

## Centers for Disease Control and Prevention's Strategic Framework FY 2016–FY 2020

CDC works 24/7 to protect the health, safety, and security of Americans. CDC fights disease whether it starts at home or abroad, is infectious or not, occurs naturally, by accident, or from a deliberate attack. CDC promotes the health and well-being of Americans of all ages—doing all it can to prevent infections, injuries, and illnesses from ever occurring.

### CDC protects the nation and the world by:

- Detecting, responding to, and stopping new and emerging health threats.
- Preventing injuries, illnesses, and premature deaths.
- Discovering new ways to protect and improve the public's health through science and advanced technology.

With an annual budget of more than \$13 billion and more than 15,000 staff, CDC supports communities throughout the U.S. and protects Americans by working in more than 60 countries around the world. Almost 85% of [CDC's domestic funding](#) is provided directly to state and local entities to detect and control disease, prevent the leading causes of death, and prepare for health threats.

### Strategic Priority #1: Improve health security at home and around the world.

CDC's expertise in preparedness, rapid detection, and response saves lives and safeguards communities from health threats. We are employing faster, more advanced ways to find, stop, and prevent infectious disease outbreaks here and abroad. The spread of infectious diseases in the U.S. not only causes suffering and death, it also has a substantial impact on healthcare costs and our economy. [Foodborne illnesses](#) alone account for roughly 48 million illnesses and more than \$15.5 billion in costs per year. About 2 million people become infected with antibiotic-resistant bacteria each year, and roughly 23,000 die of these infections. And each year, 75,000 Americans with healthcare-associated infections die while hospitalized. Building a skilled workforce, using proven intervention strategies, and strengthening laboratory networks across the U.S. and throughout the world provide the strong systems needed to protect the public's health.

#### Increase access to high-quality laboratory testing, including the use of advanced molecular detection (AMD) technologies.

- By employing new, cutting-edge AMD technologies in CDC and partner laboratories across the country and around the world, we now have the ability to more quickly detect, identify, and respond to emerging and antibiotic-resistant infectious disease outbreaks.

- As technologies advance, CDC continues to help state and local laboratories—which are at the frontlines in preparing for and responding to health threats—to implement modern, high-quality testing for infectious diseases.
- CDC's Environmental Health Laboratory provides service, standardization, and quality assurance to laboratories testing for newborn disorders, life-threatening diseases, nutrition status, and environmental exposures.
- CDC's laboratories serve as global reference centers solving new disease mysteries and preparing for annual influenza vaccines. CDC has 23 programs designated as WHO global collaborating centers, providing our expertise and capabilities to protect Americans at home from threats abroad.

#### Enhance [Global Health Security](#) by building and sustaining capacity to detect and respond to disease threats such as polio, influenza, Ebola, the Middle East Respiratory Syndrome (MERS) virus, and insect-borne threats such as the Zika virus.

We are accelerating progress toward a world safe and secure from infectious disease threats and promoting global health security by increasing countries' capacity to:

- **Prevent** and reduce the likelihood of outbreaks—natural, accidental, or intentional.
- **Detect** threats early to save lives.
- **Respond** rapidly and effectively using multisector, international coordination and communication.

#### Enhance state and local abilities to prevent, detect, and respond to health threats.

- CDC supports state and local preparedness systems to increase molecular diagnostic testing capacity.
- CDC's select agent registry keeps Americans safer by tracking possession and use of pathogenic and toxic agents to prevent accidental or intentional misuse.
- By developing new tools such as the medical countermeasure [operational readiness review](#), we make sure states can rapidly dispense medicines to reduce disease and death during a crisis.



- Our [National Syndromic Surveillance Program \(NSSP\)](#)—a partnership among local, state, and national public health programs—enables partners to detect and characterize disease outbreaks, other hazardous events, or conditions of public health concern to strengthen regional and national situational awareness.
- CDC supports state and local rapid, population-based surveillance of microcephaly and other adverse outcomes possibly linked to Zika virus infection.

