 44,100 (Target Exceeded)	48,900	TBD	TBD

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 NIOSH works with coal mines in the U.S. to develop plans to perform surveillance for pneumoconiosis and COPD. While the percentage of underground mines that have approved surveillance plans exceeded the FY 2016 target of 90%, CDC will continue its goal of a 90% or greater result (Measure 9.2.2c). 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 (Measure 9.2.2d). CDC met this goal early, with 86% of surface mines with approved plans in FY 2016.

A new Department of Labor/Mine Safety and Health Administration regulation lowered the permissible level of coal dust exposure from 2.0 mg/m3 to 1.5 mg/m3 and changed how dust levels are measured, which will lead to more accurate (and potentially higher) estimates of overexposure starting in FY 2016. Tailgate shearer operators traditionally have shown the greatest percentage of samples that exceed the dust standard because they are positioned downwind from longwall cutting machines and are exposed to high levels of dust (Measure 9.2.3d). The year-rolling average of respirable coal mine dust overexposures increased slightly from 15.4% in FY 2015 to 15.6% in FY 2016, missing the FY 2016 target.

An estimated 20 million workers use Personal Protective Equipment to protect themselves from death, disability, and illnesses. In FY 2016, CDC completed 264 product and manufacturing site audits, an increase of nearly 100 audits over FY 2015 and exceeding the FY 2016 target (Measure 9.2.3c). Additionally, FY 2016 data demonstrate improvements in the inventory and quality of respiratory protection for workers in all industry sectors through 418 certified respirator decisions, continuing CDC's trend of exceeding the target for this measure (Measure 9.B).

CDC responds to employer, employee, and union requests for workplace Health Hazard Evaluations[83] (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 five-year average percentage of respondents who felt NIOSH helped improve workplace conditions rose from 85% in FY 2010 to 91% in FY 2014, and then fell to 85% in FY 2015.

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 in FY 2016 stayed roughly level with the FY 2015 result. There were 7.5 million visits in FY 2016. (Measure 9.K).

Social Media: NIOSH's Science Blog[84] 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.

[83] http://www.cdc.gov/niosh/hhe/pdfs/HHE_2014_Annual_Report.pdf
[84] http://blogs.cdc.gov/niosh-science-blog/

The number of texting and email subscribers to the NIOSH Science Blog rose from 42,495 in FY 2015 to 45,121 in FY 2016(Measure 9.L).

Research and Publications:

- CDC published 318 research articles in peer-reviewed publications in FY 2016, an improvement over 306 articles in 2015, though slightly missing the target (Measure 9.E).
- CDC also produced 264 information products to expand the reach of many of these publications in FY 2016 with other audiences, such as employers, workers, unions, public health departments, and the general public.

Consensus standards: In FY 2016, CDC participated in more than 70 voluntary consensus standards committees that often made use of CDC research findings related to occupational safety and health. Voluntary consensus standards committees are groups of industry and government representatives that work together to decide on rules of standardization to maximize compatibility, interoperability, safety, and quality.

GLOBAL HEALTH

Global HIV/AIDS[1]

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
10.A.1.5: Increase the number of adults and children with HIV infection receiving antiretroviral therapy (ART) (Output)	FY 2016: 6,377,400 Target: 6,600,000 (Target Not Met)	7,200,000	TBD	TBD
10.A.1.6: Increase the number of HIV+ pregnant women receiving antiretroviral medications, to reduce mother-to-child HIV transmission (Output)	FY 2016: 410,760 Target: 425,000 (Target Not Met)	410,000	TBD	TBD
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 2016: 1,133,459 Target: 1,050,000 (Target Exceeded)	1,050,000	TBD	TBD

[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 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 priority for the United States government. Preventing new HIV infections is achievable and critical to stem the global HIV/AIDS epidemic, even in the absence of a HIV vaccine.

In partnership with local governments and Ministries of Health in 25 countries and four regions, CDC-supported programs helped provide antiretroviral therapy (ART) to 6,377,419 people living with HIV (PLHIV) (Measure 10.A.1.5). Though CDC did not meet its FY 2016 target, this result represents an increase from the previous year of over half a million people receiving ART.

In FY 2016, CDC programs partnered with over 50 countries to help provide antiretroviral (ARV) drugs for more than 95% of pregnant women identified as HIV-positive at CDC-supported prevention of mother-to-child transmission (PMTCT) facilities, delivering treatment to 410,760 HIV-positive pregnant women during pregnancy and childbirth to reduce the risk of mother-to-child transmission (Measure 10.A.1.6). This represents a decrease from the previous year of 14,000, but an overall increase since 2011 of nearly 120,000 HIV+ pregnant women since 2011. CDC contributed 54% (759,725) of all ARVs/ART provided by PEPFAR programs.

In FY 2016, CDC-supported partners in 12 high priority PEPFAR countries performed 1,133,459 voluntary medical circumcisions (VMMC) of males aged 15 and older by a qualified clinician, exceeding the 2016 target and representing a 388% increase compared to baseline reporting in FY 2011 (Measure 10.A.1.7). CDC collaborates

with country programs to scale-up VMMC by expanding task shifting, increasing the number of dedicated VMMC teams, and supporting mobile services.

Global TB

Performance measures for Long Term Objective: Partner with ministries of health, international and local partners and other United States Government (USG) agencies to speed up progress in the fight against TB worldwide, by focusing on highly effective, evidence-based TB interventions, to include reaching the high-risk HIV population

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
10.G.1: Increase the number of adults and children with TB and HIV infection receiving antiretroviral therapy (ART) (Output)	FY 2016: 142,332 Target: 186,381 (Target Not Met)	186,381	TBD	TBD

Performance Trends: Effectively addressing tuberculosis (TB) in the United States requires global TB intervention. CDC plays an important role in this effort and is an integral part of the U.S. Government's efforts to address global TB through PEPFAR, the Global Health Security Agenda[85] (GHSA), and the National Action Plan to Combat Multidrug-Resistant TB[86]. Access to and initiation of ART for those found to be living with HIV and TB is imperative to reducing the burden of disease, and in an effort to support this strategy, CDC's global TB program initiated ART with 142,332 people living with HIV and TB in 2016 (Measure 10.G.1). While this did not meet the FY 2016 target, it was a slight improvement above the FY 2015 baseline. To increase the number of people on ART, CDC supports the integrative approaches of providing ART within TB medical clinics, providing frequent TB testing of HIV positive clients, and providing TB treatment at HIV treatment centers.

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 2015: 3 Target: 0 (Target Not Met)	0

[85] https://www.cdc.gov/globalhealth/security/ghsagenda.htm
[86] https://www.cdc.gov/globalhivtb/images/usg-mdr-napreport-2016-final.pdf

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 9,007,367 Target: 15,000,000 (Target Not Met)	19,000,000	TBD	TBD

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 deaths1 (Outcome)	FY 2015: 134,200 Target: 38,850 (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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 0 Target: 0 (Target Met)	0	TBD	TBD
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 2015: 126 Target: 143 (Target Not Met)	143	TBD	TBD

Efficiency Measure for Global Immunization

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
10.B.E.1: Increase the percentage of the annual budget that directly supports the program purpose in the field (Efficiency)	FY 2015: 84% Target: 90% (Target Not Met but Improved)	90%	TBD	TBD

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[87] (GPEI). The number of countries reporting endemic wild poliovirus (WPV) increased to three countries in FY 2016 (Measure 10.B.1.3) when Nigeria was returned to the endemic list after the discovery of four WPV cases circulating in Borno state. In FY 2015, CDC vaccinated 9,007,367 children with polio vaccine in Asia, Africa, and Europe (10.B.1.2a). Though CDC did not meet its FY 2015 target, this result represents an increase of 1,765,710 from the FY 2013 baseline.

Reducing cumulative global measles-related mortality by 95% compared with CY 2000 estimates presents unique challenges. 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). Though, measles-related mortality increased from 114,900 in FY 2014 to 134,200 in FY 2015, it has decreased 79% since CY 2000 (Measure 10.B.2.1).

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. The number of countries meeting this coverage threshold for DTP3 decreased slightly from 129 in FY 2014 to 126 in FY 2015. (Measure 10.B.2.3).

In FY 2015, 84% of program funding directly supported field-related activities (Measure 10.B.E.1), a slight improvement over FY 2014 support of 83%. 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.

[87] http://www.polioeradication.org/

Global Health Protection

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 63% Target: 83% (Target Not Met but Improved)	83%[2]	TBD	TBD

[1]Countries/programs represented are: Afghanistan/Tajikistan, Bangladesh, Cameroon (included CAR and Chad residents), China, DRC, Egypt, Ethiopia, India, Indonesia, Iraq, Kenya, Morocco, Mozambique, Namibia, Nigeria, Pakistan, Rwanda, Saudi Arabia, South Africa, Central America Regional FETP (Guatemala, El, Salvador, Belize, Honduras, Costa Rica, Panama, Dominican Republic, Haiti), Central Asia (Kyrgyzstan, Turkmenistan, Kazakhstan), , South Caucasus (Georgia, Armenia, Azerbaijan, Tanzania, Uganda, Vietnam), and West Africa regional program (Benin, Burkina Faso, Cote d'Ivoire, Guinea, Mali, Niger, Senegal, Togo, Zambia, Zimbabwe).

[2]Starting in FY 2017, CDC targets and results will reflect annual data instead of cumulative data

Performance Trends: CDC's Global Health Protection work, both in headquarters and the field, limits national, regional, and international global health security threats. Following the launch of the Global Health Security Agenda (GHSA) in FY 2014, CDC continues to work closely with U.S. Government and international partners to improve disease prevention, detection, and response.

The Global Disease Detection[88] (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 63% in FY 2015 (Measure 10.E.1). This decrease may due to the volume of requests received, type of assistance requested, location of the outbreak, and maturity of the GDD Center providing the response.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
10.F.1a: Increase epidemiology and laboratory capacity within global health ministries through the Field Epidemiology Training Program (FETP) New Residents (Outcome)	FY 2016: 470 Target: 430 (Target Exceeded)	430	TBD	TBD
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 2016: 3,788[1] Target: 3,700 (Target Exceeded)	4,100	TBD	TBD

[1]FY 2016 results are provisional and will be updated once final data is collected.

[88] http://www.cdc.gov/globalhealth/healthprotection/gdd/index.html

Performance Trends: International Field Epidemiology Training Programs (FETP) are recognized worldwide[89] as an effective means to strengthen countries' capacity in surveillance, epidemiology, and outbreak response.

As of FY 2016, there were 470 new residents of the FETP program, exceeding the FY 2016 target and FY 2015 results by 48 (Measure 10.F.a). The Field Epidemiology and Laboratory Training Program (FELTP) trained 3,788 epidemiologists in the advanced program across more than 70 countries by FY 2016, exceeding its target and surpassing FY 2015 results by 121 graduates (Measure 10.F.1b). These graduates strengthen public health capacity so that individual countries are able to transition from U.S.-led global health investments to more long-term host country ownership. On average, 80% of FETP graduates work within their Ministry of Health after graduation and many assume key leadership positions.

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 Initiative[90] (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 2015: 54% (median) Target: 85% (median) (Target Not Met but Improved)	85%[1]

[1]PMI 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
10.C.A: The number of CDC authored publications that inform the global evidence for malaria control and prevention programs (Output)	FY 2015: 114 Target: 57 (Target Exceeded)	75	TBD	TBD

[89] Traicoff D et al. 2015. Strong and flexible: Developing a three-tiered curriculum for the Regional Central America Field Epidemiology Training Program. Pedagogy in Health Promotion 1(2): 74–82. http://php.sagepub.com/content/1/2/74.full.pdf+html

[90] http://www.pmi.gov/

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

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2015: 96% Target: 90% (Target Exceeded)	90%	TBD	TBD

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.

While CDC and its partners did not meet the FY 2015 President's Malaria Initiative91 (PMI) performance target for Measure 10.C.1, results improved and continued to narrow the gap to the target. PMI has been scaling up the use of malaria prevention and treatment tools in select countries since 2005, and fully expanded to the current 19 countries and the Greater Mekong Sub region as of 2012. Compared to FY 2014, the percentage of children under five years old who slept under an insecticide-treated bed net the night before increased from 46% to 54% (Measure 10.C.1). While no countries have achieved the 85% goal, several countries are closing the gap and anticipate that this trend will continue the longer countries have been a part of PMI and achieved full scale up of interventions.

CDC continues to develop global policy documents and guidelines. The number of peer-reviewed papers published increased from 77 in FY 2014 to 114 in FY 2015 (Measure 10.C.A).

While malaria and other parasitic diseases have a tremendous impact on global morbidity and mortality, they are a significant health concern in the U.S. 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 2015, 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), exceeding its target by six percentage points and remaining level with the FY 2014 result (Measure 10.C.4).

[91] http://www.pmi.gov/

CDC-WIDE ACTIVITIES AND PROGRAM SUPPORT

Buildings and Facilities

Performance Measures for Long Term Objective: Improve efficiency and sustainability of CDC Facilities

Measure	Most Recent Result and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2016: 29.19%1 Target: 15% (Target Exceeded)	15%	15%	Maintain
12.E.1a: Improve energy (E) consumption per square foot (Efficiency)	FY 2016: 2.7%2 Target: 2.5% (Target Exceeded)	5%	7.5%	+2.5
12.E.1b: Improve water (W) consumption per square foot (Efficiency)	FY 2016: 39%2 Target: 18% (Target Exceeded)	18%	20%	+2

1 Targets re-baselined in 2016 per new 2016 Guiding Principles and are set by HHS to align with Executive Order-13693.

[2] Targets re-baselined in 2015 and are set by HHS to align with Executive Order-13693.

Performance Measures for Long Term Objective: Improve CDC's Buildings and Facilities Office's processes and performance[1]

Measure	Most Recent Result and Target	FY 20173 Target	FY 20183 Target	FY 2018 +/- FY 2017
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 2016: 90.27 Target: 90 (Target Exceeded)	90.0	90.0	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 2016: 0.78% Target: 2% (Target Exceeded)	2%	2%	Maintain
12.2.1e: Improve building utilization2 (Output)	FY 2016: 7.55% (U) Target: 5% (Target Exceeded)	5.00% (U)	5.00% (U)	Maintain

Measure	Most Recent Result and Target	FY 20173 Target	FY 20183 Target	FY 2018 +/- FY 2017
12.2.1f: Improve buildings and facilities operating costs (Output)	FY 2016: $12.30/sq. ft. Target: $10.29/sq. ft. (Target Not Met But Improved)	$10.29 /sq. ft.	$10.29/sq.ft.	Maintain

[1]Targets are set by HHS and align to Executive Order 13327; the Federal Real Property Council defines the metrics.

