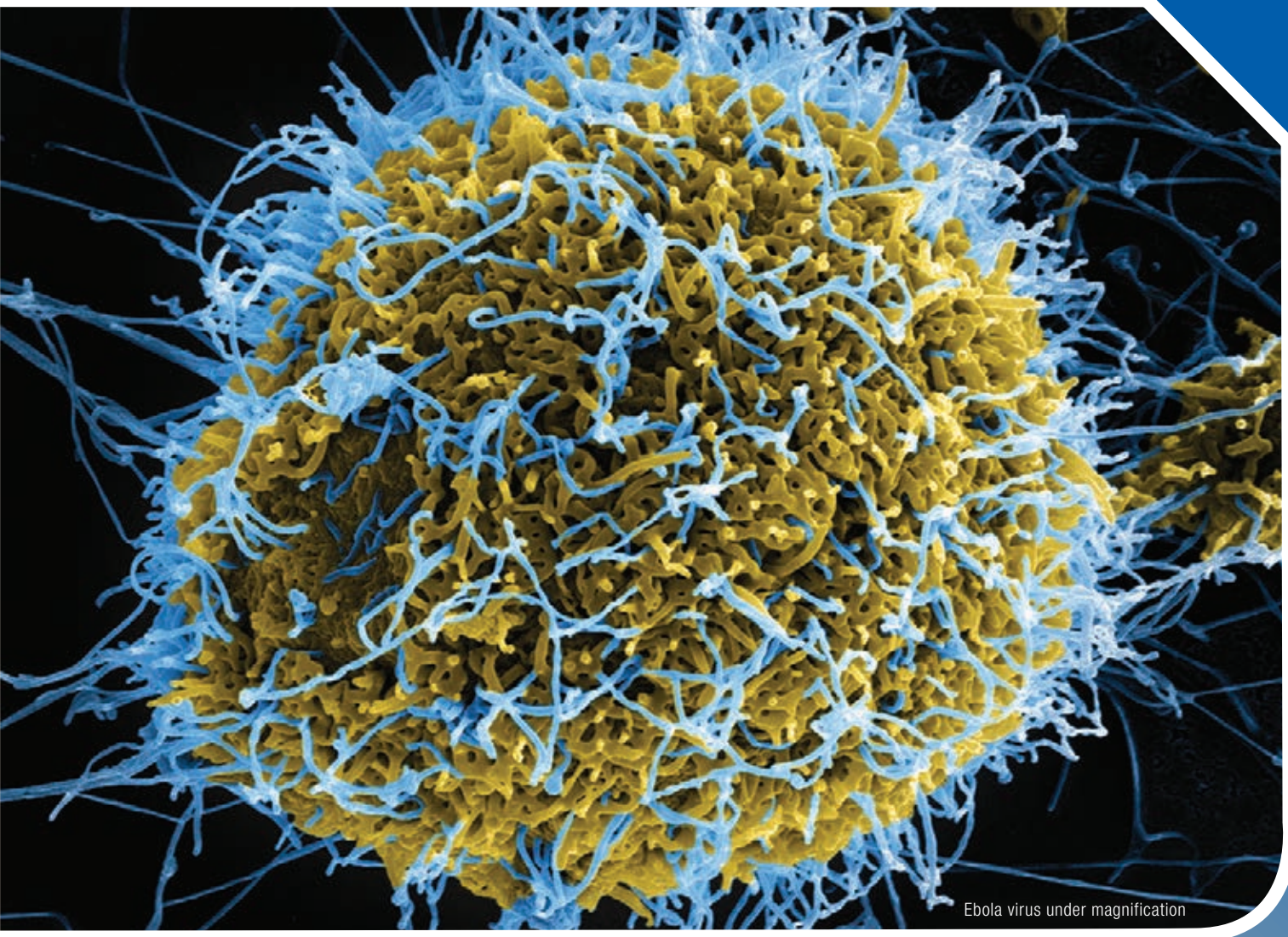
2014



Ebola virus under magnification

CDC SAVING LIVES. PROTECTING PEOPLE.

Keeping America safe, healthy, and secure.

U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Letter from THE DIRECTOR

2014 was unlike any year in CDC's history, challenging and strengthening our unique ability to protect America's health security.

The Ebola outbreak in West Africa tested public health systems around the world. CDC mobilized one of our largest outbreak responses—activating our Emergency Operations Center; quickly deploying disease detectives and other staff; supporting rapid laboratory testing; tracking the disease once it entered the U.S.; helping establish Ebola treatment centers and training frontline healthcare staff across the country; and providing vital expertise and support to all areas of the response.

The response will not stop until America and the world are safe from Ebola. CDC and our partners will continue to have a strong presence in West Africa and beyond until this and future outbreaks are eliminated. One of the great challenges of containing outbreaks is ensuring that science keeps pace with the spread of disease. The U.S. responded quickly to the Ebola threat with emergency funding that will strengthen our ability to respond to health emergencies and improve how CDC stops future outbreaks.

Ebola underscores the need for global health security. The epidemic exposed the fragility of the world's capacity to prevent, detect, and stop disease threats. Ebola reminds us of the critical importance of public health fundamentals—skilled epidemiologists, emergency response, laboratory work, and disease tracking. Every nation needs a sustainable public health infrastructure that includes these fundamentals. CDC and its partners have developed a 5-year Global Health Security Agenda that will support nations to develop this capacity. Because diseases know no borders, strengthening the world's ability to stop threats where they start is the most proactive and cost-effective way to keep America safe.

Also in 2014, CDC took a hard look at worker safety in our biosafety laboratories. After warning calls that fortunately involved no infections of CDC staff and no risk to the public, we again reviewed all laboratory practices carefully. We are working to improve laboratory training, guidelines, and safety monitoring. Our labs are critical to identify new health threats, stop outbreaks, and gain new knowledge—and the safety of our staff and the public is our highest priority.

Protecting the public's health is one of the highest callings—not just for people, but for America. Rigorous science that yields practical, effective public health solutions is the foundation of CDC's mission to save as many lives and protect as many people as possible.

Sincerely,

Tom Frieden, MD, MPH

CDC 24/7

WE INVESTIGATE.

24/7 operations center to track disease and respond to health crises

WE FIGURE OUT WHAT WORKS.

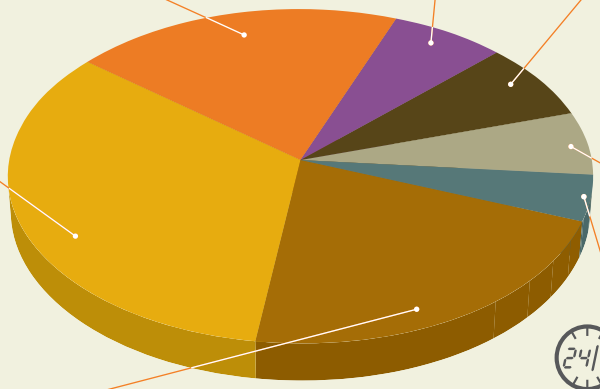
Research that leads to the best solutions to fight disease and protect health

WE GET RESULTS.