Some recent strategic priority accomplishments:

- The 2014–2016 Ebola epidemic in West Africa demonstrated the importance of readiness and remaining prepared for Ebola and other health threats to the United States. More than 4,000 CDC staff protected people in the U.S. and helped stop the spread of Ebola in Guinea, Sierra Leone, and Liberia through surveillance, contact tracing, laboratory testing, community engagement, infection prevention and control, and vaccine evaluation. CDC’s field laboratory in Bo, Sierra Leone, operated for 421 days in a row, testing more than 27,000 specimens. At the height of the response, more than 200 CDC staff worked in the field in West Africa and 400 staff worked on Ebola at CDC’s Atlanta headquarters. CDC investments in health infrastructure also prevented widespread transmission in other West African countries. For example, the substantial investment for polio eradication programs in Nigeria ensured that responders there were prepared for Ebola, enabling Lagos to rapidly stop its outbreak. If Ebola had not been stopped in Lagos, it likely would have spread for months or years to other parts of Nigeria and Africa, killing hundreds of thousands of people and setting back a decade of progress in saving lives.
- CDC also played a critical role protecting the United States from Ebola by aiding state and local health departments in their preparedness activities. Together with international, federal, and state partners, CDC established airport risk assessments for travelers leaving affected countries and entering the U.S., monitored travelers and other potentially exposed persons for 21 days, and helped hospitals across the country prepare to manage possible cases of Ebola or other hemorrhagic disease through intensive training and preparedness activities.
- CDC continues to work to improve laboratory safety. In the past 10 years, CDC performed 2,072 laboratory inspections and restricted 338 people from accessing select agents and toxins.
- Lifesaving medical countermeasures from CDC’s Strategic National Stockpile can be delivered in 12 hours or less to anywhere in the U.S. For example, CDC provided 50 vials of botulinum antitoxin to the Ohio Department of Health within 10 hours for an outbreak in April 2015.
- Since adoption of advanced molecular detection technologies, including [whole genome sequencing \(WGS\)](#), we are able to solve outbreaks more quickly and prevent illness and death that would have otherwise occurred. For example, more than 95% of tuberculosis isolates in

the nation were tested for drug resistance, and molecular testing identified multiple outbreaks.

- During the past 10 years, CDC has deployed 294 pathogen-specific tests in 59 countries, helping to find and stop spread of disease at the source. In addition, CDC and our in-country collaborators discovered 61 pathogens that were new to the region in which they were discovered and 12 new pathogens identified for the first time anywhere in the world.
- CDC supports more than 50 partner countries as well global partners to rapidly identify and share novel influenza strains. Sharing strains improves vaccine virus selection and enhances pandemic preparedness and provides the basis for response capacity for other infectious diseases such as MERS and Ebola.
- 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 19 through the first half of 2016. Following CDC surges in India and then Nigeria, India was declared polio-free in March 2014, and Africa completed a year with no wild poliovirus cases when Nigeria was verified to be polio-free in 2015, leaving only Afghanistan and Pakistan with continuing transmission.
- Provided more than 107 million rapid diagnostic tests and 243 million treatments for malaria since 2006 as part of the President’s Malaria Initiative.
- 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.

## **Strategic Priority #2: Better prevent the leading causes of illness, injury, disability, and death.**

The stakes are high—the top 10 leading causes of death account for nearly 75% of all deaths in the U.S., with cardiovascular disease, stroke, and cancer accounting for more than half of all deaths and more than \$472 billion in healthcare costs.

**Provide timely, quality data on priority health and health-care issues at the national, state, and local levels to better monitor and improve the health of Americans.**

- CDC’s gold-standard health surveys and public-use data sets provide accurate, timely, and comprehensive information on health and healthcare issues.
- We continue to lead the nation in conducting high-quality research related to the public’s health, including population health surveillance and epidemiology at national and state levels and building the science basis for decision-making on public health programs, policies, and services.
- We are building and improving information systems, which will enable enhanced data exchange to improve internal and external information sharing.
- CDC is a [trusted source](#) of information for consumers and healthcare professionals through a variety of

communication platforms including scientific publications, emergency health alerts for practicing clinicians, a comprehensive internet presence, and news and social media outreach.