[2] Under-utilized (U); The Federal Real Property Council removed the metric Over-utilization (O) for FY 2013 and forward.

[3] Projected only, targets do not exist from FRPC for beyond FY 2016.

Performance Trends: The Office of Safety, Security and Asset Management (Building and Facilities) equips CDC to carry out its mission in safe, sustainable, and efficient operating facilities. In FY 2016, CDC exceeded its target significantly, improving water consumption 30% percent over FY 2015 and more than doubling improvements in water consumption over the FY 2016 target (12.E.1b).

CDC established a new baseline for energy consumption (12.E.1a) in FY 2015. This new target was exceeded in spite of high facility energy demand to support Zika activities throughout FY 2016. CDC installed its first on-site solar renewable energy project at the Roybal campus in 2016.

CDC continues to increase the percentage of sustainable facilities far beyond HHS targets (Measure 12.E.2), nearly doubling the percentage of CDC facilities that meet the guiding principles in FY 2016.

CDC exceeded the condition index (CI) target for FY 2016, even though the CI decreased slightly from 91.06 in FY 2015 to 90.27 in FY 2016 (Measure 12.2.1c). The drop in un-weighted CI from FY 2015 to FY 2016 resulted from inadequate repair and improvement funding needed to address necessary repairs. The result is that our Backlog of Maintenance and Repair (BMAR) has increased from $93M in 2015 to $107M in 2016. The largest, mission-critical, and mission dependent assets were maintained at a high level, with a weighted average of 97.15 for FY 2016.

CDC's utilization rate for active, owned buildings is down to 145.6 (Measure 12.2.1.e). CDC removed eight un-utilized assets in 2016. CDC met its Mission Dependency target (Measure 12.2.1d) for FY 2016 with a result of 0.78%. The Mission Dependency score improved significantly from 3.85% in 2015 to 0.78% in FY 2016.

CDC's operating costs improved to $12.30/sq.ft. in FY 2016 (Measure 12.2.1f). 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. CDC’s metric has changed by less than $1/square foot since FY 2005. Leased square footage for FY 2016 decreased to 1.321M 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 leased space onto the CDC Chamblee campus, during FY 2015, improved the overall campus utilization rate. Vacated leased 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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
11.B.4.1a (State): Increase the percentage of nationally PHAB1 accredited state public health agencies (Intermediate Outcome)	FY 2016: 39.24% Target: 31% (Target Exceeded)	40%	50%	+10
11.B.4.1b (Local): Increase the percentage of nationally PHAB1 accredited local public health agencies (Intermediate Outcome)	FY 2016: 9% Target: 8.6% (Target Exceeded)	10%	11.5%	+1.5

[1] Public Health Accreditation Board

Performance Trends: CDC provides support and resources to state, tribal, local and territorial public health departments to improve the effectiveness, efficiency, and quality of their public health programs and services. As part of this effort, CDC assists health departments in meeting national standards and achieving voluntary accreditation through the Public Health Accreditation Board (PHAB). CDC also provides funding and support to PHAB to continuously improve the national accreditation program.

Since FY 2011, CDC's Accreditation Support Initiative (ASI) has provided funding and support to 220 local, tribal, and territorial health departments and state associations. FY 2016 funding supported ASI awardees in 28 local health departments, 8 tribes, 3 territories and 6 state public health associations.

National public health department accreditation launched in 2011. Fifty-six percent of the U.S. population is currently served by an accredited health department. As of December 2016, 20 state health departments, 1 tribe, 141 local and 1 centralized state integrated system including 67 county health departments, have been accredited by PHAB.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/-FY 2017
11.B.1.1c: Increase health behavior impact of CDC.gov (Outcome)	FY 2016: 90%1 Target: 90% (Target Met)	90%	90%	Maintain

[1]Does not include individuals who responded "N/A"

Performance Trends: It is important that CDC's health information meets the needs of consumers or changes behavior. CDC uses American Customer Satisfaction Index (ACSI) 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. In FY 2016, 90% of visitors indicated positive health impact and behavior change after visiting CDC.gov, a five percent increase over FY 2015 and a more than 30% increase from FY 2010 (Measure 11.B.1.1c). 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.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
13.5.2: Increase the percentage of state public health laboratories that directly receive CDC Public Health Emergency Preparedness funding that can correctly subtype E. coli O157:H7 and submit the results into a national reporting system within four working days for 90% of the samples received1 (Output)	FY 2015: 84% Target: 80% (Target Exceeded)	87%	TBD	TBD
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 2015: 100% Target: 95%2 (Target Exceeded)	96%	TBD	TBD

[1]CDC 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.

[2]CDC 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 developing targeted strategies to improve performance across operations. In FY 2015, 84% of PHEP-funded public health laboratories correctly subtyped E. coli and submitted results to PulseNet within four working days (Measure 13.5.2).

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 2015, 100% 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 2015 target and representing an eleven percentage point increase from FY 2012.

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
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 2016: 45 Target: 45 (Target Met)	52	TBD	TBD
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 2016: 60% Target: 55% (Target Exceeded)	65%	65%	Maintain

Performance Trends: Since FY 2009, CDC has steadily increased Laboratory Response Network[92] (LRN)-specific electronic data exchange capacity of member labs, growing from 44 labs in FY 2015 to 45 labs in FY 2016, which meets the FY 2016 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 data systems to CDC's LRN data system for enhanced interoperability between systems.

CDC's National Syndromic Surveillance Program (NSSP)[93,94] is a partnership among local, state, and national public health programs supporting timely exchange of syndromic data and information at the jurisdiction level. Through a National Syndromic Surveillance Community of Practice[95] and the cloud-based BioSense Platform[96] that provides a suite of shared analytic tools and services, public health programs are now able to collectively investigate disease threats that cross jurisdictions. Measure 13.1.1b reflects 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 2016, data from 60% of the nation's emergency department visits is now contributed to the platform (Measure 13.1.1b). This represents a 13% increase from the 2015 total of 47%.

[92] http://www.bt.cdc.gov/lrn/
[93] http://www.cdc.gov/nssp/index.html
[94] As of FY 2015, the BioSense program is now referenced as the National Syndromic Surveillance Program.
[95] http://www.phconnect.org
[96] https://www.cdc.gov/nssp/biosense/index.html

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
13.3.1: Sustain the percentage of Laboratory Response Network (LRN) laboratories that have demonstrated ability to rapidly detect select biological threat agents	FY 2016: 93% Target: 92% (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 2016, CDC exceeded the expected target passing rate by one percent for LRN laboratories participating in proficiency testing (Measure 13.3.1).

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 and Target	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
13.4.5: Number of trained and ready preparedness and response teams available for response to multiple events (Output)	FY 2016: 17 Target: 15 (Target Exceeded)	15	15	Maintain
13.4.6: Percentage of inventory accuracies attained by using quality inventory management systems (Outcome)	FY 2015: 99.27% Target: 97% (Target Exceeded)	97%	97%	Maintain

Performance Trends: CDC manages and distributes Strategic National Stockpile (SNS) medical countermeasures utilizing promising practices and innovative solutions. CDC continues to evaluate effective readiness measures to deploy subject matter experts for direct, on site medical logistics and supply chain management assistance during a public health emergency. Measure 13.4.5 represents the number of responder teams required to support maximum deployment and rest rotations for simultaneous responses in multiple jurisdictions across the country. CDC exceeded its FY 2016 target requirement of 15 responder teams by two teams. 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.

Inventory accuracy is critical to CDC's ability to account for the $7 billion-worth of medical countermeasures stockpiled in the SNS. In 2016, DSNS exceeded its 97% physical inventory goal with 99.27% of inventory counts that were proven accurate, and a total financial accuracy of 99.67%, representing a trend of exceeding its target at or above 97% since FY 2010 (Measure 13.4.6).

WORKING CAPITAL FUND

Performance Measures for Working Capital Fund

Measure	Most Recent Result	FY 2017 Target	FY 2018 Target	FY 2018 +/- FY 2017
15.2.2: Maintain the percent of invoices paid on time (Efficiency)	FY 2016: 99.4% Target: 98% (Target Exceeded)	98%	98%	Maintain
15.5.1: Reduce the variance between annual revenues and annual costs (Efficiency)	FY 2016: 2% Target: 1% (Target Not Met)	1%	3%1	+2
15.5.2: Reduce the variance between estimated and actual cost (Efficiency)	FY 2016: 0.1% Target: 2% (Target Exceeded)	2%	2%	Maintain
15.5.3 Decrease the percent of bills that require correction (Efficiency)	FY 2016: 7% Target: 15% (Target Exceeded)	10%	10%	Maintain

[1]Analysis of available data trend data has shown that 3% is a more appropriate target.

Performance Trends: CDC's Office of the Chief Operating Officer 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.

The U.S. Treasury Department's Prompt Payment rule requires federal agencies to pay vendors in a timely manner and assesses late interest penalties against agencies that pay vendors after a payment due date. CDC has maintained a 98% prompt payment level since FY 2008 (Measure 15.2.2).

CDC's Working Capital Fund (WCF) aims to achieve greater efficiency and transparency in the provision of Agency-wide business services. FY 2016 data indicates that, while the WCF remained solvent, there was a 2% annual variance between revenue and cost, a 1% improvement over FY 2015, though not meeting the target (Measure 15.5.1). Currently, CDC estimates costs for business services 18 months prior to final fiscal year obligations being made. CDC initially established targets to align with its baseline of 1% but analysis of the trend data that is now available has shown that the 2014 result was an outlier. The target has been adjusted to better reflect what is achievable and sustainable.

In measuring performance from a Center, Institute, Office (CIO) perspective, the original cost estimate varied 0.1% from the actual costs charged (Measure 15.5.2) in FY 2016. While this suggests the WCF has the ability to accurately forecast costs, targets remain above baseline (0.5%), as CDC does not yet have enough data to establish a trend and better inform targets. Due to continued process improvements, CDC exceeded the target of 15% of monthly bills requiring correction by eight percentage points, an improvement of 13 percentage points over FY 2015 (Measure 15.5.3).

FY 2018 CDC SUMMARY OF PROPOSED PERFORMANCE MEASURE CHANGES

RETIRE					
UI	**Change Type**	**Original in FY 2017 PB**	**Proposed Change**	**Reason for Change**	**HHS SP or OPA Measure?**
NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION (NCCDPHP)					
4.11.8	Retire and Replace	Increase the variety and contribution of vegetables to the diets of the population aged 2 years and older (cup equivalents per 1,000 calories)	Replace with 4.11.8a: Increase the variety and contribution of vegetables to the diets of the population aged 2-18 years (cup equivalents per 1,000 calories)	Baseline intake, intake and rates of improvement are drastically different for adults and children and should be separated. Solutions for addressing improving intake vary greatly by age due to the settings these demographic groups are exposed to on a daily basis.	No
4.11.8	Retire and Replace	Increase the variety and contribution of vegetables to the diets of the population aged 2 years and older (cup equivalents per 1,000 calories)	Replaces with 4.11.8b: Increase the variety and contribution of vegetables to the diets of the population aged 19 years and older (cup equivalents per 1,000 calories)	Baseline intake, intake and rates of improvement are drastically different for adults and children and should be separated. Solutions for addressing improving intake vary greatly by age due to the settings these demographic groups are exposed to on a daily basis.	No
NATIONAL CENTER FOR ENVIRONMENTAL HEALTH (NCEH)					
6.H (budget output)	Retire	Number of emergency radiation preparedness toolkits provided to clinicians/public health workers.	N/A	Measure is no longer a useful measure of program effectiveness for the Radiation Studies Branch. Preparedness is still a major part of the branch mission and the toolkits are being continually updated to reflect new information. However,	No

RETIRE					
UI	**Change Type**	**Original in FY 2017 PB**	**Proposed Change**	**Reason for Change**	**HHS SP or OPA Measure?**
				these continual updates make it difficult to track users and audiences, and to assess impact.	
NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL (NCIPC)					
7.1.3	Retire and Replace	Increase the difference in teen dating violence prevalence between the control group and Dating Matters group	Replace with 7.1.5: Increase the percent of RPE funded states that assess outcomes and impact of sexual violence prevention activities	Dating Matters program ended in FY 2015. Evaluation will be complete by FY 2018, so there will be no data to report.	No
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)					
14.N (budget output)	Retire and Replace	Number of ToxProfiles citations in peer-reviewed health and environmental literature	Replace with 14.2.3: Percentage of site assessments in which ATSDR health guidance values are used to make a public health decision	The retiring measure does not capture use of ToxProfiles.	No

NEW MEASURES					
UI	**Change Type**	**Original in FY 2017 PB**	**Proposed Change**	**Reason for Change**	**HHS SP Measure?**
NATIONAL CENTER FOR EMERGING AND ZOONOTIC DISEASES (NCEZID)					
3.4.4	New	N/A	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	This is a short-term outcome measure reflecting the programmatic goal of notifying state and local health officials of immigrant and refugee arrivals in their jurisdictions to facilitate and encourage appropriate follow-up in the United States. This is not a new data source but an updated version of the original data source. CDC changed its EDN TB Follow-Up Worksheet used by state health departments to record information from domestic follow-up visits for immigrants and refugees with Class A or B tuberculosis. The new Worksheet (Version 3) allows for more precise and nuanced reporting and is a better measure of compliance with CDC's follow-up recommendations to prevent disease and thus control spread.	No
NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION (NCCDPHP)					
4.6.6	New	N/A	Reduce the annual increase in the proportion of high school students who currently use e-cigarettes (past 30 days)	As new nicotine-containing products, such as e-cigarettes, enter the market, the U.S. has seen alarming growth in the use of these products by youth. In April 2014, the FDA proposed rules to regulate e-cigarettes as a tobacco product. However, this rulemaking is ongoing and, in the interim, e-cigarettes are unregulated at the national level. Given this environment, as well as the evolving regulatory environment for e-cigarettes and related products, CDC	No