Proven, lifesaving ways to defend against health threats

WE WORK 24/7 TO KEEP YOU SAFE.

CDC'S FUNDING in FISCAL YEAR (FY) 2014: $6.83 Billion*



$1.36 BILLION
Protecting Americans from Natural and Bioterrorism Threats

- $1.36 Billion—Public Health Preparedness and Response

$481 MILLION
Monitoring Health and Ensuring Laboratory Excellence

- $481 Million—Public Health Scientific Services

$512 MILLION
Keeping Americans Safe from Environmental and Work-related Hazards

- $179 Million—Environmental Health
- $332 Million—Occupational Safety and Health

$2.29 BILLION
Protecting Americans from Infectious Diseases

- $392 Million—Emerging and Zoonotic Infectious Diseases
- $1.18 Billion—HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
- $783 Million—Immunization and Respiratory Diseases

$413 MILLION
Ensuring Global Disease Protection

- $413 Million—Global Health

$298 MILLION
Cross-cutting Support and PHHS Block Grant and Buildings and Facilities

- $275 Million—Cross-cutting Support and PHHS Block Grant
- $24 Million—Buildings and Facilities

$1.46 BILLION
Preventing the Leading Causes of Disease, Injury, Disability, and Death

- $132 Million—Birth Defects, Developmental Disabilities, and Disability and Health
- $1.18 Billion—Chronic Disease Prevention and Health Promotion
- $150 Million—Injury Prevention and Control

*Totals have been rounded to nearest million.

PRESIDENT'S 2016 BUDGET REQUEST FOR CDC

Additional funding requests to fight new health threats that pose a serious risk to America's health security.

DETECTING and PROTECTING AGAINST ANTIBIOTIC RESISTANCE

Requested an increase of $264 million in 2016 to better detect and track germs that resist existing antibiotics and threaten to return the U.S. to a time when simple infections were fatal.

RESPONDING to the PRESCRIPTION PAINKILLER DRUG OVERDOSE EPIDEMIC

Requested an increase of $54 million in 2016 to reduce an alarmingly growing epidemic of prescription drug abuse in the U.S.

RESPONDING to DISEASE THREATS AROUND the WORLD

Requested an increase of $22 million in 2016 to improve tracking and response in other countries so new health threats are stopped before they reach the U.S.

2014 EBOLA RESPONSE*

2014 saw the first recognized Ebola epidemic in human history. CDC's response began in March. By July, CDC had activated its Emergency Operations Center and deployed an international team of responders to Guinea, Liberia, and Sierra Leone. CDC helped contain cases that appeared in Nigeria and Senegal to prevent further spread. In August, the World Health Organization declared the outbreak a public health emergency of international concern.

In the U.S., two imported cases resulted in one death and two nurses being infected after treating an Ebola patient. These cases demonstrated how vulnerable the world is to diseases that are just an airplane flight away.

CDC and its partners took precautions to prevent additional Ebola cases in the U.S. and continued training healthcare workers. In West Africa, CDC professionals helped reduce cases and strengthen the public health system. CDC is committed to fight Ebola until the world reaches zero cases.

STOPPING EBOLA *in the* U.S. *(2014)*

- Arranged for 46 Ebola treatment centers with 67 available beds.
- Deployed Rapid Ebola Preparedness teams to more than 75 U.S. healthcare facilities.
- Approved 52 labs in CDC's Laboratory Response Network to test for Ebola (first Ebola test took 24 hours; current tests take only 4 to 6 hours).
- Trained more than 150,000 healthcare workers via webinars and more than 525,000 via online clinical resources.
- Established entry screening at five major U.S. airports and screened more than 5,000 travelers coming from countries with Ebola outbreaks.

STOPPING EBOLA GLOBALLY *(2014)*

- Sent CDC health experts on more than 600 deployments to Guinea, Liberia, and Sierra Leone.
- Trained more than 10,000 frontline healthcare staff.
- Staffed laboratories in West Africa, including one in Sierra Leone that tested more than 10,000 samples.
- Assessed more than 230 treatment centers for capabilities in caring for patients with Ebola.

*Numbers reflect 2014 only.

PUBLIC HEALTH PREPAREDNESS AND RESPONSE

A health threat can appear at any moment, and the U.S. must be ready to respond. As America's health protection agency, CDC is ready 24/7 and able to rapidly deploy disease detectives, lifesaving vaccines and medicines, and other support during a health emergency. Whether natural disasters, disease outbreaks, or deliberate attacks, CDC provides critical data, people, funds, and training to improve state and local preparedness capabilities.

27,000 INCOMING CALLS

CDC connected more than 27,000 callers with scientists and epidemiologists for emergency assistance, natural disasters, and many other threats.

722

Provided emergency deployment, transportation, and shipping support to over 722 workers who completed field deployments in the U.S. and abroad.

CDC operates an Emergency Operations Center 24 hours a day, 7 days a week to ensure America's health security.

KEY ACCOMPLISHMENTS

- Tested and confirmed rapid communication responses among CDC, laboratories, and epidemiologists. 94% of the CDC-funded Public Health Emergency Preparedness award recipients responded within the required 45 minutes.
- Sent 131 CDC staff to 50 Public Health Emergency Preparedness locations to help with epidemiology and medical countermeasures.
- Participated in 585 emergency preparation activities in different scenarios worldwide, including 200 exercises and activations in 28 countries.

176 DAYS
CDC's Emergency Operations Center was activated for the Ebola response for more than 176 days in 2014.

28
CDC supported 28 federal, state, and local drills to increase capabilities for dispensing medical countermeasures during health catastrophes.

PARTNERING TO FIGHT EBOLA

In early 2014, CDC began monitoring what would become the largest Ebola outbreak in history. By July, CDC Director Tom Frieden ramped up efforts to stop the spread of Ebola by activating the agency's Emergency Operations Center. Anticipating the possibility that Ebola would reach the U.S., CDC worked with state and local authorities and hospital representatives to establish a hospital network capable of treating Ebola patients. To establish this network, CDC deployed experts to assess hospital infection control and overall preparedness to safely care for Ebola patients.

By January 2015, 51 hospitals were designated as Ebola treatment centers, with bed capacity to treat 69 Ebola patients across 14 states and the District of Columbia. The network illustrates the commitment of so many partners in fighting this deadly disease.

CDC deploys experts to fight diseases wherever they are.