#### **Work with communities to prevent injury, disease, and disability.**

- [Vaccination programs](#), including the Vaccines for Children Program (VFC) provide half of all childhood vaccines in the U.S., in addition to epidemiology and laboratory capacity to detect and respond to vaccine preventable diseases. Childhood immunization saves \$3 in direct costs and \$10 in direct and indirect costs for every \$1 spent.
- We prevent heart attacks, strokes, cancer, diabetes, and other diseases that are the leading causes of illness and premature death by helping reduce tobacco use, improve physical activity and nutrition, and reduce obesity. For example, our scientific research shows increasing access to tobacco-free environments, improving access to fluoridated water, and providing children with healthier food options in schools result in better health. We also work to ensure that tools for healthy living are accessible for people with [disabilities](#).
- Our proven approaches to injury and violence prevention help reduce deaths due to motor vehicle crashes, still a leading cause of death and injuries in the U.S., with effective interventions to increase use of restraints and reduce speeding and alcohol-impaired driving. We focus on vulnerable populations, including American Indians and Alaska natives and older Americans. We also apply our scientific expertise to help reduce deaths from the opioid overdose epidemic by supporting states to implement effective strategies, and equipping healthcare providers with the tools they need to improve safe opioid prescribing.
- We work to help children thrive by preventing child abuse and neglect, improving asthma management, increasing early identification of developmental disabilities such as autism spectrum disorder, improving treatment of children with [Attention Deficit and Hyperactivity Disorder \(ADHD\)](#), and preventing harms that include birth defects from maternal exposures such as medication use during pregnancy.
- We prevent work-related injuries, illnesses, and fatalities due to hazardous exposures and falls.

#### **Support doctors, nurse practitioners, nurses, pharmacists, and other health professionals by increasing workforce capacity at the state and local levels.**

We help build and train the public health workforce through financial and technical support to states and localities. Fellowship programs such as the [Public Health Associate Program \(PHAP\)](#), the [Laboratory Leadership Service \(LLS\)](#), and the [Epidemic Intelligence Service \(EIS\)](#) assign more than 500 CDC-trained public health workers and disease detectives to state, local, tribal, and territorial health departments.

Some recent strategic priority accomplishments:

- Most vaccine-preventable disease case counts are at their lowest levels ever, with greater than 90% coverage for many vaccines. Vaccination of children born in the U.S. between 1994 and 2013 prevented 322 million illnesses, avoided 732,000 deaths, and will save nearly \$1.4 trillion in societal costs. Influenza vaccination alone prevented 1.9 million illnesses and 67,000 hospitalizations during the 2014–2015 flu season.
- Although more than 35 million Americans still smoke cigarettes, adult cigarette-smoking rates decreased to a new low of 15.1% in 2015, representing an estimated 10 million fewer smokers than in 2009.
- The [Tips from Former Smokers \(TIPS\)](#) campaign has helped at least 400,000 smokers quit for good since 2012. TIPS costs just \$393 to save a year of life and less than \$3,000 per life saved; it is a public health best buy.
- There was a 9% decrease in HIV diagnoses between 2010 and 2014.
- Providers using CDC's new HIV testing algorithm can detect acute infection just 4 days after RNA positivity.
- CDC released its STEADI (Stopping Elderly Accidents, Deaths, and Injuries) Initiative, which gives healthcare providers evidence-based tools and guidance needed to address and prevent falls among their patients.
- 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.
- CDC's National Institute for Occupational Safety and Health (NIOSH) conducted a health-hazard evaluation study that found a high rate of carpal tunnel syndrome among workers at a poultry-processing plant that employed workers from an underserved population. These findings led to safer working conditions and updated industry guidelines.
- Encouraging widespread adoption of directly observed therapy for tuberculosis and increased support to local health departments have helped prevent tens of thousands of tuberculosis cases in the United States since 1993.
- EIS officers conduct more than 200 investigations per year, ranging from assessing the effectiveness of a vaccination campaign to preventing meningococcal disease in university students to determining risk factors for healthcare-associated infections.
- More than 350 Public Health Associate Program (PHAP) associates are assigned to public health agencies in 44 states, one territory, and the District of Columbia in addition to 34 Career Epidemiology Field Officers (CEFOs) in 27 state, territorial, or local public health programs.