NEW MEASURES					
UI	**Change Type**	**Original in FY 2017 PB**	**Proposed Change**	**Reason for Change**	**HHS SP Measure?**
				proposes measuring program success in the context of slowing the increase in recently observed trends in use.	
4.6.7	New	N/A	Reduce the annual increase in the proportion of middle school students who currently use e-cigarettes (past 30 days)	As new nicotine-containing products, such as e-cigarettes, enter the market, the U.S. has seen alarming growth in the use of these products by youth. In April 2014, the FDA proposed rules to regulate e-cigarettes as a tobacco product. However, this rulemaking is ongoing and, in the interim, e-cigarettes are unregulated at the national level. Given this environment, as well as the evolving regulatory environment for e-cigarettes and related products, CDC proposes measuring program success in the context of slowing the increase in recently observed trends in use.	No
NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL (NCIPC)					
7.1.5	New	N/A	Increase the percent of Rape Prevention and Education (RPE) funded states that assess outcomes and impact of sexual violence prevention activities.	RPE provides resources to all 50 states, the District of Columbia, Puerto Rico and six (6) U.S. territories to strengthen rape prevention efforts. It is the only National program funded by the Injury Center. NCIPC is aware of the need to maximize the impact of RPE, enhance accountability, and expand evidence-and practice-based investments to prevent sexual violence before it starts.	No
CENTER FOR GLOBAL HEALTH					

NEW MEASURES					
UI	**Change Type**	**Original in FY 2017 PB**	**Proposed Change**	**Reason for Change**	**HHS SP Measure?**
10.A.1.6b	New	N/A	Increase the number of adults and children with TB and HIV infection receiving antiretroviral therapy (ART).	TB is the number one killer of those who have HIV, and as of 2015 TB ranks alongside HIV as the deadliest infectious disease in the world. Increasing the number of adults and children who are TB and HIV co-infected who are on ART will aid in increasing viral suppression of HIV and maintenance of CD4, making their bodies better able to fight TB.	No
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)					
14.2.3	New	N/A	Percentage of site assessments in which ATSDR health guidance values are used to make a public health decision	This intermediate outcome measure reflects the interdependence of DCHI and DTHHS -- DCHI or Cooperative Agreement state health assessors use DTHHS' health guidance values at these sites or Cooperative Agreement states includes recommendations to use them. This measure captures ToxProfile use (specifically the section on health guidance values - MRLs and media-specific health screening levels) that more directly effects public health.	No

SUPPLEMENTARY TABLES

OBJECT CLASS TABLE – DIRECT[1,2]

(dollars in thousands)	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 +/- FY 2017
Personnel Compensation:			
Full-Time Permanent(11.1)	$772,816	$772,816	$0
Other than Full-Time Permanent (11.3)	$104,443	$104,443	$0
Other Personnel Comp. (11.5)	$33,952	$33,952	$0
Military Personnel (11.7)	$73,374	$73,374	$0
Special Personal Service Comp. (11.8)	$8,326	$8,326	$0
Total Personnel Compensation	$992,911	$992,911	$0
Civilian personnel Benefits (12.1)	$298,039	$298,039	$0
Military Personnel Benefits (12.2)	$48,544	$48,544	$0
Benefits to Former Personnel (13.0)	$727	$727	$0
Subtotal Pay Costs	$1,340,221	$1,340,221	$0
Travel (21.0)	$45,859	$33,804	-$12,055
Transportation of Things (22.0)	$12,882	$9,496	-$3,386
Rental Payments to GSA (23.1)	$27,336	$20,150	-$7,186
Rental Payments to Others (23.2)	$482	$355	-$127
Communications, Utilities, and Misc. Charges (23.3)	$35,041	$25,830	-$9,211
NTWK Use Data TRANSM SVC (23.8)	$26	$19	-$7
Printing and Reproduction (24.0)	$2,702	$1,991	-$710
Other Contractual Services (25):	$1,475,609	$1,087,717	-$387,892
Advisory and Assistance Services (25.1)	$696,763	$513,606	-$183,158
Other Services (25.2)	$230,845	$170,163	-$60,682
Purchases from Government Accounts (25.3)	$318,490	$234,769	-$83,721
Operation and Maintenance of Facilities (25.4)	$59,586	$43,923	-$15,663
Research and Development Contracts (25.5)	$34,922	$25,742	-$9,180
Medical Services (25.6)	$28,278	$20,845	-$7,433
Operation and Maintenance of Equipment (25.7)	$89,274	$65,807	-$23,467
Subsistence and Support of Persons (25.8)	$86	$62	-$24
Consultants, other and misc (25.9)	$17,365	$12,800	-$4,565
Supplies and Materials (26.0)	$397,601	$293,084	-$104,517
Equipment (31.0)	$67,973	$50,105	-$17,868
Land and Structures (32.0)	$12,673	$9,342	-$3,331
Investments and Loans (33.0)	$0	$0	$0
Grants, Subsidies, and Contributions (41.0)	$2,874,993	$2,119,246	-$755,746
Insurance Claims and Indemnities (42.0)	$370	$273	-$97
Interest and Dividends (43.0)	$57	$42	-$15
Refunds (44.0)	$0	$0	$0
Subtotal Non-Pay Costs	$4,953,604	$3,651,454	-$1,302,150
Total Budget Authority[2]	$6,293,825	$4,991,675	-$1,302,150
Average Cost per FTE			
Civilian FTEs	**9,311**	**9,311**	**0**
Civilian Average Salary and Benefits	$131	$131	$0
Percent change	N/A	0%	N/A
Military FTEs	**884**	**884**	**0**
Military Average Salary and Benefits	$138	$138	$0
Percent change	N/A	0%	N/A
Total FTEs	**10,195**	**10,195**	**0**
Average Salary and Benefits	$131	$131	$0
Percent change	N/A	0%	N/A

[1] FY 2018 Pay Costs are proposed level with FY 2017 however these amounts will be adjusted as CDC develops a reform plan to meet the M-17-22 requirements.
[2] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

OBJECT CLASS TABLE – REIMBURSABLE[1]

Object Class	FY 2017 Annualized CR	FY 2018 President's Budget
Personnel Compensation:		
Full-Time Permanent(11.1)	$22,295	$22,295
Other than Full-Time Permanent (11.3)	$9,580	$9,580
Other Personnel Comp. (11.5)	$2,521	$2,521
Military Personnel (11.7)	$6,048	$6,048
Special Personal Service Comp. (11.8)	$398	$398
Total Personnel Compensation	$40,842	$40,842
Civilian Personnel Benefits (12.1)	$11,233	$11,233
Military Personnel Benefits (12.2)	$4,842	$4,842
Benefits to Former Personnel (13.0)	$0	$0
Subtotal Pay Costs	$56,918	$56,918
Travel (21.0)	$7,572	$7,572
Transportation of Things (22.0)	$1,309	$1,309
Rental Payments to GSA (23.1)	$1,720	$1,720
Rental Payments to Others (23.2)	$229	$229
Communications, Utilities, and Misc. Charges (23.3)	$872	$872
Printing and Reproduction (24.0)	$146	$146
Other Contractual Services (25):		
Advisory and Assistance Services (25.1)	$77,369	$77,369
Other Services (25.2)	$10,734	$10,734
Purchases from Government Accounts (25.3)	$50,528	$50,528
Operation and Maintenance of Facilities (25.4)	$3,418	$3,418
Research and Development Contracts (25.5)	$711	$711
Medical Services (25.6)	$5,312	$5,312
Operation and Maintenance of Equipment (25.7)	$5,401	$5,401
Subsistence and Support of Persons (25.8)	$0	$0
Consultants, other and misc (25.9)	$467	$467
Subtotal Other Contractual Services	$153,939	$153,939
Supplies and Materials (26.0)	$32,317	$32,317
Equipment (31.0)	$4,799	$4,799
Land and Structures (32.0)	$0	$0
Investments and Loans (33.0)	$0	$0
Grants, Subsidies, and Contributions (41.0)	$140,819	$140,819
Insurance Claims and Indemnities (42.0)	$11,468	$11,468
Interest and Dividends (43.0)	$1	$1
Refunds (44.0)	$0	$0
Subtotal Non-Pay Costs	**$355,191**	**$355,191**
Total Budget Authority	**$412,109**	**$412,109**
Reimbursable FTEs	1,449	1,449
Military FTEs	52	52
Total FTEs	1,501	1,501

[1] FY 2018 Pay Costs are proposed level with FY 2017 however these amounts will be adjusted as CDC develops a reform plan to meet the M-17-22 requirements

OBJECT CLASS TABLE – PREVENTION AND PUBLIC HEALTH FUND[1,2]

(dollars in thousands)	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 +/- FY 2017
Personnel Compensation:			
Full-Time Permanent(11.1)	$29,754	$28,062	-$1,693
Other than Full-Time Permanent (11.3)	$2,964	$2,795	$1
Other Personnel Comp. (11.5)	$1,005	$948	-$57
Military Personnel (11.7)	$1,662	$1,568	-$95
Special Personal Service Comp. (11.8)	$6	$6	$0
Total Personnel Compensation	$35,392	$33,379	-$2,013
Civilian personnel Benefits (12.1)	$10,825	$10,209	-$616
Military Personnel Benefits (12.2)	$1,187	$1,120	-$68
Benefits to Former Personnel (13.0)	$0	$0	$0
Subtotal Pay Costs	$47,404	$44,708	-$2,888
Travel (21.0)	$231	$218	-$13
Transportation of Things (22.0)	$72	$68	-$4
Rental Payments to GSA (23.1)	$1,194	$1,126	-$68
Rental Payments to Others (23.2)	$6	$6	$0
Communications, Utilities, and Misc.Charges (23.3)	$1,012	$954	-$58
NTWK Use Data TRANSM SVC (23.8)	$0	$0	$0
Printing and Reproduction (24.0)	$26	$25	-$1
Other Contractual Services (25):			
Advisory and Assistance Services (25.1)	$132,212	$124,691	-$7,521
Other Services (25.2)	$5,161	$4,868	-$294
Purchases from Government Accounts (25.3)	$30,344	$28,618	-$1,726
Operation and Maintenance of Facilities (25.4)	$1,987	$1,874	-$113
Research and Development Contracts (25.5)	$194	$183	-$11
Medical Services (25.6)	$11	$11	-$1
Operation and Maintenance of Equipment (25.7)	$2,033	$1,918	-$116
Subsistence and Support of Persons (25.8)	$2,126	$2,005	-$121
Consultants, other and misc (25.9)	$105	$99	-$6
Subtotal Other Contractual Services	$174,173	$164,266	-$9,908
Supplies and Materials (26.0)	$42,216	$39,814	-$2,401
Equipment (31.0)	$1,142	$1,077	-$65
Land and Structures (32.0)	$289	$271	-$18
Investments and Loans (33.0)	$0	$0	$0
Grants, Subsidies, and Contributions (41.0)	$623,530	$588,060	-$35,468
Insurance Claims and Indemnities (42.0)	$3	$3	$0
Interest and Dividends (43.0)	$3	$3	$0
Refunds (44.0)	$0	$0	$0
Subtotal Non-Pay Costs	$843,896	$795,892	-$48,003
Total Budget Authority	$891,300	$840,600	-$50,700
Average Cost per FTE[1]			
Civilian FTEs	230	230	0
Civilian Average Salary and Benefits	$194	$183	-$11
Percent change	N/A	-6%	N/A
Military FTEs	20	20	0
Military Average Salary and Benefits	$142	$134	-$8
Percent change	N/A	-6%	N/A
Total FTEs	250	250	0
Total Average Salary[2]	$190	$179	-$12
Percent change	N/A	-6%	N/A

[1] PPHF FTEs based on direct hire estimates 2 PPHF Civilian Avg. Salary only includes partial compensation

SALARIES AND EXPENSES[1,2]

(dollars in thousands)	FY 2017 Annualized CR	FY 2018 President's Budget	FY 2018 +/- FY 2017
Personnel Compensation:			
Full-Time Permanent(11.1)	$772,816	$772,816	$0
Other than Full-Time Permanent (11.3)	$104,443	$104,443	$0
Other Personnel Comp. (11.5)	$33,952	$33,952	$0
Military Personnel (11.7)	$73,374	$73,374	$0
Special Personal Service Comp. (11.8)	$8,326	$8,326	$0
Total Personnel Compensation	$992,911	$992,911	$0
Civilian personnel Benefits (12.1)	$298,039	$298,039	$0
Military Personnel Benefits (12.2)	$48,544	$48,544	$0
Benefits to Former Personnel (13.0)	$727	$727	$0
Subtotal Pay Costs	$1,340,221	$1,340,221	$0
Travel (21.0)	$45,859	$33,804	-$12,055
Transportation of Things (22.0)	$12,882	$9,496	-$3,386
Rental Payments to Others (23.2)	$482	$355	-$127
Communications, Utilities, and Misc. Charges (23.3)	$35,041	$25,830	-$9,211
Printing and Reproduction (24.0)	$2,702	$1,991	-$710
Other Contractual Services (25):	$1,458,244	$1,074,918	-$383,327
Advisory and Assistance Services (25.1)	$696,763	$513,606	-$183,158
Other Services (25.2)	$230,845	$170,163	-$60,682
Purchases from Government Accounts (25.3)	$318,490	$234,769	-$83,721
Operation and Maintenance of Facilities (25.4)	$59,586	$43,923	-$15,663
Research and Development Contracts (25.5)	$34,922	$25,742	-$9,180
Medical Services (25.6)	$28,278	$20,845	-$7,433
Operation and Maintenance of Equipment (25.7)	$89,274	$65,807	-$23,467
Subsistence and Support of Persons (25.8)	$86	$63	-$23
Supplies and Materials (26.0)	$397,601	$293,084	-$104,517
Subtotal Non-Pay Costs	$1,952,811	$1,439,478	-$513,333
Rental Payments to GSA (23.1)	$27,336	$20,150	-$7,186
Total, Salaries & Expenses and Rent[2]	$3,320,368	$2,799,849	-$520,519
Direct FTE	**10,195**	**10,195**	**0**

[1] FY 2018 Pay Costs are proposed level with FY 2017 however these amounts will be adjusted as CDC develops a reform plan to meet the M-17-22 requirements.

[2] FY 2017 totals include funding for Flint, Michigan response, which includes $15 million for Lead Prevention (available through FY 2018) and $20 million for a Lead Exposure Registry and Advisory Council (available through FY 2020).