Whether Ebola, a hurricane, or the next flu season threatens public health, mobilizing entire communities is vital to an effective response. CDC works with its public health partners to develop, practice, and implement strategic emergency response actions that save lives and protect people. Together, we will build a more resilient nation and communities for any public health threat.

EMERGING AND ZOONOTIC INFECTIOUS DISEASES

Diseases can cross communities and borders, but CDC helps combat infectious disease threats whenever and wherever they arise. CDC spared no effort to respond to the world's largest Ebola outbreak in 2014. We also quickly detect and stop foodborne outbreaks, track and eliminate dangerous infections in hospitals and clinics, investigate deadly viruses and bacteria. We prevent germs from spreading to people from animals and insects, protect U.S. communities from communicable diseases from other countries, and discover new or mutated germs while fighting drug-resistant microbes.

#1
Norovirus is the leading cause of disease outbreaks from contaminated food in the U.S.

850,000
About 850,000 people were trained on the latest Ebola guidance such as personal protective equipment use, infection control, and entry and exit screening.

CDC makeshift office in the bush for disease detectives hunting down Ebola contacts.

KEY ACCOMPLISHMENTS

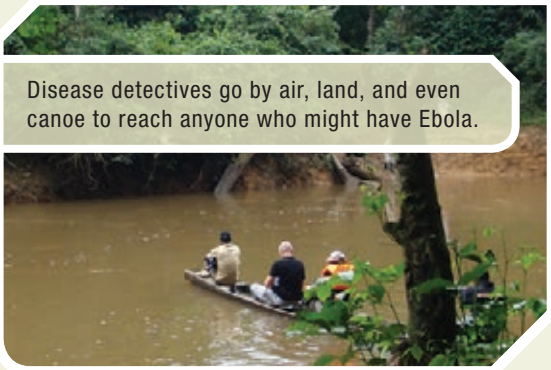
- Provided disease surveillance, contact tracing, data management, laboratory testing, and health education. CDC partnered with U.S. Customs and Border Protection to conduct enhanced airport screening at five U.S. airports and helped prepare U.S. hospitals to safely treat Ebola patients. Sent hundreds of staff to West Africa for the Ebola outbreak.
- Identified more quickly the cause of Listeria infection outbreaks, a common cause of food poisoning. The Advanced Molecular Detection (AMD) method allowed CDC to identify 28% of the food sources in Listeria cluster outbreaks. Standard methods identified only 6%. Using whole genome sequencing and bioinformatics, AMD methods can also identify and help stop other major health threats, including Ebola, antibiotic-resistant infections, Middle East Respiratory Syndrome, and Enterovirus-D68, a deadly respiratory virus striking children.
- Prepared the U.S. public health system to respond to chikungunya, a virus spread by mosquitoes and suspected of sickening more than 1 million people in the Caribbean and the Americas.

20%
Hospitals following infection control recommendations reduced *C. difficile* infection rates by 20% in less than 2 years.

$20 BILLION
Annual cost to U.S. economy due to antibiotic-resistant infections is $20 billion.

CDC DISEASE DETECTIVES GO THE DISTANCE

How far will CDC's "disease detectives" go to track down the Ebola virus? In the case of Satish, a CDC medical officer fighting Ebola in Liberia, the hunt to find people possibly exposed to the deadly virus required a 6-hour drive, nearly another 4 hours crossing narrow jungle paths and rickety bridges, and, finally, a river voyage in a dugout canoe.



Disease detectives go by air, land, and even canoe to reach anyone who might have Ebola.

"Cases of Ebola in Liberia were showing up in remote areas," Satish said. "In many instances, someone who contracted Ebola in the capital city of Monrovia took it back to their community. This led to sustained transmission that was hard to stop because it was so difficult to reach these communities."

Satish is part of a RITE (Rapid Isolation and Treatment of Ebola) team, which uses a strategy developed by the Liberian Ministry of Health and Social Welfare, CDC, and other partners. RITE teams trace Ebola cases to remote villages and towns to stop transmission of the virus.

The RITE team visited every household, asking villagers about Ebola symptoms and identifying anyone who had come in contact with symptomatic patients. "The villagers liked that we stayed with them," Satish said. "It helped establish a sense of trust."

GLOBAL HEALTH

In today's highly mobile and interconnected world, new and deadly germs threaten everyone. CDC protects Americans by rapidly detecting and containing new health threats anywhere in the world before they can come to the U.S. We support strong, effective public health systems, and we train health professionals to identify outbreaks in their own countries to prevent threats from crossing borders. We also work to make sure people have access to safe water and sanitation around the world, which is a critical step in preventing disease and stopping other health threats.

1,700 DEPLOYED

CDC has 1,700 staff in more than 60 countries, in addition to those deployed to fight Ebola.

80%

About 80% of the world's people now live in polio-free areas. Efforts are ongoing to eliminate polio in the last few countries.

CDC Epidemic Intelligence Service officer Allison Arwday helped investigate a mysterious outbreak of Middle East Respiratory Syndrome (MERS) in Saudi Arabia.

KEY ACCOMPLISHMENTS

- Responded to more than 400 global disease outbreaks through CDC's Global Disease Detection (GDD) Centers in the past 2 years.
- Tracked 14 diseases and syndromes through GDD Centers, including respiratory syncytial virus, adenovirus, pneumococcus, febrile illness of unknown origins, influenza-like illness, and tuberculosis.
- Reduced lymphatic filariasis in Haiti by 90%, getting close to the goal of eliminating the disease.
- Completed the first study showing that insecticide-treated bed nets provide significant protection against malaria even when mosquitoes have moderate resistance to insecticides.
- Surged global efforts to eradicate polio that resulted in only three countries still having the disease. CDC and its partners sent staff and increased program efforts in Nigeria, which may now be polio-free.

126 CASES

Helped reduce cases of Guinea worm in the world to 126 cases in 2014—a record low.

15.6 MILLION LIVES SAVED

Measles vaccines saved 15.6 million lives during 2000–2013.