### **Strategic Priority #3: Strengthen public health and healthcare collaboration.**

We have a unique opportunity to increase the value of our nation's health investments by better aligning public health and healthcare.

#### **Leverage partnerships with clinicians and healthcare organizations to decrease healthcare-associated and antibiotic-resistant infections and prevent prescription drug overdoses.**

- CDC has invested in practical and proven efforts to counter the threat of untreatable antibiotic-resistant infections. In 2014, the Chicago Prevention Epicenter completed a multicenter evaluation of a new prevention package in four long-term acute care hospitals, demonstrating a 56% reduction in deadly antibiotic-resistant carbapenem-resistant Enterobacteriaceae (CRE) infections.
- Our [6/18 Initiative](#) increases use of proven prevention practices. CDC provides partners with rigorous evidence and practical information on implementation to address high-burden health conditions and associated interventions to inform their decisions so they have the greatest health and cost impact. Multiple state Medicaid programs, commercial payers, and large employers are adapting their covered benefits to provide access to specific 6/18 interventions.
- The [CDC Guideline for Prescribing Opioids for Chronic Pain](#) provides recommendations for the prescribing of opioid pain medication for patients 18 or older in primary care settings outside of active cancer treatment, palliative care, and end-of-life care. 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 overdose or die of these drugs, as well as reducing rates of neonatal opioid withdrawal syndrome.

#### **Increase ability of public health and healthcare systems to reduce disease threats and improve health by increasing prevention through the use of community, clinical, and laboratory services.**

- Our cancer programs increase access to recommended preventive screening to reduce mortality.
- Partnerships among community and clinical care providers help improve blood pressure and cholesterol control and help people stop smoking.
- Our community and school-based programs reduce the risk that teens develop HIV, STDs, and unintended pregnancy.

#### **Use emerging data sources, existing surveys, and innovative information delivery to inform clinical care systems to improve population health.**

- CDC links our national surveys with Medicaid enrollment and claims records collected from the Centers for Medicare and Medicaid Services (CMS) to better understand and improve changes in health status and healthcare use, including among low-income families with children, the elderly, and people with disabilities.
- Through the National Health Interview Survey (NHIS), CDC increased the number of states with accurate estimates of health insurance coverage, from 32 states in 2011 to all 50 states and Washington, D.C., in 2014.
- CDC has expanded the number of states and territories in the National Violent Death Reporting System (NVDRS) and has used this data to identify circumstances and prevention strategies for suicide.
- In FY 2015, [CDC Vital Signs](#) electronic media had a total potential reach of 6.6 million people.
- Annual mortality data are being reported more quickly than ever. We released final 2014 mortality data in early December 2015 and preliminary 2015 data in June 2016. In 2015, CDC received 38% of death records within 10 days of the event, a proportion which more than doubled since 2013.
- Specialized websites, such as the [Community Health Improvement Navigator](#) and [Sortable Stats](#) assist states, local communities, tribes, and territories with data, useful information and tools.

Some recent strategic priority accomplishments:

- The combination of CDC data systems, guidelines, and programs has contributed to significant reductions of healthcare-associated infections, including a 50% reduction in central line-associated bloodstream infections between 2008 and 2014.
- As of 2015, the [Million Hearts® Hypertension Control Challenge](#) recognized nearly 60 public and private healthcare practices and systems that reach more than 12 million adult patients in 29 states for achieving blood pressure control for at least 70% of their patients with hypertension.
- By September 30, 2015, the World Trade Center (WTC) Health Program had enrolled 73,199 eligible responders and survivors. In FY 2015, the WTC Health Program paid claims for eligible treatment, including medication, for more than 22,100 of these responders and survivors.
- Provided timely guidance to healthcare providers and the public in the U.S. and globally to prevent Zika virus infection and its effects, including immediately communicating with the American and global public about the importance of travel avoidance for pregnant women to avoid Zika virus infection following determination of its effects on pregnancy.