DETAIL OF FULL-TIME EQUIVALENT EMPLOYMENT (FTE)[1,2]

	FY 2016			FY 2017			FY 2018		
	Civilian	CC	Total	Civilian	CC	Total	Civilian	CC	Total
Immunization and Respiratory Diseases	**580**	**56**	**636**	**598**	**56**	**654**	**598**	**56**	**654**
Direct	577	56	633	598	56	654	598	56	654
Reimbursable	3	-	3	-	-	-	-	-	-
HIV/AIDS, Viral Hepatitis, STI and TB Prev.	**1,025**	**83**	**1,108**	**1,019**	**79**	**1,098**	**1,019**	**79**	**1,098**
Direct	1,025	83	1,108	1,019	79	1,098	1,019	79	1,098
Reimbursable	-	-	-	-	-	-	-	-	-
Emerging and Zoonotic Infectious Diseases	**1,056**	**130**	**1,186**	**1,102**	**131**	**1,233**	**1,102**	**131**	**1,233**
Direct	1,025	127	1,152	1,100	130	1,230	1,100	130	1,230
Reimbursable	31	3	34	2	1	3	2	1	3
Chronic Disease Prevention and Health Promotion	**817**	**72**	**889**	**784**	**67**	**851**	**784**	**67**	**851**
Direct	803	70	873	776	66	842	776	66	842
Reimbursable	14	2	16	8	1	9	8	1	9
Birth Defects, Developmental Disabilities, Disability and Health	**190**	**6**	**196**	**162**	**7**	**169**	**162**	**7**	**169**
Direct	190	6	196	162	7	169	162	7	169
Reimbursable	-	-	-	-	-	-	-	-	-
Environmental Health	**405**	**40**	**445**	**414**	**40**	**454**	**414**	**40**	**454**
Direct	362	38	400	383	39	422	383	39	422
Reimbursable	43	2	45	31	1	32	31	1	32
Injury Prevention and Control	**265**	**23**	**288**	**271**	**24**	**295**	**271**	**24**	**295**
Direct	264	23	287	270	24	294	270	24	294
Reimbursable	1	-	1	1	-	1	1	-	1
Public Health Scientific Services	**1,370**	**114**	**1,484**	**1,409**	**106**	**1,515**	**1,409**	**106**	**1,515**
Direct	1,318	112	1,430	1,358	106	1,464	1,358	106	1,464
Reimbursable	52	2	54	51	-	51	51	-	51
Occupational Safety and Health	**1,026**	**94**	**1,120**	**1,026**	**91**	**1,117**	**1,026**	**91**	**1,117**
Direct	1,023	94	1,117	1,025	91	1,116	1,025	91	1,116
Reimbursable	3	-	3	1	-	1	1	-	1
Global Health	**1,160**	**175**	**1,335**	**1,167**	**186**	**1,353**	**1,167**	**186**	**1,353**
Direct	1,095	149	1,244	1,091	160	1,251	1,091	160	1,251
Reimbursable	65	26	91	76	26	102	76	26	102
Public Health Preparedness and Response	**586**	**78**	**664**	**554**	**76**	**630**	**554**	**76**	**630**
Direct	585	78	663	554	76	630	554	76	630
Reimbursable	1	-	1			-	-	-	-
Cross-Cutting Activities and Program Support	**2,018**	**52**	**2,070**	**2,254**	**73**	**2,327**	**2,254**	**73**	**2,327**
Direct	764	31	795	975	50	1,025	975	50	1,025
BA	764	31	795	975	50	1,025	975	50	1,025
Reimbursable	1,254	21	1,275	1,279	23	1,302	1,279	23	1,302
WCF	1,254	21	1,275	1,279	23	1,302	1,279	23	1,302
CDC Total	**10,498**	**923**	**11,421**	**10,760**	**936**	**11,696**	**10,760**	**936**	**11,696**
CDC Direct Total	9,031	867	9,898	9,311	884	10,195	9,311	884	10,195
CDC Reimbursable Total	1,467	56	1,523	1,449	52	1,501	1,449	52	1,501

[1] CDC FTE only. Excludes ATSDR.

[2] FY 2018 FTE estimates will be adjusted based on proposed funding levels as CDC develops a reform plan to meet the M-17-22 requirements.

DETAIL OF POSITIONS[1,2,3,4]

	FY 2016 Final	FY 2017 Annualized CR	FY 2018 President's Budget
Executive Level[4]			
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	**33**	**32**	**32**
Total - SES Salary	**$5,552,218**	**$5,264,775**	**$5,264,775**
GS-15	767	750	750
GS-14	2,075	2,062	2,062
GS-13	3,077	3,084	3,084
GS-12	1,597	1,615	1,615
GS-11	944	913	913
GS-10	46	41	41
GS-9	502	522	522
GS-8	62	52	52
GS-7	374	442	442
GS-6	58	55	55
GS-5	247	235	235
GS-4	30	11	11
GS-3	8	4	4
GS-2	4	2	2
GS-1	0	0	0
Subtotal	**9,791**	**9,788**	**9,788**
Total - GS Salary	$890,088,731	$965,669,149	$965,669,149
Average ES level			
Average ES salary			
Average GS grade	12.0	12.0	12.0
Average GS salary	$90,909	$98,658	$98,658
Average Special Pay Categories			
Average Comm. Corps Salary	$90,346	$97,329	$97,329
Average Wage Grade Salary	$57,154	$57,665	$57,665

[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 2018 Budget request. Following the table is a brief summary of each program and the rationale for its elimination.

Program	FY 2017 Annualized CR Level (in millions)
Preventive Health and Health Services Block Grant	$160.0
Racial and Ethnic Approaches to Community Health (REACH)	$51.0
Occupational Safety and Health – Education and Research Centers	$28.4
Prevention Research Centers	$25.4
Health Promotion	$10.5
Amyotrophic Lateral Sclerosis Registry (ALS)	$10.0
Climate Change	$10.0
Injury Control Research Centers	$9.0
Academic Centers for Public Health Preparedness	$8.2
Hospitals Promoting Breastfeeding	$8.0
National Lupus Patient Registry	$6.0
Prion Disease	$6.0
Chronic Fatigue Syndrome	$5.4
National Early Child Care Collaboratives	$4.0
Million Hearts	$4.0
Elderly Falls	$2.0
Total Reduction Amount	**$347.9**

Preventive Health and Health Services Block Grant (-$160.0 million)

The FY 2018 budget request eliminates funding for the Preventive Health and Health Services Block Grant (PHHSBG). 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. As indicated above, this budget request proposes a new, five-year block grant program, *America's Health*, which provides flexibility to grantees and focuses on the leading public health challenges faced by states, tribes, localities, and territories.

Racial and Ethnic Approaches to Community Health (-$51.0 million)

The FY 2018 budget request eliminates funding for the Racial and Ethnic Approaches to Community Health (REACH) program. The FY 2018 Budget integrates existing disease-based activities into a new Block Grant to increase flexibility to States and Tribes to more efficiently and effectively address the leading causes of death specific to each State. State, local, or tribal recipients of the $500 million *America's Health* Block Grant will continue work on the leading causes of death and disability in these communities. In FY 2016, CDC funded 49 governmental agencies and nongovernmental organizations, including state and local health departments, American Indian Tribes/Tribal Organizations, universities, and community-based organizations.

Occupational Safety and Health – Education and Research Centers (-$28.4 million)

The National Institute for Occupational Safety and Health (NIOSH) will continue to conduct research to reduce worker illness and injury, and to advance worker well-being. In FY 2018, NIOSH will not continue to fund state and academic partners for conducting, translating, or evaluating research. The FY 2018 budget request

eliminates funding for the Education and Research Centers (ERCs). Originally created almost 50 years ago, the ERC program directed funding to academic programs focusing on industrial hygiene, occupational health nursing, occupational medicine, and occupational safety. The majority of schools of public health include coursework and many academic institutions have developed specializations in these areas. The Budget would no longer direct Federal funding to support academic salaries, stipends, and tuition and fee reimbursements for occupational health professionals at universities.

Prevention Research Centers (-$25.4 million)

The FY 2018 budget request eliminates funding for the Prevention Research Center (PRC) program. This program works with academic institutions to conduct research and disseminate prevention interventions across United States. In FY 2016, CDC funded PRCs at 26 universities in 24 states to study how individuals and communities can avoid or counter the risks for chronic illnesses. For example, the PRCs funded Tulane University to research the strategy of creating bicycle lanes to increase physical activity in New Orleans. The National Institutes of Health (NIH) also supports research on chronic diseases, including prevention research. CDC's chronic disease prevention portfolio will continue to focus on implementation of the most effective existing interventions.

Health Promotion (-$10.5 million)

The Budget eliminates funding for activities funded under Health Promotion. This elimination also supports the transition of CDC's chronic disease prevention portfolio to focus on the priority areas funded by the Other Chronic Disease program line.

Amyotrophic Lateral Sclerosis Registry (-$10.0 million)

The FY 2018 budget request eliminates the ALS registry and the related research program. NIH-funded research on ALS will continue. External researchers may still use biospecimens previously obtained from the ALS biorepository. The budget request would eliminate funding for 13 extramural researcher-initiated studies to explore the causes of ALS and potential risk factors and the registry.

Climate Change (-$10.0 million)

Elimination of the program would end direct funding to states regarding health effects of climate change. States will continue to have access to other funds that would allow them to prepare and respond to public health emergencies, including natural disasters and adverse weather events. The FY 2018 budget request would eliminate funding for 18 state and local health departments and six tribal and territorial organizations.

Injury Control Research Centers (-$9.0 million)

The FY 2018 budget request eliminates funding for the Injury Control Research Centers. CDC supported 10 ICRCs to conduct research and evaluation activities related to the health and economic impact of injury and violence as well as the improvement of injury prevention practices. Elimination of this program prioritizes funding for CDC's broader injury prevention and control portfolio.

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

The FY 2018 budget request eliminates funding for 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.

Epilepsy (-$8.0 million)

The FY 2018 budget request eliminates funding for the Epilepsy program. Elimination of this program supports the transition of CDC's chronic disease prevention portfolio to focus more narrowly on the leading causes of death and disability. The Epilepsy Program works with national organizations and researchers to develop and share public education programs and campaigns, and provide services for people with epilepsy. In FY 2016, CDC funded the Epilepsy Foundation, which works with 44 state and local chapters and several research cooperative agreements, including the Managing Epilepsy Well Network, which is currently comprised of eight Prevention Research Centers.

Hospitals Promoting Breastfeeding (-$8.0 million)

The FY 2018 budget request eliminates dedicated funding for the Hospitals Promoting Breastfeeding program. This program was created in FY 2012, funded by the Prevention and Public Health Fund. This program promotes and supports evidence-based strategies in states, communities, and hospitals to help women who choose to breastfeed to start and continue breastfeeding. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote breastfeeding as a way to prevent obesity and type 2 diabetes.

National Lupus Patient Registry (-$6.0 million)

The FY 2018 budget request eliminates funding for the National Lupus Patient Registry. This program supports lupus registries and related studies, raises awareness, educates patients and healthcare providers, and promotes interventions. In FY 2016, CDC funded follow-up studies focused on natural history, disparities, and healthcare access and treatment in three lupus registries. Elimination of this program is a part of the transition of CDC's chronic disease prevention portfolio to focus on the leading causes of death and disability.

Prion Disease (-$6.0 million)

The FY 2018 budget request eliminates funding for Prion Disease activities. Prion diseases are a group of rare brain diseases affecting humans and animals that are uniformly fatal. Prion activities have been proposed for elimination to focus surveillance and monitoring activities on a broader range of high consequence pathogens and emerging diseases. Public health preventive measures recently instituted by the USDA will further reduce the risk of exposure to the U.S. population from Prion diseases. NIH also supports research of Prion diseases.

Chronic Fatigue Syndrome (-$5.4 million)

The FY 2018 budget request eliminates funding for Chronic Fatigue Syndrome (CFS) activities. CFS affects between one and four million people in the United States. CDC's CFS program works with states and experienced clinicians to develop tools to gather and analyze surveillance data and to educate clinicians and the public on the results of evidence-based studies. NIH has been funded to conduct biomedical research on CFS. In FY 2018, CFS activities are proposed for elimination, prioritizing funding to programs that support a broad range of diseases to maximize effectiveness in this limited-resource environment.

National Early Child Care Collaboratives (-$4.0 million)

The FY 2018 budget request eliminates dedicated funding for the National Early Child Care Collaboratives program, which has previously been funded by the Prevention and Public Health Fund. State, local, or tribal recipients of the *America's Health* Block Grant could continue to promote similar prevention activities in the Early Child Care and Education (ECE) setting as a way to prevent obesity. This program implements obesity prevention initiatives targeting ECE settings to help establish and improve the healthy nutrition and physical

activity habits of young children. To carry out this work, CDC supports ECE learning collaboratives in nine states to facilitate best practices in nutrition, breastfeeding support, physical activity, and screen time.

Million Hearts (-$4.0 million)

The FY 2018 budget request eliminates dedicated funding for the Million Hearts® program, which has previously been funded by the Prevention and Public Health Fund. This program is a collaboration between CDC and the Centers for Medicare and Medicaid Services (CMS) to enhance cardiovascular disease prevention activities across the public and private sector. In FY 2016, CDC funded three partner organizations—including the National Association of Community Health Centers and the YMCA of USA. CDC remains committed to maximizing its efficiency and public health impact. CDC will continue to enhance cardiovascular disease prevention through existing resources.

Elderly Falls (-$2.0 million)

Other agencies across the US government and other key stakeholders invest in research and prevention programs to address Elderly Falls, and the materials that CDC has developed to support clinicians who treat older patients at risk for falls will remain available.