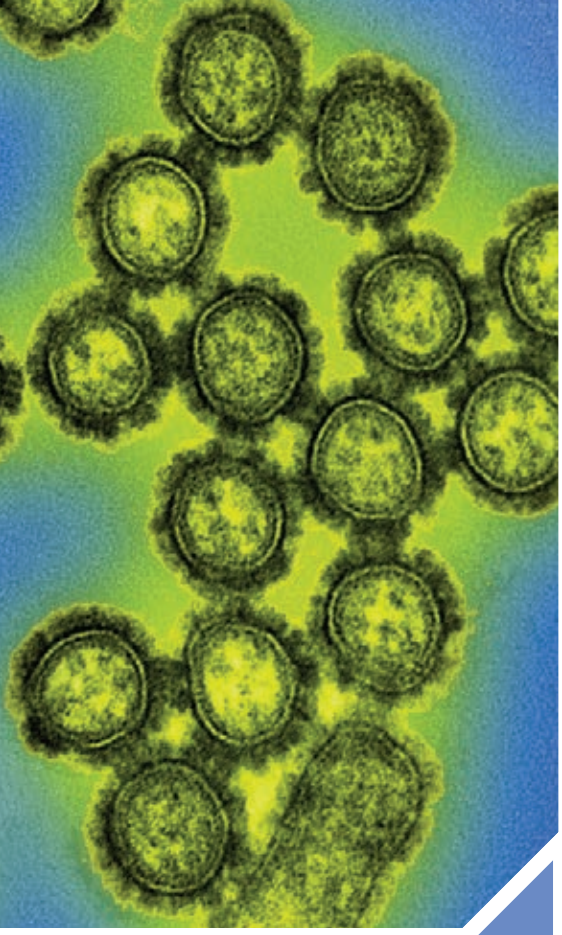
TRACKING DOWN A NEW KILLER—MERS

In spring 2014, CDC responded to a mysterious outbreak of Middle East Respiratory Syndrome (MERS) in Saudi Arabia. MERS is a potentially deadly new virus that attacks the respiratory system. The MERS cases have been linked to the Arabian Peninsula in the Middle East.

Allison Arwday, a CDC Epidemic Intelligence Service officer, was deployed at the request of the Saudi Ministry of Health to help investigate a cluster of MERS cases. Saudi health officials had access to a standard form of molecular testing, which can identify if someone has an active MERS infection. But Allison also brought serology testing, developed by CDC, to detect infection in someone who is not showing symptoms.

Allison examined a remote area where no cases had ever been reported—including a family with several infected members. Most cases seemed to be linked to hospitals. Allison surveyed the families, examined risk factors, and conducted both standard molecular and serology tests. The results were sent back to CDC and revealed several family members had negative standard molecular readings but had positive serology tests. The serology results helped identify people who did not know they were infected. The investigations also revealed that people who lived in close quarters with sick relatives got sick, but people who just visited their sick relatives did not—suggesting that MERS spreads through more than casual contact.

After Allison's investigation, CDC provided serology testing training to Saudi health officials. Today, Saudi Arabia is using serology testing to better identify and stop the spread of MERS.



IMMUNIZATION AND RESPIRATORY DISEASES

CDC protects all Americans from disease, disability, and death through immunization and by controlling respiratory and other preventable diseases. Vaccination is one of public health's most successful tools for saving lives and protecting people. CDC provides domestic and international leadership in seasonal and novel influenza control, as well as laboratory and epidemiology expertise to respond to bacterial and viral disease threats.

7.2 MILLION
Flu vaccination prevented an estimated 7.2 million flu-related illnesses and 3.1 million medical visits last flu season.

93%
As many as 93% of cervical cancers could be prevented by screening and HPV vaccination (human papillomavirus).

Vaccination saves lives and protects Americans from deadly diseases.

KEY ACCOMPLISHMENTS

- Detected the first cases of Middle East Respiratory Syndrome (MERS) in the U.S. Increased awareness of the disease and helped state and local partners stop MERS from spreading.
- Helped state and local public health departments identify and respond to an Enterovirus-D68 outbreak that caused widespread respiratory illness in the U.S. and was linked to paralysis in some children.
- Helped state and local health departments protect U.S. communities against measles, for which the highest number of cases was reported in the U.S. since 1994.
- Vaccinated more than 63 million people with MenAfriVac, an inexpensive vaccine tailored for Africa that protects against meningitis A. More than 217 million have been vaccinated for meningitis A in 15 countries since the vaccine program launched in 2010.

668 MEASLES CASES

In 2014, 668 people in the U.S. were reported as having measles; most were not vaccinated or didn't know if they were vaccinated.

90,000

Vaccination prevented an estimated 90,000 flu hospitalizations.

CHILDHOOD VACCINATIONS COULD PREVENT MORE THAN A QUARTER OF A BILLION ILLNESSES

2014 marked the 20th anniversary of Vaccines for Children (VFC)—vaccines may have prevented more than 300 million illnesses and 700,000 deaths in those born since the program began.

VFC is a federally funded program that provides free vaccines to uninsured children in the U.S. The program was a response to a deadly resurgence of measles in the late 1980s and early 1990s that resulted in 55,000 illnesses and more than 100 deaths. The measles epidemic was largely caused by widespread failure to vaccinate uninsured children—a stark reminder of the lifesaving impact of childhood vaccination.

According to CDC's *Morbidity and Mortality Weekly Report*, U.S. childhood immunizations (VFC-eligible and non-VFC-eligible) will prevent about 322 million illnesses, 21 million hospitalizations, and 732,000 deaths in children born between 1994 and 2013 over their lifetime. The net financial savings of this prevention is huge, estimated to prevent $295 billion in direct costs and $1.38 trillion in societal costs.

As VFC has strengthened the U.S. immunization program and vaccine coverage has improved, recent outbreaks of measles remind us that our work is not done. It is critical to maintain high immunization rates to protect the health of children in our communities.

ENVIRONMENTAL HEALTH AND TOXIC SUBSTANCES

CDC protects people from environmental hazards in the air we breathe, the water we drink, and the world that surrounds us. We investigate the relationship between environmental factors and health, conduct scientific investigations, develop guidance, and build partnerships to support healthy decision making. CDC's world-class scientists in the laboratory and out in the field investigate the effects of the environment on health. We track and evaluate related health problems, and we help U.S. and international organizations respond to natural, technological, and terrorism-related environmental emergencies. Our vision is healthy people in a healthy environment.

1 IN 12
1 in 12 Americans has asthma.

36 HOURS
CDC can now identify human exposure to 150 chemical threat agents within 36 hours.

CDC works to protect people who are most vulnerable to harmful smoke from wildfires.

KEY ACCOMPLISHMENTS

- Launched first national Model Aquatic Health Code guidelines to help state and local authorities make swimming in public pools and other aquatic facilities healthy and safe. Pool chemicals account for almost 5,000 emergency department visits each year, nearly half involving children.
- Released biomonitoring results for 51 chemicals as part of the *National Report on Human Exposure to Environmental Chemicals*, the most comprehensive assessment of Americans' exposure to environmental chemicals. The report's findings led to changes in municipal water systems to reduce exposures.
- Released the first report from the National Amyotrophic Lateral Sclerosis (ALS) Registry, which works to identify all ALS (also known as Lou Gehrig's Disease) cases in the U.S. The report estimates about four cases of ALS per 100,000 Americans.
- Launched an interactive e-learning course and monitoring system to capture environmental data about foodborne illness outbreaks, which helps state and local food programs prevent outbreaks.
- Expanded the award-winning website and educational campaign "Don't Mess with Mercury" to more than 3,000 partners in education and childhood health. The website teaches children about the risks of playing with mercury, provides resources for school officials, and explains how to prevent and clean mercury spills.