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CDC FULL TIME EQUIVALENTS FUNDED BY OBAMACARE

(dollars in millions) PPHF Program 1, 2	ACA Sec.	2010 Total	2010 FTEs	2011 Total	2011 FTEs	2012 Total	2012 FTEs	2013 Total	2013 FTEs	2014 Total	2014 FTEs	2015 Total	2015 FTEs	2016 Total	2016 FTEs	2017 Total	2017 FTEs	2018 Total	2018 FTEs
Healthcare-associated Infections (HAI)	4002	N/A	N/A	$11.8	1.2	$11.8	5.0	$11.8	0.0	$12.0	6.4	$12.0	6.4	$12.0	6.4	$12.0	6.4	$12.0	6.4
Million Hearts	4002	N/A	N/A	$0.0	0.0	$0.0	2.2	$4.6	0.3	$4.0	2.1	$4.0	2.1	$4.0	2.1	$4.0	2.1	$4.0	2.1
National Early Care Collaboratives	4002	N/A	N/A	$0.0	0.0	$0.0	0.0	$0.0	0.0	$4.0	1.0	$4.0	1.0	$4.0	1.0	$4.0	1.0	$4.0	1.0
Public Health Workforce	4002	N/A	N/A	$25.0	51.8	$25.0	176.3	$15.6	91.0	$0.0	0.0	$0.0	0.0	$0.0	0.0	$0.0	0.0	$0.0	0.0
America's Health Block Grant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Antibiotic Resistance Initiative	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Total		**N/A**	**N/A**	**$36.8**	**53.0**	**$36.8**	**183.5**	**$32.0**	**91.3**	**$20.0**	**9.5**	**$20.0**	**9.5**	**$20.0**	**9.5**	**$20**	**9.5**	**$20**	**9.5**

[1] Excludes employees or contractors who: Are supported through appropriations enacted in laws other than PL 111-148 and work on programs that existed prior to the passage of PL 111-148; Spend less than 50% of their time on activities funded by or newly authorized in PL 111-148; or who work on contracts for which FTE reporting is not a requirement of their contract, such as fixed price contracts.
[2] CDC tracks total contract costs for PL 111-148 activities in the Affordable Care Act Object Class Table but does not track individual contract staff.

(dollars in millions) ACA Program 1, 2	ACA Sec.	2010 Total	2010 FTEs	2011 Total	2011 FTEs	2012 Total	2012 FTEs	2013 Total	2013 FTEs	2014 Total	2014 FTEs	2015 Total	2015 FTEs	2016 Total	2016 FTEs	2017 Total	2017 FTEs	2018 Total	2018 FTEs
Childhood Obesity PL 114-10	**4306**	**N/A**	**N/A**	**$0.0**	**1.8**	**$0.0**	**2.0**	**$0.0**	**1.1**	**$0.0**	**1.1**	**$0.0**	**0.0**	**$10.0**	**0.0**	**$0.0**	**0.0**	**$0.0**	**0.0**
Medical Monitoring in Libby, MT	10323	N/A	N/A	N/A	N/A	N/A	N/A	$4.0	1.1	$4.0	0.9	$4.0	0.9	$4.0	0.9	$4.0	0.9	$4.0	0.9
Total		**N/A**	**N/A**	**$0**	**1.8**	**$0**	**2.0**	**$4.0**	**2.2**	**$4.0**	**2.0**	**$4.0**	**0.9**	**$14.0**	**0.9**	**$4.0**	**0.9**	**$4.0**	**0.9**

[1] Excludes employees or contractors who: Are supported through appropriations enacted in laws other than PL 111-148 and work on programs that existed prior to the passage of PL 111-148; Spend less than 50% of their time on activities funded by or newly authorized in PL 111-148; or who work on contracts for which FTE reporting is not a requirement of their contract, such as fixed price contracts.
[2] CDC tracks total contract costs for PL 111-148 activities in the Affordable Care Act Object Class Table but does not track individual contract staff.

PHYSICIANS' COMPARABILITY ALLOWANCE (PCA) WORKSHEET

		PY 2016 (Actual)	FY 2017 (Estimates)	FY 2018* (Estimates)
1) Number of Physicians Receiving PCAs		2	1	0
2) Number of Physicians with One-Year PCA Agreements		0	0	0
3) Number of Physicians with Multi-Year PCA Agreements		2	1	0
4) Average Annual PCA Physician Pay (without PCA payment)		$182,400	$179,700	$0
5) Average Annual PCA Payment		$22,000	$30,000	$0
6) Number of Physicians Receiving PCAs by Category (non-add)	Category I Clinical Position			
	Category II Research Position	2	1	0
	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 had one 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.

*One of the SES members that received PCA has retired. 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 2016 INTRAMURAL AND EXTRAMURAL OBLIGATIONS[1,2]

(dollars in thousands)

Major CDC Program	Extramural[3]	Intramural	Grand Total
Agency for Toxic Substances and Disease Registry (ATSDR)	$30,212	$44,261	$74,473
Birth Defects, Developmental Disabilities, Disability and Health	$95,718	$39,707	$135,424
CDC-Wide Activities and Program Support	$207,280	$66,823	$274,103
Chronic Disease Prevention and Health Promotion	$994,720	$177,837	$1,172,557
Emerging and Zoonotic Infectious Diseases	$379,397	$203,201	$582,598
Energy Employees Occupational Illness Compensation Program Act	$41,194	$8,235	$49,429
Environmental Health	$102,336	$79,775	$182,111
Global Health	$219,678	$205,003	$424,681
HIV/AIDS, Viral Hepatitis, STI and TB Prevention	$904,586	$215,967	$1,120,553
Immunization and Respiratory Diseases	$659,068	$137,211	$796,278
Injury Prevention and Control	$188,712	$47,128	$235,840
National Institute for Occupational Safety and Health	$145,835	$192,628	$338,463
Public Health Preparedness and Response	$868,026	$503,329	$1,371,355
Public Health Scientific Services (PHSS)	$230,267	$260,144	$490,411
Vaccines for Children	$4,352,474	$42,208	$4,394,682
World Trade Center Health Programs (WTC)[4]	$100,322	$212,578	$312,900
Grand Total	**$9,519,825**	**$2,436,035**	**$11,955,860**

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.

SIGNIFICANT ITEMS

SIGNIFICANT ITEMS IN FY 2018 CONSOLIDATED APPROPRIATIONS ACT

Significant items for inclusion in the FY 2018 Centers for Disease Control and Prevention Congressional Justification from the Consolidated Appropriations ACT (H.R. 244)

Human Papillomavirus (HPV) Vaccination Rates:

The agreement urges the CDC to expand outreach and coordination with other agencies to increase HPV vaccination rates. The CDC is encouraged to develop and implement an awareness campaign that informs clinicians, parents, and local immunization programs about the severity and prevalence of HPV - related cancers and the cancer prevention benefits of the vaccine. The CDC is directed to provide an update in the fiscal year 2018 budget justification on its strategy to increase HPV vaccination rates. (Page 10)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Heart Disease & Stroke and Diabetes:

The agreement includes $130,037,000 and $140,129,000 for the Heart Disease & Stroke and Diabetes prevention formula programs. The Partnerships to Improve Community Health (PICH) program, which received $60,000,000 equally distributed between these lines last year for close-out activities, concluded in fiscal year 2016. The agreement does not in elude funding for continuation of PICH activities. The Division of Community Health is directed to follow directions provided in Senate Report 114-274 in regards to evaluation plans, data, or analysis related to the PICH program and related programs. (Pages 15-16)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package and as a Report to Congress addressing the Senate Report 114-274 language on Community Grants.

National Diabetes Prevention Program (NDPP):

The agreement includes $22,500,000 for the NDPP, an increase of$2,500,000 over the fiscal year 2016 level, and directs all new funds to support new program providers, including a focus on rural providers. (Page 16)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Racial and Ethnic Approaches to Community Health (REACH):

The agreement includes $50,950,000 for the REACH program. Within the total amount, $34,950,000 is provided to begin a new five-year cooperative agreement for community programs and $16,000,000 is for Good Health and Wellness in Indian Country, as described in House Report 114-699. The CDC is urged to fund only the most effective approaches and implement evidence- and practice-based strategies in racial and ethnic communities with all future grant announcements. (Page 16)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Hereditary Hemorrhagic Telangiectasia (HHT) Pilot:

The agreement provides an increase of $100,000 in the Hemophilia Treatment Centers line to support a collaborative pilot model that enables up to three existing Federally-funded Hemophilia Treatment Centers (HTC) to serve as specialty centers for the evaluation and management of HHT. These additional funds are provided to support the first year of a two-year pilot program and should be awarded to an existing HTC with the capacity and expertise to evaluate the data produced in the two-year pilot. (Page 18)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Vitamin D:

The agreement notes that vitamin D is an essential nutrient. In 2010, the Institute of Medicine published a Dietary Reference Intake (DRI) for vitamin D that found that the evidence supports a role for vitamin D in bone health but not in other health conditions. It further found that emerging evidence indicates that too much vitamin D may be harmful. The agreement requests an update in the fiscal year 2018 budget justification on the current state of the science around vitamin D including what health benefits, if any, vitamin D offers other than bone health. The agreement also requests an update in the fiscal year 2018 budget justification on any plans for an update of the DRI for vitamin D. (Page 19-20)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Skin Cancer:

The agreement notes a concern about rising rates of skin cancer, the most common form of cancer in the United States. The agreement requests an update in the fiscal year 2018 budget justification on the current state of the science around skin cancer prevention including the link between sun exposure and skin cancer. (Page 20)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Opioid Prescription Drug Overdose (PDO) Prevention Activity:

The agreement continues strong support for PDO prevention activities. In such, it reiterates its support for the interconnected language in both the House and Senate reports on this issue. Further, it notes within the funds provided for PDO prevention, no less than $107,000,000 shall be used to support core PDO activities with the remaining funds available to support, as needed, the prescription guideline distribution efforts. (Page 21)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Prescription Drug Monitoring Program:

In case a State does not have a prescription drug monitoring program, a county, consortium, or other unit of local government within the State that has a prescription drug monitoring program or has submitted an application to establish a prescription drug monitoring program shall be treated as a State for the purpose of this activity. (Page 22)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Global Disease Detection:

The agreement provides an increase of $3,000,000 for the Global Disease Detection program. The agreement directs the additional funds to be used to support existing longitudinal, population-based infectious disease surveillance platforms that enable comparative analysis between urban and rural populations in the developing world. (Pages 23-24)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Sodium:

The agreement directs the Director of CDC, within 90 days of enactment of this Act, to enter into an arrangement with the National Academy of Medicine (NAM) to develop a dietary reference intake report for sodium that takes into consideration studies on ali-cause mortality. The agreement directs the CDC to provide a copy of the charter with NAM to the Committees on Appropriations of the House of Representatives and the Senate and to include an update in the fiscal year 2018 budget justification on the timeline for the report. (Page 25)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

SIGNIFICANT ITEMS IN FY 2018 HOUSE APPROPRIATIONS REPORT

Significant items for inclusion in the FY 2018 Centers for Disease Control and Prevention Congressional Justification from the House Appropriations Committee, LHHS Subcommittee (H.R. 114-699)

Intramural Grant Table:

The Committee expects CDC to provide public health and preparedness goals with measures for each program in the fiscal year 2018 budget request. The Committee appreciates the new grant table provided in fiscal year 2017 budget request and requests CDC note any year it changed a formula or plans to change a formula for grants and provide the percent of funding for grants with formula funding. The Committee requests a table in the fiscal year 2018 budget request and future budget requests with the percentage of funds used to support intramural activity for each program. (Page 37-38)

CDC Response: CDC will provide a response to Congress for this Significant Item through a Report to Congress.

Web-based data collection information technology platform:

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 burden on States and to reduce CDC's operational costs of its independent data collection actions. The Committee requests an update on these activities in the fiscal year 2018 budget request. (Page 38)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

CDC/NIH Coordination:

The Committee remains concerned with duplication of effort and overlapping of responsibilities between NIH and CDC and requests an update in the fiscal year 2018 budget request on how CDC programs coordinate with NIH Institutes and Centers (ICs) to share scientific gaps related to activities supported in NIH research portfolios. (Page 38)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Hepatitis C (HCV):

The Committee understands the rates of new HCV infection among American Indians (AI) and Alaska Natives (AN) continue to rise, far surpassing other communities. The Committee directs CDC to consider the development of a grant program specifically for AI and AN tribes to support prevention and screening efforts. Furthermore, the Committee requests CDC work with the Indian Health Service on a targeted action plan to promote HCV prevention, increased screening, and increased access to treatment. (Page 39)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

HIV Prevention Activities:

The Committee requests an update in the fiscal year 2018 budget request on steps CDC is taking and plans to take to improve testing rates and reduce late stage diagnosis. The update should include steps being taken to ensure prevention program funds reach the most at risk individuals to best ensure early detection with targeted interventions. (Page 39)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Viral Hepatitis Screening:

The Committee continues to support hepatitis screening activities and urges CDC to prioritize education programs in medically underserved and minority communities. (Page 39)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Fungal Diseases (FD):

The Committee notes the threat of FD such as Cryptococcosis, Histoplasmosis, Aspergillosis, Candidiasis, and Valley Fever. The Committee requests a report in the fiscal year 2018 budget request on how CDC is continuing to monitor and evaluate efforts for early diagnosis and treatment for fungal infections in collaboration with other centers and agencies. The Committee urges CDC to work closely with NIH to identify research opportunities that can lead to improved diagnostics, treatments, and vaccines. The Committee expects CDC to conduct close coordination across all its fungal disease activities to support advances and development of the next generation of tools to address fungal diseases, and to be vigilant in monitoring and supporting early diagnosis and treatment. (Page 40)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Hand Hygiene:

The Committee reiterates its desire for CDC to improve hand hygiene habits to help prevent the spread of germs and infectious diseases. The Committee requests an update in the fiscal year 2018 budget request on CDC's efforts to incorporate the use of alcohol based hand rubs into hand hygiene programs outside healthcare, such as schools and restaurants, to reduce the risk of illness or infection. (Page 40)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

CDC Laboratory Safety and Training:

The Committee requests CDC continue to provide the quarterly reports with the same information described in the fiscal year 2016 Consolidated Appropriations Act Explanatory Statement on this topic. (Page 40)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Lyme Disease:

The Committee for years has encouraged CDC to expand activity and coordination with other agencies to develop more sensitive and accurate tools and tests for Lyme disease. CDC is expected to share areas of research with NIH to coordinate on research efforts. The Committee requests a time line and implementation plan on activities that may lead to commercialization of these efforts in the fiscal year 2018 budget request. (Page 40)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Tick-Borne Disease:

The Committee is concerned about the rate of tick-borne illnesses across the country. The Committee requests an update in the fiscal year 2018 budget request on the prevalence of tick-borne illnesses, including information on the geographic distribution with a particular focus on Lyme disease and Rocky Mountain Spotted Fever. The Committee encourages CDC to review, in conjunction with primary care physicians, its website to ensure physician education programs on Lyme disease include scientific resources and a process to allow treating physicians to provide feedback on CDC provided information. (Page 40-41)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Valley Fever:

The Committee continues to commend CDC and NIH on the joint efforts to combat Valley Fever, specifically by conducting a Randomized Controlled Trial (RCT) to identify an effective treatment. The Committee understands establishing and conducting a RCT is complex and recognizes the effort NIH and CDC have committed to this project. The Committee requests an update in the fiscal year 2018 budget request on these efforts. Further, the Committee encourages development of early diagnostic tests and supports efforts to increase awareness of this disease among medical professionals and the public. (Page 41)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Vector Control Guidelines to Reduce the Spread of Disease-Carrying Insects:

The Committee requests CDC develop and maintain an online guideline for use by States and local communities with a full scope of vector control options, tools, and other factors State and local jurisdictions may consider as they develop plans to carry out vector control activities to control Zika and other related diseases carried by insects. The Committee expects the document to be available online within 60 days after enactment and updated at least annually. (Page 41)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Atopic Dermatitis (AD):

The Committee understands AD is a severe and long-lasting form of eczema that is a potentially debilitating condition. The Committee understands gaps in data on AD exists that inhibit research. The Committee encourages CDC, in collaboration with the National Center for Health Statistics and NIH to coordinate on a report, to be included in the fiscal year 2018 budget request, on their efforts to identify the knowledge gaps related to AD and how they could support efforts to obtain data to fill these gaps. (Page 42)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Alzheimer's Disease:

The Committee provides an increase to support the Healthy Brain Initiative, of which the Committee expects the increase will be dedicated to assisting States in collecting cognitive decline and caregiving data through the Behavioral Risk Factor Surveillance System in all 50 States, the District of Columbia, and Puerto Rico. Additionally, the Committee requests the fiscal year 2018 budget request include a plan to implement the Healthy Brain Initiative's Public Health Roadmap for State and National Partnerships. (Page 42)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Burden of Disease:

The Committee reiterates the desire for CDPHP programs to expand the use of burden of disease as a significant consideration in resource decisions. Specifically, the request for applications should have applicants identify the level of community burden reduction expected with funding and funded applicants should track, monitor, and report reductions over time where possible. (Page 42)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Cancer Survivorship:

The Committee continues to encourage CDC, in coordination with NIH, to identify evidence-based physical activity and wellness programs that can be used throughout the health care and public health sector for cancer survivors. The Committee requests a joint CDC and NIH update in the fiscal year 2018 budget request on research and public health programs related to this issue. (Page 42)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Division of Diabetes Translation (DDT):

The Committee expects the DDT to address the diabetes epidemic through education to provide Americans with knowledge that leads to the prevention of diabetes. The Committee reiterates its support for the DDT to leverage Federal resources with public and private organizations to prevent and reduce diabetes in Americans. The Committee requests a report in the fiscal year 2018 budget request that describes the DDT's plan and on-going actions to further use population- adjusted burden of

disease as the key criteria in awarding funds. The Committee urges a significant focus of resources on efforts to expand State, local, and tribal community diabetes control and prevention activities. The Committee expects CDC will specifically evaluate how to ensure programs support rural communities with a high burden of disease that may have more limited access to other prevention and outreach programs to control or prevent diabetes. Additionally, the report shall describe how the DDT translates research into better prevention and care with its programs. (Page 43)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Division of Oral Health (DOH):

The Committee expects the DOH to distribute new waterline safety guidelines to dentist offices and clinics, to coordinate with NIH to conduct follow up research where needed, and for CDC to work with professional organizations to educate dentists and dental students of such guidelines. (Page 43)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Diabetes:

The Committee has provided a significant increase for Diabetes prevention and control activities. The Committee expects the increase to go directly to communities with the highest burden of disease to support scientifically validated risk factor reduction measures through competitive awards. The Committee requests a report in the fiscal year 2018 budget request on the amount of CDC diabetes support provided to State, local, and tribal communities and the expected impact on these communities. (Page 43)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Good Health and Wellness in Indian Country:

The Committee appreciates the new five-year cooperative agreement to develop a comprehensive approach to good health and wellness in Indian Country. This population is disproportionately affected by chronic disease compared to other racial and ethnic groups in the United States. The Committee notes the program support is in addition to and should not supplant existing funds provided by other CDC activities. CDC is expected to build on these existing programs within Indian Country to allow for a more comprehensive public health infrastructure in tribal communities and the ability to develop mechanisms to improve good health and wellness in Indian Country. (Page 43)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Heart Disease and Stroke:

The Committee provides an increase to support heart disease and stroke prevention at State, local and tribal public health departments. The Committee expects the increase to go directly to communities with the highest burden of disease to support scientifically validated risk factor reduction measures through competitive awards. The Committee requests a report in the fiscal year 2018 budget request on how the heart disease and stroke funds provided to communities are expected to impact those with the highest disease burden. (Page 43)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Prostate Cancer:

The Committee encourages CDC and NIH to examine how to develop a joint public-private partnership to reduce the prevalence of prostate cancer in African-American men. Specifically, CDC and NIH should consider how to develop support via coordinated meritorious scientific competitive research and public health outreach awards. The Committee requests CDC and NIH provide a joint report on this potential type of effort with a notional timeline and expected outcome measures in the fiscal year 2018 budget request on these efforts. (Page 44)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Lung Cancer:

The Committee directs the CDC tobacco program to ensure its activity includes a program to expand the knowledge to high-risk populations on the value of early detection of lung cancer through screening. The activity should work in conjunction with local public health departments, medical providers, insurers, and other public/private partners to ensure appropriate education and awareness is targeted through measurable means to high-risk communities. The Committee requests an update in the fiscal year 2018 budget request on the education and coordination activities CDC is supporting with other Federal and non-Federal partners to encourage screening in high-risk groups. (Page 44)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Inflammatory Bowel Disease (IBD):

The Committee continues to support IBD epidemiology activity and requests an update in the fiscal year 2018 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. (Page 44)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

National Diabetes Prevention Program (NDPP):

The Committee was disappointed that not all new fiscal year 2016 funds were competitively awarded to new awards as requested in the fiscal year 2017 Consolidated Appropriation Act Explanatory Statement. The Committee continues to strongly support the successful NDPP and directs all new funds provided in fiscal year 2016 and 2017 support an increase in the number of new competitively awarded program providers. Specifically, the focus should be on rural providers where the risk and burden of diabetes is greater, and where the program has the potential for the biggest impact. The Committee understands models exist for pairing the capacity of existing program providers with program delivery areas that lack sufficient resources to operate the program. The Committee requests an update in the fiscal year 2018 budget request on how these resources are being used for the provided purposes, how observable weight measure is being maintained, and how peer-reviewed science compares virtual providers to face-to-face providers. The Committee requests CDC include long-term public health measures and how this program coordinates with other CDC and Department of Health and Human Services (HHS) programs. The Committee also requests the total amount of Federal, public and private sector funds leveraged to support the NDDP annually in the fiscal year 2018 budget request and in future budget requests. (Page 44-55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Obesity:

The Committee continues support for the rural extension and outreach services program to support grants for rural counties with an obesity prevalence of over 40 percent. The Committee expects support for childhood obesity interventions based on scientific evidence to support measurable outcomes through evidenced- based obesity research, intervention, and prevention programs. The program should include a special focus on areas with the highest population-adjusted burden of obesity and with comorbidities like hypertension, cardiac disease and diabetes. The Committee understands the need to maximize impact of these funds, for this reason and to assure coordination with other activities, CDC should allocate maximum dollars to State programs. (Page 45)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Special Interest Projects (SIPs):

The Committee requests an update in the fiscal year 2018 budget request showing the steps taken to competitively award SIPs. The Committee continues to support CDC's important work on excessive drinking. However, the Committee notes the work on monitoring of youth exposure to alcohol advertising and the level of risk faced by youth from exposure to alcohol advertising may be duplicative with work ongoing in other Federal agencies, such as the Federal Trade Commission (FTC) and NIH. The Committee requests an update in the fiscal year 2018 budget request on steps CDC is taking to reduce overlap and duplication in this area. (Page 45)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Duchenne Muscular Dystrophy (DMD):

The Committee continues to support on-going activities to improve DMD newborn screening outreach. The Committee encourages CDC to examine how its centers, divisions, and public-private organizations can better leverage Federal funds to increase education, knowledge, and other outreach activities to foster screening. Additionally, the Committee requests an update in the fiscal year 2018 budget request on these efforts. It should include information on steps CDC is taking or plans to take to disseminate information on newborn screening and care for adults and newborns with Duchenne and for other forms of muscular dystrophy. (Page 46)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

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 systematically coordinate with NIH and the FXD Clinical and Research Consortium. The Committee understands a recent public private partnership meeting resulted in a focus on longitudinal data to characterize the natural history of Fragile X and encourages CDC to actively coordinate with NIH to support research through NIH's peer review process while CDC focuses on public health translational aspects. The Committee requests CDC and NIH provide a joint update in the fiscal year 2018 budget request on how the agencies support cross-agency opportunities to accelerate high quality data driven science to reduce the burden of both FXD and autism. (Page 46)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Surveillance:

The Committee expects CDC and NIH to jointly expand their coordination and sharing of CDC's birth defects surveillance and NIH's research portfolio to accelerate understanding of birth defects. The Committee specifically expects CDC and NIH to work closely on surveillance related to potential Zika virus-related birth defects and future NIH supported research. The NIH and CDC coordination should include microcephaly surveillance, technical assistance, and research, as appropriate. The Committee requests an update in the fiscal year 2018 budget request on the Birth Defects Study to Evaluate Pregnancy Exposures, which seeks to identify birth defects causes and risk factors. (Page 46)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Thalassemia:

The Committee continues support for CDC's Thalassemia activities. The Committee requests an update in the fiscal year 2018 budget request on how the program supports communications strategies, educational tools to enhance public and provider awareness, and knowledge about Thalassemia prevention and treatment practices. (Page 46)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Algal Blooms:

The Committee supports the work that CDC is doing to conduct surveillance for and report health concerns related to harmful algal blooms and urges CDC to continue this work and (1) to provide more outreach to State and local public health officials to use these surveillance and reporting systems and (2) to work with other agencies, including EPA, NOAA, and USGS, to integrate disparate sets of data to allow for a broader understanding of the spatial and temporal dynamics of the environmental and health impacts of harmful algal blooms. (Page 48)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Asthma:

The Committee encourages CDC to explore methods to increase the number of States carrying out programmatic activities. The Committee encourages CDC to use a population-adjusted burden of disease criteria as a significant factor for new competitive awards. The Committee requests a report in the fiscal year 2018 budget request detailing the competitive process. (Page 48)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Newborn Screening Quality Assurance Program:

The Committee understands HHS recommendations are based on evaluations conducted by the Advisory Committee on Heritable Disorders in Newborns and Children with approved conditions compiled in a ''Recommended Uniform Screening Panel'' (RUSP). Most States screen for the overwhelming majority of the disorders listed on the RUSP but it can take several years for States to add new conditions. The Committee requests CDC provide an update in the fiscal year 2018 budget request on actions planned and on-going to work with States on ways to ensure screening of infants for diseases for which there is a preventable and/or effective treatment. Further, the update should note what steps can be taken to encourage States to adopt and implement new RUSP conditions within one year of their addition. (Page 48)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Vitamin D:

The Committee is aware some epidemiological studies connect the lack of vitamin D to increased risk of death from cardiovascular disease, colon cancer, breast cancer, and other diseases. In 2010, a report by the Institute of Medicine (IOM) found that the recommended daily intakes of vitamin D supplements did not provide any health benefit other bone health. The Committee directs CDC to charter a National Academies of Sciences comprehensive study on the link between vitamin D and other health benefits of sun exposure; vitamin D supplements' efficacy compared to non-burning sunshine; and the issue of sunburns as the trigger for melanoma as opposed to non-burning sunshine. The report shall include recommendations for follow-on research where a lack of evidence is available and public health recommendations, if based on sound high quality peer-reviewed scientific evidence. (Page 48)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Prescription Drug Overdose (PDO) Prevention Activity:

The Committee commends CDC for its leadership on combatting prescription and opioid drug overdoses. The Committee provides an increase and expects the 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 PDO Prevention activities. The Committee assumes these funds will be distributed via a competitive mechanism and not merely a mathematical formula or standard allocation to each State. Further, the Committee strongly encourages CDC to support local prevention activity to determine the effectiveness of naltrexone in treating heroin and prescription drug abuse and reducing diversion of buprenorphine for illicit purposes. (Page 49)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

National Vital Statistics System (NVSS):

The Committee continues support for the NVSS which provides data on births, deaths, and fetal deaths. The Committee is aware most States now or will soon have operational electronic birth and death registration systems, an essential tool in monitoring public health and fighting waste, fraud, and abuse in Federal entitlement programs. The Committee requests CDC ensure the modernization of the CDC system to ensure interoperability with state systems. (Page 49-50)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

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. (Page 50)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Global Health Strategy:

The Committee requests an update on how CDC, the Food and Drug Administration, and NIH jointly coordinate global health research activities with specific measurable metrics used to track the progress toward agreed upon global health goals. (Page 51)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Global Public Health:

The Committee requests a separate detailed operating plan for all international activities funded through all CDC programs be included in the fiscal year 2018 budget request and future budget requests. (Page 51)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Neglected Fungal Diseases (NFD):

The Committee encourages CDC to continue to monitor and evaluate efforts for NFD in collaboration with other centers and agencies. The Committee encourages CDC to work closely with Office of Global AIDS Coordinator (OGAC) on the early diagnosis and treatment strategies for NFD. The Committee requests an update in the fiscal year 2018 budget request on the activities it is undertaking with OGAC to expand early diagnosis strategies for NFD. (Page 51)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Polio Infrastructure:

The Committee notes the value of the polio eradication infrastructure as a tool to strengthen global immunization programs. The Committee understands the infrastructure and international collaboration can serve as a catalyst to support other future public health immunization programs. The Committee requests a report in the fiscal year 2018 budget request describing the processes and policies in-place to leverage the polio investments to expand global public health immunization gains. The report should identify a list of potential diseases and criteria CDC's partners can consider if a follow-on eradication project is appropriate. It should include the potential criteria, diseases, impact, cost, timeline, and steps required to leverage the infrastructure for another eradication—if feasible. (Page 51-52)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Health Care Resources in an Emergency:

The Committee is aware that CDC and the Assistant Secretary for Preparedness and Response (ASPR) will issue new five-year guidance for the joint Hospital Preparedness Program (HPP) and Public Health Emergency Preparedness (PHEP) grants to States. The Committee expects the guidance will further advance the cross-agency program alignment with grant conditions that make meaningful progress on secure communications, improved real-time resource reporting (e.g. available bed types, types of facilities like dialysis, emergency rooms, etc.) to strengthen the reporting of health care resources and improve patient tracking. Further, CDC and ASPR are expected to expand cross-agency coordination activities to improve health care preparedness and response capacity between the PEHP and HPP programs. (Page 52)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Public Health Emergency Preparedness (PHEP) Cooperative Agreement Program:

The Committee has increased funding to restore PHEP capacity lost based on the Secretary's decision to transfer funds from this preparedness program in 2016. CDC should work to ensure States have the tools to quickly detect, monitor, and respond to health threats. The Committee requests CDC explain in the fiscal year 2018 budget request how State PHEP funding is supporting capacity building at the State, tribal, and local levels. The CDC is expected to track PHEP capacity goals via the PHEP index capabilities tool and work with participants to agree on cooperative agreement objectives for each State. The Committee requests an update in the fiscal year 2018 budget request on how CDC is implementing the PHEP index capacity measures. (Page 52)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

SNS Replenishment of Medical Countermeasures:

The Committee is concerned the budget request for the SNS is inadequate for acquisition and replenishment of the vaccines and other medical countermeasures with limited or no commercial markets but necessary for emergency response. The Committee is equally concerned with CDC's management of these public-private partnerships relationships. The CDC should increase efforts to work closely with their business partners on planning, developing requirements, and execution of current contracts to take into consideration business continuity. The Committee recognizes the significant government investment in the development and approval of these countermeasures and notes it is critical for HHS to support appropriate acquisition, replenishment and assure business continuity within the public-private partnerships that develop and support a manufacturing base for these countermeasures. The Committee recommendation therefore includes an increase to the SNS. (Page 53)

CDC Response:

CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Buildings and Facilities:

In addition, the Committee continues the language from fiscal year 2016 to allow CDC to retain unobligated funds in the Individual Learning Accounts from departed employees to support the replacement of the underground and surface coalmine safety and health research capacity facility. The Committee requests an update in the fiscal year 2018 budget request on the facility support for the NIOSH Taft and Hamilton facilities that are becoming obsolete. (Page 53)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Underground Mine Safety:

The Committee appreciates CDC's steps to re-establish the mine explosive research capacity. The Committee directs CDC to move forward as quickly as feasible to bring back on-line this capability needed to support mine safety research. The Committee requests an updated plan and timeline to expedite the construction schedule and an estimate of the cost for construction, equipment and machinery in the fiscal year 2018 budget request. The Committee does not expect CDC to redirect existing resources intended for a new mine safety research center to other CDC facility projects and expects this funding to remain available for this project. (Page 53)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Local Zika Transmission Grants:

The Committee adds a new funding line of Zika Block Grants specific for States to support counties with high potential for local Zika transmission with flexible funds to support vector-borne disease control and to respond to, prepare for, or prevent the spread of Zika in the United States. The Committee expects these funds to supplement, not supplant, existing vector control activities. The Committee expects CDC to coordinate with State, local, and tribal public health officials to develop the criteria for this program.

The Committee expects criteria to include measurable objectives related to the Federal, State, and local plans. The Committee requests a report within 30 days after enactment on the coordinated criteria and process CDC will use in the upcoming year for awarding grants to States with counties that have the highest potential for local transmission. The report should include the projected funding level expected for each State, counties within a State, and tribal areas that meet these criteria. The Committee anticipates the composition of recipients in this program to change over time. The Committee expects the CDC PHHSBG program office to provide the oversight, reporting, and program management of this new program within the Public Health Leadership and Support funding line but not from these new funds. (Page 54)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Public Health Leadership and Support:

The Committee expects the fiscal year 2018 budget 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. For each office and function, the Committee expects the budget to describe clearly what the prior year funds supported, the current year projections, and proposed budget year policy for each activity. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Advocacy Restrictions:

The Committee requests an update in the fiscal year 2018 budget request describing CDC's current mechanisms and process to prevent advocacy violations. Further, CDC should describe its on-going efforts to educate its staff and grant recipients to prevent violations. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Burden of Disease Review:

The Committee appreciates CDCs efforts to provide information online about the health profiles for all 3,143 counties in the United States and willingness to start engaging in how CDC can expand the use of burden of disease as a more significant factor for funding allocations and awards. The Committee requests a timeline and update in the fiscal year 2018 budget request on actions to more broadly use burden of disease (adjusted for population as appropriate) as a significant program factor for funding allocations and awards in CDC public health programs and activities. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Director's Discretionary Funds (DDF):

The Committee requests, within 30 days after the end of each quarter, a quarterly report on DDF obligations and each activity supported with a description of the activity, and how it supports a high

priority. Further, the quarterly reports should be posted online via the CDC website within 30 days after being released to the Committee. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Service Contract Inventories:

The Consolidated Appropriations Act, 2010, requires agencies to annually submit to the Office of Management and Budget (OMB) an inventory of service contracts by December 31 of each year. The Committee requests CDC provide an update in the fiscal year 2018 budget request summarizing the latest annual report submitted to OMB. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Standard of CDC Excellence:

The CDC should be an example of excellence and should meet the highest standards in safety, quality, and compliance. The Committee expects CDC to review its policies and begin tangible steps to adopt commonly accepted best practices and rules governing research and laboratory practice programs. CDC is expected to ensure appropriate regulatory requirements are uniformly applied and to meet or exceed minimum requirements for any research or laboratory facility. The Committee expects CDC to adhere to all regulatory requirements in all CDC operations. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

State Public Health Laboratories:

State public health laboratories play an integral role in public health surveillance activities including outbreak detection, disease surveillance, case finding, and local identification of select agents. This critical infrastructure serves the needs of the local community while participating in and providing necessary information to scalable laboratory networks and surveillance systems. Advancements in laboratory technology have enhanced the capabilities of State laboratories and broadened their role in local protection of community health threats. While certain rare, exceptionally low volume and cost prohibitive testing capabilities may be developed and maintained through national or regional laboratory networks, investments in State laboratories must continue as a first line of defense for our public health system. The Committee expects CDC to continue and enhance public health funding for State public health laboratory testing technology, training and infrastructure. (Page 55)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Sodium Reduction Activity grants:

The Committee notes CDC has identified sodium, among three other nutrients, for an updated Dietary Reference Intake (DRI). The Committee is concerned CDC has put out a request for proposals for grants targeting sodium reduction activities that may not be consistent with completed DRI. Bill language is included directing completion of a DRI on sodium before funds are spent on population-wide sodium reduction activities. (Page 56)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Cancer Survivorship:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Catheter Associated Urinary Tract Infections:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Chronic Obstructive Pulmonary Disease:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Chronic Pain:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Concussion Surveillance:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Cross-Border Disease Control:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Early Childcare Collaboratives:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Fragile X:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Harmonization of Lab Tests:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

High Obesity Counties Program Dissemination of Results:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Immunization Information Systems:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Inflammatory Bowel Diseases:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Malaria and Parasitic Disease Program:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Mississippi Delta Health Collaborative:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Muscular Dystrophy Surveillance:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Musculoskeletal Health:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

National Mesothelioma Patient Registry:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Physical Activity and Disability:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Prevalence of Hydrocephalus:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Primary Immunodeficiency:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Public Health Approach to Blood Disorders:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Sepsis:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Spina Bifida:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Tribal Epidemiology Centers:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Tuberculosis (TB) & TB Elimination:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Tuberous Sclerosis Complex:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide an update to Congress for this Significant Item in a supplemental package.

Vision Health Initiative:

The Committee requests general updates in the fiscal year 2018 budget request for this topic, the updates should describe both ongoing and planned efforts.

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

SIGNIFICANT ITEMS IN FY 2018 SENATE APPROPRIATIONS REPORT

Significant items for inclusion in the FY 2018 Centers for Disease Control and Prevention Congressional Justification from the Senate Appropriations Committee, LHHS Subcommittee (S.R. 114-274)

Cost Estimates:

The Committee is pleased with CDC's report on estimated funding needs of the Section 317 Immunization Program and requests that the report be updated and submitted not later than February 1, 2017, to reflect fiscal year 2018 cost estimates. The updated report should also include an estimate of optimum State and local 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. (Page 59-60)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Influenza:

The Committee provides the same level of budget authority as in fiscal year 2016 and directs the Department to use $15,000,000 in pandemic influenza supplemental balances to support CDC's global influenza activity. The Committee expects in the future that CDC and the Department will clearly identify in budget documents when and how supplemental appropriations are used. In particular, the Committee expects to be notified if any additional balances are used by CDC in fiscal year 2017. (Page 60)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

HIV Screening:

The Committee continues to support CDC grant programs that work to reduce the rate of undiagnosed persons among those infected with HIV, increase linkage to care, and increase viral suppression. The Committee acknowledges geographic disparities in rates of undiagnosed persons among those infected, viral suppression, and death rates based on the findings in the 2015 CDC HIV State Prevention Progress Report. The Committee requests that CDC partner closely with States to improve diagnosis rates among the undiagnosed and improve viral suppression rates, focusing specifically on States with the lowest scores on these outcome measures and with States who need to improve collection of complete laboratory data to measure viral suppression. (Page 61)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Antibiotic Stewardship:

The Committee commends CDC on its efforts to improve antibiotic use, specifically its work to align the complementary work of antibiotic stewardship and early sepsis recognition. The Committee directs CDC to continue this dual approach for improving antibiotic use. (Page 62)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Combating Antibiotic Resistant Bacteria [CARB]:

The Committee continues to support the CARB initiative and provides $163,000,000 for this effort. The Committee recognizes the importance of addressing antibiotic-resistant bacteria through a ''One Health'' approach, simultaneously combating antibiotic resistance in human, animal, and environmental settings. The Committee directs CDC to competitively award research activities that address aspects of antibiotic resistance related to ''One Health'' among entities, including public academic medical centers, veterinary schools with agricultural extension services, and State public health departments whose proposals are in line with CDC's strategy for addressing antibiotic resistant bacteria. CDC shall provide an updated spend plan to the Committee within 30 days after enactment of this act and include an update on these efforts in the fiscal year 2018 CJ. The Committee encourages CDC to develop a national capacity to identify and catalog microbial genome sequences, paying attention to antibiotic-resistant microbes. The CDC should continue to pursue research opportunities in the area of antimicrobial stewardship in diverse healthcare settings and encourage regional collaborations to study the most effective strategies to improve antibiotic prescribing and stewardship. (Page 62)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

National Healthcare Safety Network:

The Committee notes that each year, hospital acquired catheter associated urinary tract infections [CAUTIs] results in the death of 15,000 patients. The Committee urges the CDC to examine existing evidence regarding the use of stents to address CAUTIs and issue appropriate communications to hospitals, including an update to its 2009 guidelines to prevent CAUTIs if necessary. The Committee also notes that treatment gaps in healthcare associated infections persist across nonhospital health care settings. The Committee recognizes that the National Healthcare Safety Network started collecting data from ambulatory surgical centers and encourages CDC to continue to expand its data collection efforts to additional providers in non-hospital settings. (Page 62-63)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Sepsis:

The Committee is pleased that the CDC addressed sepsis as a priority within the CARB initiative in its fiscal year 2017 CJ. The Committee supports the CDC's goals to scale 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. The Committee requests a breakdown of funding used for sepsis awareness, prevention, and treatment across CDC programs in the fiscal year 2018 CJ. (Page 63)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Children in Adversity:

The Committee recognizes that CDC is a key implementing partner of the United States Government Action Plan on Children in Adversity's three principle objectives. The Committee fully supports the use of funds provided to the CDC through this act for activities that the agency has identified as being

necessary to link representative data to effective, sustainable, and scalable action, and thus ensure that: (1) the percentage of children achieving age-appropriate growth and developmental milestones are increased; (2) the percentage of children living outside of family care is reduced; and (3) the percentage of children experiencing violence, exploitation, abuse, and neglect is reduced. The Committee directs the CDC to collaborate with USAID, PEPFAR, and the Department of Labor to ensure monitoring and evaluation is aligned for all of the Action Plan's objectives. The Committee asks that the annual Public Law 109–95 report to Congress display the amount of funding by objective to the Action Plan on Children in Adversity. (Page 66)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Chronic Fatigue Syndrome:

The Committee applauds the CDC's efforts to collaborate with disease experts in its multi-site study. The Committee is pleased that the National Academy of Medicine [NAM] has clarified the disease definition and that the NAM and the CFS Advisory Committee have made recommendations to educate the medical community. The Committee encourages CDC to leverage those recommendations to provide new clinical guidelines and to execute a broad-based medical education campaign. To address the critical lack of access to clinical care, the Committee encourages CDC to work with the NIH and other agencies within the Department to find creative ways to support a clinical care component to regional Centers of Excellence. (Page 66)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Community Grants:

The Committee eliminated the Partnerships to Improve Community Health [PICH] in the fiscal year 2016 agreement. To lessen the disruption during PICH close out, last year the agreement directed CDC to shift fiscal year 2016 continuation costs to two chronic disease budget lines, $30,000,000 to Heart Disease and Stroke and $30,000,000 to Diabetes. In fiscal year 2017, PICH close out will be completed. Therefore, the Committee has removed funds from these two chronic disease budget lines and directs that no funds shall be used for continuing PICH activities. Within 120 days of enactment of this act, the Division of Community Health shall provide a report to the Committee on evaluation plans for PICH following the final year of funding in fiscal year 2016. (Page 67)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Heart Disease and Stroke Prevention:

Heart Disease and Stroke Prevention.—The Committee supports the Division for Heart Disease and Stroke Prevention's efforts against cardiovascular disease and supports the Paul Coverdell National Acute Stroke Registry and the projects within State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease, and Stroke. (Page 68)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Heart Valve Disease:

The Committee understands that heart valve disease can be debilitating and if not treated properly can result in heart failure, sudden cardiac arrest, and death. The Committee encourages CDC to include

information on valve disease on its Web site and to help bring public awareness to this disease. The Committee encourages CDC to engage with patient and research organizations to explore collaborative ways to integrate information about the warning signs, symptoms, and risk factors of valve disease into CDC's existing programs. (Page 68)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

High Obesity Rate Counties:

The Committee remains concerned about the growing body of evidence suggesting that obesity is one of the most significant challenges facing the public health system. If this epidemic continues unabated, obesity and the many complications it causes will increase the disease burden among Americans, particularly youth. The Committee continues to include $10,000,000 to support the rural extension and outreach services grants for rural counties with an obesity prevalence of over 40 percent. 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. Grants should combine basic, clinical, and population research to better understand and treat the metabolic, medical, surgical, environmental, and societal implications of obesity in cooperation with partners that have existing outreach capacity to develop and implement educational and intervention programs. CDC should focus its efforts in areas of the country with the highest burden of obesity and with the comorbidities of hypertension, cardiac disease, and diabetes from county level data in the Behavioral Risk Factor Surveillance System. The Committee encourages CDC to only support activities that are supported by scientific evidence. (Pages 68-69)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Johanna's Law:

The Committee is pleased by the agency's recent launch of ''Know: BRCA'' to help increase the public's awareness of hereditary breast and ovarian cancers and improve understanding the individual risk of having a BRCA mutation. 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. (Page 69)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Mississippi Delta Health Collaborative [MDHC]:

Mississippi Delta Health Collaborative [MDHC].—The Committee commends CDC's efforts supporting the Mississippi Delta Health Collaborative in implementing a successful, evidenced-based strategy to reduce the burden of heart disease and stroke. These advancements were made possible with chronic disease prevention interventions through partnerships at the local level, and team based approaches designed to link communities with clinical care, such as education and counseling, medication therapy management, comprehensive medication management, and utilizing health information technology to change health outcomes. 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 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 2018 CJ. (Pages 69-70)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Ovarian Cancer:

The Committee commends the CDC for its work to evaluate existing risk assessment tools, which can be used to help identify patients with a genetic predisposition to ovarian and other cancers, and identify which of these existing tools are valid, reliable, and the most user-friendly for providers and patients. The Committee requests that the CDC present the findings of this review and provide recommendations with respect to how CDC can support the deployment of the tools found to have the greatest value and utility in the fiscal year 2018 CJ. (Page 70)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Sleep Surveillance:

The Committee is pleased by CDC's work on a national public health awareness campaign for sleep. The Committee urges CDC to ensure that funding for surveillance activities on sleep disorders and sleep health is maintained in addition to these awareness efforts. (Page 70)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Hemophilia:

The Committee has included sufficient funding to maintain the Center's hemophilia programs, which provide critical information to better understand risk factors for complications and identify high-risk populations for prevention measures. The Committee recognizes the importance of CDC's research on inhibitors and the recommendation that people with hemophilia be tested for inhibitors at least annually. The Committee encourages CDC, working with stakeholders and the network of hemophilia treatment centers, to implement inhibitor testing across the United States and support further research to better understand inhibitors and how they can be prevented. (Page 72)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Alzheimer's Disease and Dementia:

The Committee is aware of recent peer-reviewed studies suggesting that more than 500,000 U.S. deaths each year are attributable to Alzheimer's disease and dementia, far in excess of the deaths reported by the Center each year. Such statistics would elevate Alzheimer's disease from the sixth leading cause of death to the third leading cause of death. The Committee directs the CDC to make recommendations on ways to ensure the accuracy and completeness of measurements of the Alzheimer's disease and dementia death rate and to develop a consensus on the mortality burden of the disease. (Page 73-74)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Environmental Health Activities:

The Committee is aware that local health departments are involved in a wide array of environmental health activities including groundwater protection, protection of the food supply, pollution prevention, and hazardous waste disposal. CDC is urged to ensure that funds are available to State and local health departments in communities to address local level threats. (Page 75)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Lead Poisoning:

The Committee notes that the National Advisory Committee on Childhood Lead Poisoning Prevention was disbanded in 2013. The lead poisoning crisis in Flint, Michigan, demonstrates that this committee is greatly needed by providing a forum for convening lead poisoning experts and providing these experts with an official conduit for recommendations to CDC to address emerging lead poisoning problems quickly. CDC is encouraged to re-establish this Committee. CDC is also encouraged to prioritize the geocoding and mapping of lead poisoning surveillance data, which is inexpensive and makes the data much more accessible to local jurisdictions and agencies serving lead-poisoned children. (Page 75)

CDC Response: Please see CDC's FY 2018 budget narrative for response to this Significant Item.

Combating Opioid Abuse:

The Committee includes $98,000,000, an increase of $28,000,000 above fiscal year 2016, for the Prescription Drug Overdose [PDO] Prevention for States program. CDC shall use this increase, which is $18,000,000 above the administration's request, to expand its competitive cooperative agreement program that funds States with the greatest burden of opioid overdoses and readiness to implement prevention activities and improve interventions that monitor prescribing and dispensing practices, inform clinical practice, and protect high risk patients. The Committee notes the strong connection between abuse of prescription opioids and use of other types of opioids like heroin. Activities targeting one area will have a significant impact on the other. Therefore, funding will support activities such as implementing guidelines to improve prescribing behaviors and collecting real-time and more accurate data for heroin-related opioid deaths. 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. (Page 76)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Concussion Surveillance:

The 2013 NAS study ''Sports-Related Concussions in Youth: Improving the Science, Changing the Culture'' recommended that CDC establish and oversee a national surveillance system to accurately determine the incidence of sports-related concussions, including youth ages 5 to 21. The Committee is aware of the promising progress CDC has made in creating a comprehensive survey instrument which the agency will be piloting in the coming months to prepare for a national survey in the future. The Committee supports CDC's work in this area and urges the agency to increase its efforts. (Page 77)

CDC Response:

CDC will provide a response to Congress for this Significant Item in a supplemental package.

Opioid Prescribing Guidelines:

The Committee applauds CDC's Guidelines for Prescribing Opioids for Chronic Pain and directs the agency to translate the guidelines into succinct, usable formats and toolkits accessible to providers across the country. CDC is also directed to broadly disseminate the guidelines and toolkits to promote use among as many providers as possible. The Committee expects CDC to offer technical assistance to States and expand training modules available for continuing medical education credit and maintenance of certification to spur uptake of guidelines by professional societies and health systems. CDC is urged to coordinate with the Office of the National Coordinator for Health Information Technology to develop and disseminate clinical decision support tools derived from the opioid prescribing guidelines. CDC is also urged to work with the VA and the DOD on implementing these guidelines to ensure consistent, high-quality care standards across the Federal Government. (Page 78)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Antimicrobial Resistance [AMR]:

As a result of the increased global availability and over-prescription of antimicrobial medicines to humans and animals, a number of disease-causing microbes have developed resistance to drugs previously used to treat them. Yet U.S. efforts to combat AMR may be insufficient, since most resistance emerges in other regions of the world where antimicrobial use in people and food animals is rampant and poorly regulated. The Committee urges CDC to consider partnering with a coalition of hospitals, State public health departments, global health nongovernmental organizations, and biotech companies, among others, with the goal of linking global patterns of emerging resistance to their impact in U.S. hospitals and clinical settings. Such a coalition would attempt to identify the most important factors that contribute to the emergence and the spread of AMR infections worldwide, and how they are spread to the United States. (Page 79)

CDC Response: CDC will provide a response to Congress for this Significant Item in a supplemental package.

Emergency Preparedness:

The Committee continues to request detailed information on how State Public Health Emergency Preparedness [PHEP] funding is distributed at the local level by States. CDC is encouraged to provide in the fiscal year 2018 CJ an update on how much of the Federal PHEP funding is being allocated to local health departments and what basis or formula each State is using to make such allocations. (Page 80)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

Underground Mine Safety:

Underground Mine Safety.—The Committee appreciates the requested timeline submitted by CDC and continues to support a replacement facility for the Lake Lynn Experimental Mine and Laboratory. The Committee directs CDC to utilize prior-year funding for the planning and design, land acquisition, construction, and equipping of the replacement facility. No later than 180 days after enactment, the CDC shall submit a detailed update of its activities to date to replace the Lake Lynn facility and accompanying plan to complete the timely acquisition of a replacement facility to the Committees on Appropriations of the House of Representatives and the Senate. (Page 81)

CDC Response: CDC will provide a response to Congress for this Significant Item in a Report to Congress.

DRUG CONTROL PROGRAM

CDC DRUG CONTROL PROGRAM AGENCY

RESOURCE SUMMARY

	Budget Authority (in Millions)		
	FY 2016 Final	FY 2017 Annualized CR	FY 2018 Request
Drug Resources by Function			
Prevention	$75.579	$75.435	$75.435
Total Drug Resources by Function	$75.579	$75.435	$75.435
Drug Resources by Decision Unit			
Opioid Abuse and Overdose Prevention[1]	$75.579	$75.435	$75.435
Total Drug Resources by Decision Unit	$75.579	$75.435	$75.435
Drug Resources Personnel Summary			
Total FTEs (Direct Only)	41	48	48
Drug Resources as a Percent of Budget			
Total Agency Budget (in Billions)[2, 3]	$7,321.514	$7,185.125	$5,975.243
Drug Resources Percentage	1.03%	1.05%	1.26%

[1]FY 2018 President's Budget combines 2016 and 2017 Prescription Drug Overdose and Illicit Opioid Risk Use Factors to Opioid Abuse and Overdose Prevention.

[2]Excludes ATSDR and mandatory programs.

[3]Includes funding from the Prevention and Public Health Fund, PHSSEF Pandemic Influenza Transfers, and PHS Evaluation Fund.

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.

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 to address both licit and illicit drug abuse and overdose. One example is the federal government's efforts on addressing the opioid epidemic. CDC's work aligns with Secretary Price's five specific strategies to help fight the opioid crisis:

- Improving access to treatment and recovery services;
- Promoting use of overdose-reversing drugs;
- Strengthening our understanding of the epidemic through better public health surveillance;
- Providing support for cutting edge research on pain and addiction; and
- Advancing better practices for pain management.

CDC's work in opioid overdose prevention is focused on three pillars:

1. **Improving data quality, data timeliness, and tracking trends to monitor the epidemic.** Accurate, detailed, and timely data (e.g., data related to prescribing, non-fatal and fatal opioid-involved overdoses and associated risk factors, and the health effects of opioids) are critical to understanding burden, advancing prevention, and understanding the impact of interventions.

2. **Strengthening state efforts by scaling up promising and effective public health interventions.** Empowering and equipping states with the resources and information they need to combat opioid overdose is the heart of CDC's work on this epidemic.

3. **Supplying healthcare providers with data, tools, and guidance for evidence-based decision making that improves population health.** Reversing the epidemic requires changing the way opioids are prescribed. CDC is committed to giving providers and health systems the tools and evidence they need to improve how these are used and prescribed.

Methodology

The CDC methodology for determining the drug control budget was established using the amount appropriated for the Opioid Abuse and Overdose Prevention Program[1] (previously the Prescription Drug Overdose and Illicit Opioid Use Risk Factors Programs) under P.L. 114-113, Consolidated Appropriations Act, 2016.

CDC is committed to an approach that protects the public's health and prevents opioid overdose deaths. CDC is fighting the opioid epidemic through improving data quality and surveillance to monitor and respond to the epidemic, strengthening state efforts by scaling up effective public health interventions, and supplying healthcare providers with the data, tools, and guidance needed to improve the safety of their patients.

Budget Summary

The FY 2018 drug control request for the Centers for Disease Control and Prevention is **$75,435,000** which is level with the FY 2017 annualized CR.

Opioid Abuse and Overdose Prevention
FY 2018 Request: $75.435 million
(Level with the FY 2017 annualized CR)

The FY 2018 Budget Request includes funding to continue state support for prescription opioid overdose prevention programs in all 50 states and Washington, D.C. The investment will support rigorous monitoring and evaluation and improvements in data quality at a national level. CDC also will continue efforts to increase uptake among providers of the CDC Guideline for Prescribing Opioids for Chronic Pain. In addition, CDC will coordinate with the Bureau of Justice Assistance's Harold Rogers Prescription Drug Monitoring Program (PDMP) while helping states maximize the use of their PDMPs as a public health tool to identify and address inappropriate prescribing.

Deaths from heroin have tripled since 2010, and deaths from other illicit opioids also are sharply on the rise. In FY 2018, CDC will continue to 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.

State Support

In FY 2015, CDC launched the Overdose Prevention in States (OPIS) effort. CDC's state programs include the Prescription Drug Overdose: Prevention for States (PfS) program, the Data-Driven Prevention Initiative (DDPI), and Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality (ESOOS). OPIS covers 44 states, plus D.C.

PfS Funds 29 states to combat the ongoing prescription drug overdose epidemic. The purpose of PfS is to provide state health departments with resources and support needed to advance interventions for preventing prescription drug overdoses. Examples of state efforts include enhancing Prescription Drug Monitoring Programs and leveraging them as public health tools and improving health system and insurer practices to improve opioid prescribing.

DDPI is designed to support states as they build the infrastructure, collaboration, and data capacity necessary to address their opioid epidemics. Examples of state efforts include improving data collection and analysis around opioid misuse, abuse, and overdose and developing strategies that impact behaviors driving prescription opioid dependence and abuse.

ESOOS improves surveillance of opioid overdoses by funding 12 states to increase the timeliness of opioid-involved overdose reporting, to identify associated risk factors with fatal overdoses, and to disseminate surveillance findings. State activities include establishing an early warning system to detect sharp increases or decreases in nonfatal opioid overdoses, collecting information on the number and rate of opioid overdose deaths, and analyzing information from toxicology tests and death scene investigations.

Indirect Support

Apart from these programs, the FY 2018 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 opioid overdose deaths. Additional information on this activity and specific funding levels can be found in the Public Health Scientific Services section of CDC's FY 2018 CJ.

PERFORMANCE

CDC has been tracking the rise of opioid overdose deaths, using the data to pivot to prevention activities to curb this alarming epidemic. The number of overdose deaths involving opioid analgesics quadrupled from 1999 to 2013. In response to this growing public health crisis, CDC launched its Overdose Prevention in States (OPIS) effort as means to equip states with resources and expertise needed to reverse this epidemic. CDC's Prescription Drug Overdose Prevention for States (PfS) program funds 29 state health departments to advance and evaluate comprehensive state-level interventions for preventing opioid-related overdose, misuse, and abuse. CDC will measure progress in reducing overdose deaths involving opioids among the 29 states funded specifically for PfS.

In addition to CDC's state-based opioid prevention programs, the agency will continue implementation of the CDC Guideline for Prescribing Opioids for Chronic Pain which was released in March 2016. Improving the way opioids are prescribed through clinical practice guidelines can ensure patients have

access to safer, more effective chronic pain treatment while reducing the number of people who misuse, abuse, or overdose from these drugs.