165 COMMUNITIES EVALUATED

Evaluated 165 communities, impacting more than 1 million people, on the health risks of exposure to harmful chemicals.

$5,600

On average, Americans spend more than $5,600 in medical and special education costs when a child is severely poisoned from lead.

WHERE THERE'S SMOKE, THERE'S FIRE… AND A WAY TO STAY SAFE

Prolonged exposure to smoke is harmful to people of all ages but especially to young children, older adults, pregnant women, and people with heart and lung disease. More and more people make their homes in areas prone to wildfires. In support of the New Mexico Department of Health's decision to prepare for wildfire season, the New Mexico Tracking Program created a number of resources to educate residents about ways to protect their health during wildfires.

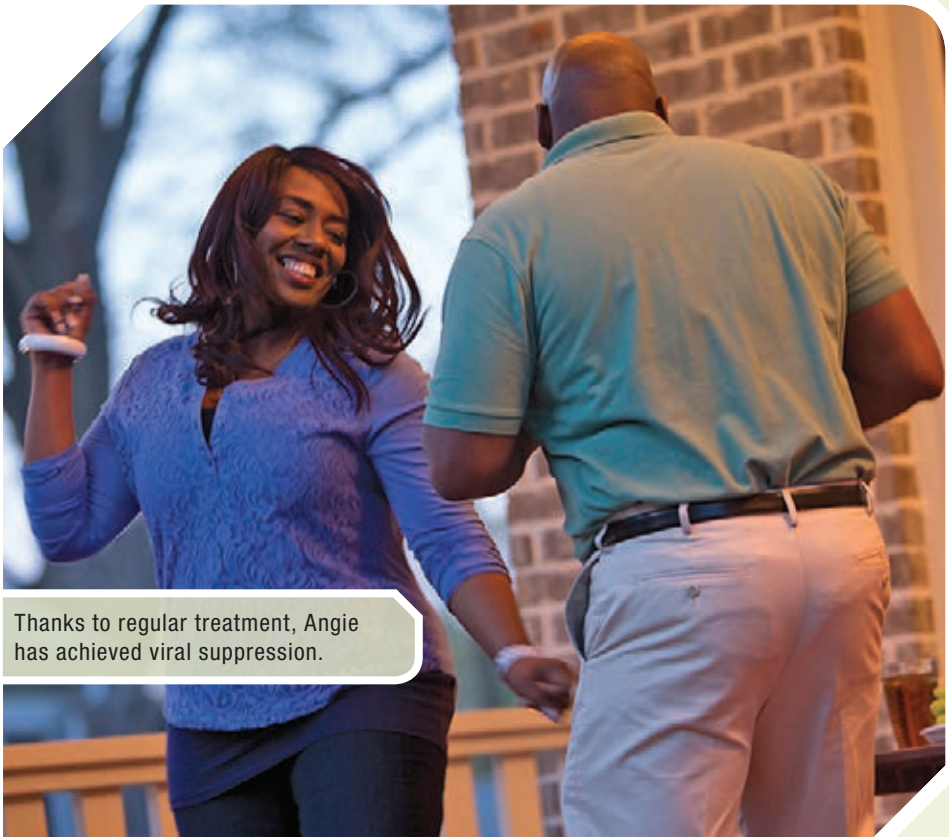
Tracking program staff developed the 5-3-1 Visibility Method to help residents more easily judge smoke danger and decide when to head indoors. The method is based on whether a wildfire and smoke are 5 miles, 3 miles, or 1 mile away. In addition, staff devised an interactive mapping tool to help residents determine when wildfire smoke is near enough to cause them harm. Because the tracking program's method and resources are available, New Mexico residents do not have to wait for official smoke alerts to make decisions about how to protect their health during wildfires. Now they can monitor their community and move more quickly if needed. The tracking program can be a model in national wildfire forest management. Already, two other states have adopted the program's visibility tool for use in their forest management programs.

HIV/AIDS, VIRAL HEPATITIS, STDs, AND TUBERCULOSIS

HIV, viral hepatitis, sexually transmitted diseases (STDs), and tuberculosis (TB) cause substantial illness and death in the U.S. at considerable cost to the healthcare system. More than 20 million STD and tens of thousands of HIV, hepatitis C, and TB infections occur each year. The lifetime healthcare costs for Americans who are infected each year may total more than $19 billion. CDC focuses efforts on policies, research, education, and program activities with the greatest impact to reduce infections, prevent illness, decrease disparities, and save lives.

75%
About 75% of the 3 million adults with hepatitis C in the U.S. are unaware of their infection.

1 IN 5
About 1.2 million Americans live with HIV infection, and 1 in 5 don't know they are infected.



Thanks to regular treatment, Angie has achieved viral suppression.

KEY ACCOMPLISHMENTS

- Tested nearly 100,000 people for hepatitis B and C over 2 years so they could take steps to get lifesaving care.
- Identified the first decline (1.5% decrease) in rate of chlamydia infections, a sexually transmitted disease, since national reporting began.
- Launched several targeted campaigns for preventing HIV and connecting people to treatment, including "Start Talking. Stop HIV." for gay and bisexual men at high risk for HIV and "HIV Treatment Works" for people with HIV.
- Helped reduce U.S. cases of TB from 25,103 in 1993 to 9,582 in 2013—the lowest ever.

3 IN 10

While progress in HIV prevention and care continues, only 3 in 10 people living with HIV achieved viral suppression, the goal of staying in medical care.

56%

About 56% of gonorrhea infections occur among young people 15–24 years old.

LIVING WITH HIV: TREATMENT = LIFE

Angie breaks into dance whenever the mood and music move her. She won't let her HIV rob her of anything in life. Staying in care and on treatment helps her be the best mother, wife, and HIV prevention educator she can be. She tells other HIV-positive women, "All the fear that you have can be overcome. Every day I wash down my pills with a prayer."

Nearly 1.2 million people are living with HIV in the U.S. The key to managing HIV is viral suppression treatment, which greatly reduces HIV in an infected person's body. By getting care and taking medicines that suppress HIV, people can achieve nearly normal lifespans and greatly reduce the chance of transmitting HIV to others.

CDC funds efforts that encourage people to get tested so that they know their status and, if positive, can start taking HIV medications, remain in care, and adhere to treatment. It is critical for people to know their status and get treatment if infected with HIV. Only about 30% of people living with HIV successfully suppress the virus. But for those in medical care, that number jumps to 76%.

BIRTH DEFECTS AND DEVELOPMENTAL DISABILITIES

For the millions of Americans with birth defects, disabilities, and blood disorders, a happy, healthy life can be challenging to realize. CDC investigates the causes of birth defects and identifies ways to save babies. CDC researches autism and other developmental disabilities and monitors changes in their occurrence; prevents and manages complications from blood disorders; and improves health services and programs for people with disabilities throughout their lives.

9 IN 10

9 in 10 American women take a medication during pregnancy; for most women who take medications, the risk to the baby is unknown.

900,000

Up to 900,000 Americans develop life-threatening blood clots each year. Many are preventable.

CDC researches the health risks to a fetus during pregnancy.

KEY ACCOMPLISHMENTS

- Identified the importance of regular testing for people with hemophilia so they know if they have an antibody that prevents treatments from working. Regular testing is the only way to know they have this antibody before it causes severe bleeding.
- Reported that children are not getting 11 pediatric clinical preventive services. Ethnic minorities and other groups with less access to healthcare are especially likely to miss these preventive services.
- Reported that about 1 in 68 8-year-olds has autism spectrum disorder (ASD). These data are from the Autism and Developmental Disabilities Monitoring Network that collected information in 2010 in multiple communities.
- Improved health of mothers and babies through better research, reliable guidance, and informed decisions as part of the "Treating for Two: Safer Medication Use in Pregnancy" initiative. The initiative is identifying knowledge gaps about prenatal exposure to opiods and other medications.
- Launched visibility effort on how little physical activity adults with disabilities actually get, and that those with a doctor's recommendation are more likely to be physically active.
- Protected infants from vitamin K deficiency, a serious and preventable condition, by developing a data-based strategy.

OVER $20 MILLION

CDC is investing over $20 million during the next 4 years to strengthen autism surveillance and shed light on emerging issues.

1 IN 2

1 in 2 U.S. preschoolers with attention-deficit/hyperactivity disorder (ADHD) did not receive behavioral therapy, as recommended by the American Academy of Pediatrics.

RISKY DRINKING: CHANGING THE CONVERSATION

As an OB-GYN, Dr. Benson* routinely asked patients about their alcohol use. "I took their answers at face value and, like many doctors, I believed that using alcohol in pregnancy or drinking alcohol excessively wasn't something my patients did."

But the numbers tell a different story. According to CDC, 1 in 8 women and 1 in 5 high school girls binge drink, increasing their risk of sexually transmitted diseases, breast cancer, heart disease, and unintended pregnancy. About 1 in 13 women drinks during pregnancy, increasing the risk of miscarriage, stillbirth, and fetal alcohol spectrum disorders in her child. As a result, CDC promotes alcohol screening and brief intervention as effective tools for healthcare providers like Dr. Benson to use with patients.

Dr. Benson received training through CDC's efforts to reach healthcare providers so they ask the right questions. "I elicited histories of alcohol use I would have otherwise never known," she said. "There is no doubt that CDC's training has impacted my daily medical practice." In addition to training, CDC's funded programs have researched integrating alcohol screening and brief intervention into clinical practice.

Dr. Benson still asks her patients about their alcohol use, but now with renewed dedication. The issue hits close to home for her because her own adoptive child was born with a fetal alcohol spectrum disorder. "As a mother and a doctor," she said, "I'm privileged to be involved in this effort to help other providers address this under-recognized problem."

*Name changed for privacy.

CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

Heart disease, stroke, cancer, diabetes, and other chronic diseases are major health threats. These cause 7 in 10 deaths every year in the U.S. and account for about $2.5 trillion of the $2.9 trillion Americans spend in annual medical costs. CDC works to prevent the risk factors that cause these diseases, such as tobacco use, obesity, physical inactivity, poor nutrition, and excessive alcohol use. Preventing chronic diseases saves lives, reduces disease and disability, and helps save billions in unnecessary healthcare costs.

90%

About 90% of U.S. children ages 6–18 years eat too much sodium, putting them at risk for high blood pressure and heart disease later in life.

20 YEARS

Teen pregnancies are at their lowest level in 20 years; yet 1,700 teens ages 15–17 years give birth every week.

CDC's "Tips from Former Smokers" campaign features hard-hitting ads with real people who have suffered the effects of tobacco use.

KEY ACCOMPLISHMENTS

- Reported a record low for adult smoking—just 17.8% in 2013 compared with 20.9% in 2005 and 42.4% in 1965, when the U.S. government began keeping records on smoking.
- Issued the *Surgeon General's Call to Action to Prevent Skin Cancer*, which reported that nearly 5 million Americans are treated for skin cancer annually at a cost of $8.1 billion.
- Reported that dramatic 20-year progress against some devastating complications of diabetes: rates of heart attacks and deaths from high blood sugar fell more than 60%, rates of stroke and foot or leg amputations declined by about half, and rates of end-stage kidney failure decreased about 30%.
- Helped achieve an all-time low in the U.S. teen birth rate among 15- to 19-year-olds—from 40 per 1,000 teens in 2009 to 27 per 1,000 teens in 2013.
- Improved choices of healthy food and beverage options for millions of Americans by promoting food service guidelines at work sites, schools, and in communities.
- Achieved high blood pressure control rates of 70% or higher with patients in 30 public and private healthcare practices and systems involved in the "Million Hearts" initiative. These systems care for more than 3.5 million people across 19 states.

5 TIMES FASTER

The U.S. costs for treating skin cancer grew 5 times faster than the costs of treating other cancers in the past 10 years.

ZERO

No state has an obesity rate less than 20%. The national goal is 15%.

SUCCESSFUL ANTI-TOBACCO CAMPAIGN SPOTLIGHTS LESSER-KNOWN ADVERSE EFFECTS

Most people know cigarette smoking is a serious health threat and can cause lung cancer, but CDC's highly successful "Tips from Former Smokers" campaign is showing people some lesser-known health horrors.

Now in its third year, the campaign uses powerful stories from former smokers to show what it's like to live every day with disability and disfigurement from smoking. The latest ads feature serious health conditions not commonly linked with smoking, including gum disease, preterm birth, complications associated with HIV, and more common conditions like cancer.

The campaign continues to be highly successful and cost-effective. In a study published in the *American Journal of Preventive Medicine*, CDC found the 2012 campaign cost only $480 per smoker who quit and just $393 per year of life saved, which is far below the widely accepted standard that considers public health interventions to be cost-effective at $50,000 per year of life saved. This makes the "Tips from Former Smokers" campaign clearly a best buy for public health because each year cigarette smoking kills more than 480,000 Americans and costs about $170 billion in healthcare.

OCCUPATIONAL SAFETY AND HEALTH

America can be more competitive and more productive with safer, healthier workplaces. CDC plays a critical role in this by helping prevent illness, injury, disability, and death caused by workplace exposures. Our research and practical tools help keep workers safe from work-related illnesses and injuries. We work with states and industry to improve worker safety and health.

1 MINUTE
A young worker (15–24 years) is injured on the job every minute in the U.S.

1 IN 3
More than 1 in 3 truck drivers who died in 2012 were not wearing seat belts.

CDC research helped improve the design of life vests to better protect fishermen from drowning.

KEY ACCOMPLISHMENTS

- Improved ambulance standards issued by the Society of Automotive Engineers that were also used by manufacturers and purchasers to make patient compartments safer.
- Developed new methods to analyze and use data about the human body so manufacturers can design safer truck cabs, fire trucks, seat belts, gloves, and boots.
- Expanded the Coal Worker's Health and Surveillance Program in response to a new rule published by the Mine Safety and Health Administration. The rule extends medical monitoring (already done for underground miners) to surface miners. It also adds respiratory symptoms assessment and lung function testing at approved facilities for all coal miners.
- Produced 54 state- and territory-specific versions of a new curriculum, Youth@Work—Talking Safety, to teach young workers how to stay safe and healthy on the job.
- Worked with the aviation industry, aviation safety groups, and government authorities to change radio frequencies used by aircraft pilots in congested airspace north of Anchorage, Alaska. This is helping to reduce midair collisions caused in part by inconsistent and often confusing radio frequencies.

1 IN 3

1 in 3 deaths in the construction industry is from falls, the leading cause of work-related deaths.

3% TO 6%

About 3% to 6% of all cancers worldwide are caused by exposures to carcinogens in the workplace.

FROM DESIGN TO DECK: INNOVATING SAFER LIFE VESTS FOR COMMERCIAL FISHERMEN

Most work-related deaths in the fishing industry are caused by drowning after a vessel disaster or falling overboard.* Most deckhands do not wear personal flotation devices (PFDs) while working on deck even though the risk of drowning is high.

Why would a commercial fisherman risk working without a PFD? CDC research revealed many workers believe PFDs cause dangerous equipment entanglements, are uncomfortable, and interfere with their work. The research showed little consistency in how PFDs are designed or improved because of lack of regulation and failure to involve fishermen in PFD design.

CDC's research inspired a national PFD manufacturer to engage the fishing industry to test various PFD designs. Fishermen on several fishing vessels used various commercially available PFDs and gave feedback on what was good and bad about each design. The company incorporated the feedback from the fishermen to develop a PFD prototype worn under bibs and rain gear with 12 pounds of flotation—the optimal amount to maintain buoyancy. This prototype was field-tested for continuous wear and adjusted based on fishermen's feedback. The final product won the 2014 Fisheries Supply Innovation Award and is now commercially available.

*Commercial fishermen have one of the highest death rates from injuries on the job of any work in the U.S.

INJURY PREVENTION AND CONTROL

CDC applies the same real-world, science-based approach to reducing threats from injuries and violence as it does to preventing infectious and chronic diseases. We provide timely, accurate information and useful tools to keep people healthy, safe, and secure where they live, play, and learn. Our research and programs help states and communities develop the best ways to prevent injuries and violence.

190,000
More than 190,000 people die—or 1 person every 3 minutes—from injuries each year.

46
Each day, 46 people die in the U.S. from an overdose of prescription opioid painkillers.

10 of the highest prescribing states for painkillers are in the South.

KEY ACCOMPLISHMENTS

- Helped reduce violent deaths by providing more data for states' prevention strategies. The National Violent Death Reporting System has been expanded to 32 states, providing more data that can be used to save lives.
- Identified a relationship between prescription painkiller overdoses and how they are prescribed, and increased resources and direct support to states to advance the most promising prevention strategies.
- Launched an interactive cost calculator to help states select motor vehicle injury prevention programs that have been shown to work. Reported the high cost of motor vehicle crashes and what states and employers can do to prevent crashes.
- Funded 3 new injury control research centers for a total of 10 centers conducting cutting-edge injury and violence prevention research to support state and community prevention programs.
- Launched "Essentials for Parenting Toddlers and Preschoolers," an online resource with proven parenting information to address common challenges, accessed by more than 188,000 people.

1 MILLION

Americans spend more than 1 million days in the hospital each year from motor vehicle crash injuries.

30%

Suicide rates among middle-aged Americans (35-64 years) increased 32% between 1999 and 2013.

TOO MANY PAINKILLER PRESCRIPTIONS: WHERE YOU LIVE MAKES A DIFFERENCE

Recent CDC data show some U.S. states have significantly higher rates of prescribing potentially addictive painkillers to patients.

Southern states had the most prescriptions per person for painkillers, especially Alabama, Tennessee, and West Virginia. The Northeast, especially Maine and New Hampshire, had the most prescriptions per person for long-acting and high-dose painkillers.

What might be causing this? Healthcare providers in different regions of the U.S. don't agree on when to use prescription painkillers and how much to prescribe. Also, these data reflect people who get multiple painkiller prescriptions so they can abuse or sell the drugs. Another factor driving the increases in prescriptions are for-profit, high-volume pain clinics (so-called "pill mills") that prescribe large quantities of painkillers to people who don't need them medically.

CDC supports states to develop monitoring programs and policies that track and prevent prescription painkiller overdoses. Key factors include data, tools, and guidelines that improve decision making while ensuring patients still have access to safe, effective pain treatment. Healthcare professionals should follow best practices to avoid overprescribing painkillers—including screening patients for substance abuse and mental health problems.

STATE, TRIBAL, LOCAL, AND TERRITORIAL SUPPORT

A core CDC responsibility is to help state, tribal, local, and territorial health departments prepare for and respond to emerging health threats. We provide public health authorities with information, tools, staff, and training. We support state and local actions to promote health and protect people in their communities. We also make sure public health departments get what they need to improve performance, share resources, and identify and respond quickly to challenges in the evolving public health system.

787
CDC has 787 field staff working in state, tribal, local, and territorial health agencies and other organizations.

267
267 public health projects build state, tribal, local, and territorial public health capacity through cooperative agreements with 25 national public health partner grantees.

CDC works with tribal public health leaders to save lives and protect people throughout tribal lands in the U.S.

KEY ACCOMPLISHMENTS

- Hired the largest class (145) in the history of the Public Health Associate Program, increasing workforce capacity to 261 associates supporting state and local health departments.
- Helped health departments improve performance and efficiency through the National Public Health Improvement Initiative. As a result, the Alaska Native Tribal Health Consortium more than doubled tobacco cessation program referrals. Arkansas increased patients completing latent tuberculosis treatment by 26% (from 55% to 81%); and Michigan reduced its unable-to-locate rate from 23.6% to 11.6%, helping to ensure that more people with syphilis entered treatment.
- Released the *Prevention Status Reports 2013*, which monitor state use of data-driven policies and practices aimed at reducing 10 critical health problems. These reports help states establish benchmarks, conduct health assessments, inform strategic planning, and improve policies.

111 MILLION

About 36% of the U.S. population—or 111 million people—are now served by a nationally accredited health department.

6,000

In 2014, CDC's Public Health Law Program trained more than 6,000 national, state, and local health professionals on public health law issues.

TRIBAL HEALTH DEPARTMENTS PLAY CRITICAL ROLE IN REDUCING STDS

When the Montana Department of Public Health and Human Services investigated an unusual increase in gonorrhea cases, the investigation led to an area surrounding several American Indian reservations. Tribal health departments and the Indian Health Service (IHS) quickly responded and worked with state health officials to increase testing for sexually transmitted diseases (STDs) in local clinics.

Health officials first noticed a rapid increase in gonorrhea cases in 2012. The trend continued through 2014, with a disproportionate number of those infected living on tribal lands. Gonorrhea is a curable STD that can cause infections in the genitals, rectum, and throat. CDC guidelines for treatment include the medications ceftriaxone and azithromycin. Sexually active men and woman, especially those with multiple sex partners who do not use condoms consistently, are at risk for this common STD.

After tribal health departments and the IHS worked together to improve testing practices in clinics that service tribal populations, gonorrhea rates returned to baseline U.S. incidence rates. Work is underway to improve how outbreak investigations, STD testing, and public health responses are coordinated on tribal lands.

PUBLIC HEALTH SCIENTIFIC SERVICES

CDC's scientific services promote health, prevent disease, and prepare for health threats. As a pioneer in collecting and using health data, CDC tracks the health of populations and provides timely data used by doctors, public health workers, and civic officials to respond to the most urgent health issues. This vital information is depended upon for policymaking, health services, biomedical research, lab quality and safety, and improved access to healthcare for everyone. In addition, CDC guides and supports safe, state-of-the-art laboratories across the U.S. as a key line of defense against health threats.

339 TRAINEES

CDC increased its trainees in state, tribal, local, and territorial public health agencies from 119 trainees in 2009 to 339 in 2014. Trainees provide support for epidemiology, informatics, and program management.

3.5 MILLION

Online subscribers to CDC *Vital Signs* grew from 250,000 in 2010 to over 3.5 million in 2014.

CDC is adopting a surveillance strategy that will improve the agency's overall public health surveillance capabilities.

KEY ACCOMPLISHMENTS

- Made enterprising use of cloud services to provide data access services that allow state and local health departments to quickly evaluate information.
- Deployed all 158 Epidemic Intelligence Officers to 17 countries, 8 states, Washington D.C., and the CDC Emergency Operations Center as part of the CDC Ebola Response.
- Produced nearly 3.8 million custom reports for users around the world via the CDC WONDER (Wide-ranging Online Data for Epidemiologic Research) website.
- Offered e-learning and continuing education to public health workforce and provided training fellowships for new public health professionals.

35 COUNTRIES

CDC's Epi INFO 7 is free epidemiology software used worldwide that helps rapidly investigate disease outbreaks. Epi INFO 7 was downloaded 213,490 times in 2014.

22.2 MILLION

Electronic media reach of *Morbidity and Mortality Weekly Report* has increased 23% since 2012—from 18.1 million to 22.2 million.

A GIANT LEAP FOR PUBLIC HEALTH TRACKING

On January 17, 2014, President Obama signed the Consolidated Appropriations Act of 2014 into law. The law makes CDC responsible for consolidating its public health data collection systems and for recommending to Congress ways to create such a consolidated system.

Consolidating surveillance systems will improve the agency's overall capabilities to work with other public and private health systems. This consolidation will advance our data systems in a way that clinicians, state and local public health agencies, and CDC can more rapidly share information to take effective public health action. For example, the consolidated system will allow CDC and its public partners to adapt to new technologies more quickly, combat evolving health threats faster, and reduce reporting burden by eliminating redundant reporting.

HEALTH STATISTICS

Protecting the public's health involves making critical health decisions that can affect millions of people. So it is vital that decision makers have accurate, relevant health information. CDC takes the health pulse of the American people. We track threats, the leading causes of death, health inequalities, and access to care according to race, ethnicity, socioeconomic status, region, and other population characteristics. CDC provides the essential information for policymaking, biomedical and health services research, and other public health applications. Information can change the world, and CDC is dedicated to providing the highest quality health information to the U.S. and our public health partners around the world.

14%
About 14% of Americans under age 65 had no health insurance during the first half of 2014—the lowest percentage since monitoring started.

73%
About 73% of American youth (ages 12-15) watched TV and used the computer more than the recommended 2 hours per day.

CDC's Dr. Woodring helped train more than 100 healthcare workers about Ebola transmission.

KEY ACCOMPLISHMENTS

- Implemented a comprehensive new system to speed processing of mortality files from states and territories. As a result, 3 years of new national mortality data were released in 2014.
- Released new data on physician supply and implementation of electronic health records systems in office-based physician practices.
- Released first data from the National Youth Fitness Survey, a 1-year initiative managed by the National Health and Nutrition Examination Survey.
- Released the first 2014 data showing impact of the Affordable Care Act on percentage of Americans who have health insurance via the National Health Interview Survey.

FEWER STROKES, MORE INJURIES

Stroke dropped from 4th to 5th as a leading cause of death; accidents and unintentional injuries moved up to 4th from 5th in 2013.

1 IN 6

About 1 in 6 people living in the U.S. are Hispanic (almost 57 million). By 2035, this could be nearly 1 in 4.

FROM NUMBERS TO NEED: A HEALTH STATISTICIAN'S MISSION IN AFRICA

Dr. Joseph Woodring, a CDC senior medical officer, knows that public health is about more than the data.

In October 2014, Dr. Woodring deployed to Liberia for a month-long mission providing technical expertise in disease surveillance and epidemiology. He investigated an Ebola outbreak in one area where exposures to a single patient caused 65 confirmed or suspected Ebola infections among residents of three neighboring villages. More than 70% of these patients died before they could be helped.

Dr. Woodring helped with active case finding, data management, and contact investigations to identify known and suspected exposures to Ebola patients. He taught more than 100 healthcare workers in remote clinics about Ebola transmission, infection prevention and control, and how to perform contact investigations and triage patients suspected of having Ebola.

According to Dr. Woodring, the experience in Liberia represented the culmination of his public health training. He learned the importance of working alongside national organizations to bring about social changes—such as doing safe burials and adopting key health messages—that are so crucial to stopping the spread of this deadly and formidable disease.

For more information, please contact
Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30329-4027
Telephone: 1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348
E-mail: cdc.gov/info • Web: www.cdc.gov
Publication date: July 2015

CDC 24/7™

CS 254606-A